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The Impact of Inquiry-Based Learning on Academic Achievement in Eighth-Grade Social Studies

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The Impact of Inquiry-Based Learning on Academic Achievement
in Eighth-Grade Social Studies

by

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DEDICATION

Throughout this journey, I have been inspired and supported by many people that have had a part in making this dissertation possible. Glory be to God...for with him all things are possible. To my wonderful husband, Christopher, this journey would have never begun without your encouragement and love. You have been by my side every step of the way and I am forever thankful that you put up with all the work nights and weekends plans that did not happen because I had work to finish. To our son, Jackson, who has made me laugh and reminded me that even the hardest working adults need to take a break and play games. You are loved beyond measure! To my mother, Leslie, for showing me at a young age that you should never stop working toward your dreams and that mountains are made to be climbed. You always believed that I should continue my journey and I have with you being a champion in my corner. To my in-laws, John and Ann, for entertaining Jackson on weekends when I was flooded with work. Those weekends were much needed and greatly appreciated. I love you all!

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ABSTRACT

The problem of practice described in this paper was identified by varying academic performances of students in a middle school located in South Carolina. The identified problem led the researcher to formulate a research question: What is the impact of inquiry-based learning on academic achievement for eighth-grade students in social studies? The purpose of this study is to determine if implementing inquiry-based learning will affect the academic achievement of students in social studies.

Action research allows teachers to study their own classrooms to better understand them and to be able to improve their quality or effectiveness (Mertler, 2014). Action research is a four-stage procedure: the planning stage, the acting stage, the developing stage, and the reflecting stage. Chapter one of the paper introduces the reader to the historical context of the research question that was constructed to guide the research. Chapter two contains relevant literature needed to guide the action research as discovered in similar studies. Chapter three details the stages of action research and the methodology to be employed by this teacher-researcher along with ethical considerations for the research. Chapter four provides an analysis of the data collected from the use of a teacher-made pretest and posttest administered during the six-week implementation of guided-inquiry. Chapter five offers conclusions to the study along with challenges faced by the teacher-researcher, implications for future research, and an action plan for future usage of guided-inquiry instruction and learning at Pine Grove Middle School.

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CHAPTER ONE

INTRODUCTION

Throughout the past fifty years, teachers and researchers have tried to understand why students either like or dislike social studies (Chiodo & Byford, 2004). As the teacher of a class that educates a student about the very place in which they live, I often ask myself the same question: Why do students not like to learn South Carolina History? Chiodo and Byford (2004) wrote that an attitude persists among many students that social studies classes are dull, boring, and irrelevant to their lives. Many educators are pressured into teaching curriculum that has narrowed to meet the demands of high-stakes testing. High-stakes testing; especially in social studies, creates a curriculum that focuses on rote memorization of facts and the thought that social studies classes are the education of historical facts (Bigelow, 1999; Pahl, 2003; van Hover, 2006).

While the content may not change, high-stakes testing causes teachers to reduce the amount of student-centered instruction and gives way to less time for inquiry learning and critical thinking (Fickel, 2006; Smith, A. M., 2006). The extreme standardization that high-stakes testing employs does damage to most students (Ohanian, 1999) and ignores the diversity of students within the school (Ross, Mathison, & Vinson, 2014). Students learn best when they are interested in the content and find the material relevant to their lived experiences. The focus of my Dissertation in Practice (DiP) will analyze the impact of inquiry-based learning in the social studies classroom through an action research study that will answer the following research question: How does the

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implementation of inquiry-based learning impact academic achievement of students in an eighth-grade social studies class?

School Reform as a Gateway to Standardization

In 1983, President Ronald Reagan addressed the nation with a report titled *A Nation at Risk* (Graham, 2013). *A Nation at Risk* called to arms the crisis that enveloped the school system and the threat of our future nation. The report highlighted the quality of education in the United States and the alarming direction that public education was seen to be heading (Graham, 2013). *A Nation at Risk* provided insight into the American economy and way of life by comparing students' global test scores, declining SAT scores, illiteracy rates in the United States, and other factors that showed a decline in knowledge and skills of American students (Holmes, 2012). The report highlighted the American school and its inability to prepare future citizens for competition in a global market. The report called for society to "rededicate ourselves to the reform of the education system for the benefit of all" (Spring, 2014, p. 425). The benefit would be an American society that could compete with global markets. To compete with the global economy, *A Nation at Risk* concluded that the American secondary education system adopts four years of English, three years of mathematics, three years of science, three years of social studies, and a half year of computer science along with the adoption of more rigorous and measurable standards, an extended school year, increases in teacher preparation and professionalism, and an accountability measure to education (United States, 1983).

In 2001, George W. Bush presented his appeal that education be used as a vehicle to produce workers to compete in the global economy as well. No Child Left Behind

(NCLB) followed the same underlying ideals of *A Nation at Risk*. NCLB brought about the increased role of the federal government in education by holding schools responsible for academic progress of all students (Klein, 2015). The report "encourages children to take more math and science, and to make those courses rigorous enough to compete with other nations" (Spring, 2014, p. 442). The report also reemphasized the importance of accountability standards for educating future global workers. The accountability measures would take the shape of the standardized tests and state standards for which teachers and schools are judged. Schools did not have to comply with measures of NCLB, but they did risk the loss of Title I funds if they failed to show academic progress for students (Klein, 2015). Schools in the wake of NCLB are required to maintain "adequate yearly progress" or AYP. AYP is used to determine if schools are successful in educating students by administering accountability measures that show students are making progress toward state content standards (No Child Left Behind Act, 2001).

President Barack Obama's first term in office presented the nation with a continued fervor to promote education as a necessary driver of America in the global market. Race to the Top was President Obama's main educational initiative announced in 2009 as an effort to continue the ideals of earlier educational policy like *A Nation at Risk* and NCLB. The purpose of Race to the Top was to try to ensure that every student had access to college and career readiness skills and that educational equality was attainable and available for all students; even, those in low-performing schools (Strauss, 2014). Race to the Top introduced four distinct policies that would focus on the improvement of schools as gateways to global corporate competition (Spring, 2014). The first goal required the adoption of standards and assessments to prepare students for

college and the workforce. Part of this goal was the adoption of Common Core State Standards (CCSS), which are standards designed to prepare students for work or college. The adoption of CCSS would require states to adopt and use common K-12 academic standards that could be internationally benchmarked (Lohman, 2010). Goals two and three combined use testing to collect data from various formats to link the students, teachers, principals, and teacher training institutions for accountability. The fourth goal sought to transform the lowest achieving schools but did not directly address how schools could respond to the social and economic factors that hinder student performance (Miller & Hanna, 2014).

A Nation at Risk, "No Child Left Behind", and "Race to the Top" share a common interest in preparing students for the global market by utilizing standards and standardized testing to promote accountability within public education and track student progress towards performance goals. While there is merit in the accountability measures like common standards and standardized tests, the social studies content and curriculum are affected in the present. Marker and Mehlinger (1992) argue that the purpose of social studies "is to prepare the youth so that they possess the knowledge, values, and skills needed for active participation in society" (p. 832). Social studies as a field is pushed by political and social agendas that greatly affect the content and pedagogies of social studies education (Ross et al., 2014). There is a severe lack of research evidence that test scores and achievement are increased due to an increase in standards-based education reform (Guisbond, Neill, & Schaeffer, 2012; National Research Council, 2011; Weiss & Long, 2013). Similarly, there is a lack of evidence that increased test scores has an increased effect on American students' competitiveness in the global economy (Krueger,

1998; Orlich, 2004; Tienken, 2011). Furthermore, Leahey (2013) argues that education is eroding due to the counterproductive nature of reform efforts like No Child Left Behind and Race to the Top. These reforms efforts are destroying the democratic foundations of the public-school system and are signaling an "end of the art of teaching" (p. 9). Testing reforms diminish a teacher's ability to choose curricular content; to respond to students in meaningful ways that assist in the student's needs; and, to set an appropriate instructional pace (Ross et al., 2014). Standards-based education reform (SBER), as defined by Vinson and Ross (2001), is the "effort of a government body or professional education association—to define and establish a holistic system of pedagogical purpose, content selection, teaching methodology, and assessment" (p. 31). Teachers must assert themselves and actively resist top-down school reforms like SBER if they are to recapture control of their work as professional educators. SBER has taken a negative hold on the social studies classroom by giving more instructional time to tested subjects such as English and Mathematics (Au, 2009). Additionally, social studies content is pushed as a vehicle for literacy instruction rather than a course that teaches social studies and history (Gilles, Wang, Smith, & Johnson, 2013). Ross et al. (2014) argue that social studies should not be depleted using "activities predefined by policymakers, textbook companies, or a high-stakes test" but should rather focus on creating a "personally meaningful understanding of the world and how one might act to transform that world" (p. 42).

Democracy in Education

When John Dewey wrote *Democracy and Education* in 1916, he realized then the importance of the words democracy and education as a pathway to provide equal public

education to children (Adler, 2013). Within this notion is the hope that education be democratically sound for all children and provide every student within the school the same quality education. To Dewey, school curriculum was the vessel to drive intellectual advancement as well as provide for social change. The school should embrace daily the principles of democracy (Jorgensen, 2014).

Jorgensen (2014) contends that social studies in its very nature is the merging of the social nature of mankind and the understanding of what it means to be a human in society. Social studies at the very core, as stated in the *1916 Report on Social Studies*, is:

> [An] understanding to be those whose subject matter relates directly to the organization and development of human society, and to man {sic} as a member of social groups. Yet, from the nature of the content, social studies affords peculiar opportunities for training of the individual as a member of society. (p. 4)

Social studies at its very essence needs to foster democratic qualities in its curriculum that resembles the young men and women of various backgrounds. Nel Noddings asserts that most curriculum created by subject matter experts is of little to no interest to many students (as cited in Thornton, 2005, p. vii). Noddings articulates that students must be interested in the content for which they study and that the student must see how the material can be used in their present and future lives (Thornton, 2005).

Children are Teachable

Adler (2013) believed that there was no such thing as an unteachable child. The schools and the teachers that surround these children were in fact, failing to teach. Pinar (2013) found it necessary to find a "fundamental reconceptualization of what curriculum

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is, how it functions, and how it might function in emancipatory ways (p. 154). Paulo
Freire (2013) contended that:

> We must never merely discourse on the present situation, must never provide the
> people with programs which have little to do with their preoccupations, doubts,
> hopes, fears…. It is not our role to speak to the people about our own view of the
> world, not to attempt to impose that view on them, but rather to dialogue with the
> people about their views and ours. (p. 161)

As Dewey writes, "education in a democratic society needs to be available to all citizens.
Schools need to concentrate on providing education that accounts for the vastly different
backgrounds and experiences among students" (as cited in Jorgensen, 2014, p. 12). John
Dewey (1902) believed that education could bring people together no matter the beliefs
or ideas they possessed. The interchanging of people from different lifestyles could
foster "deeper sympathy and widen understanding" (Spring, 2014, p. 200). Within this
understanding, Counts (1978) thought the ideal school could promote a more democratic
society. Furthermore, Counts (1978) argued that a school "must emancipate itself from
the influence of class, face squarely and courageously every social issue, come to grips
with life in all its stark reality, establish an organic relationship with the community" (p.
7).

The dream to promote a democratic society continues as it has done since the
establishing of the first public schools that were dominated by Protestant Anglo-
American ideals (Spring, 2014). John Dewey (1938) believed that every experience a
person had in life led them down a path to further experiences. Educators must build on
Geneva Gay's (2004) insistence that social studies educators in urban settings must

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explore "the contextual reality of urban living and the perspectives and positionalities" of diverse students and allow these explorations to inform and improve social studies instruction (p. 77). It is important to coordinate and develop subject matter properly with organized lessons that develop student interest and a positive attitude toward the content (Spring, 2014). Dewey (2013) believed that the school was a social place where education could be used as an effective method of bringing students together to share "in the inherited resources of the race, and to use his own powers for social ends" (p. 35). Furthermore, Dewey (1938) asserted that schools nurture students and develop a sense of values from the home life. As a method for obtaining more relevant content for African American students, W.E.B Du Bois (1994) suggested that a different type of education be given to the black population. An education, as Du Bois (1994) wrote, would blend the African background of former slaves with the American culture. Vanessa Siddle Walker in her work, *Their Highest Potential: An African American School Community in the Segregated South*, wrote, "caring adults gave individual concern, personal time, and so forth to help ensure a learning environment in which African American children would succeed" (Spring, 2014, p. 222). Her work resonates the potential our schools can have when educators find what promotes a positive academic experience for all students to succeed.

Statement of the Problem

To think democratically, students and teachers should strive to promote social and educational equality for all. Blum, McNeely, and Rinehart (2002) suggest that studies provide data that conclude that two-thirds of students are disengaged in the learning process. Students tune out when teachers do not find alternate methods to assist in

making the learning meaningful (Schreck, 2011). This disengagement comes from teachers and school districts following a uniform curriculum that pushes for mastery in content standards and teaching to the test. The accountability measures that accompany these state mandated tests create an obsession with testing and teaching to the test. Vogler, Lintner, Lipscomb, Knopf, Heafner, and Rock (2007) found that even though social studies is tested in grades three to eight and more time is spent on social studies instruction compared to time spent 5 years ago, language arts and mathematics, which are also tested, still hold higher priority than social studies. Teachers and "students might blame the curriculum for their lack of motivation" in the content, "but teachers realize the curriculum itself cannot be blamed; the teachers must make the curriculum engaging, thus motivating the students to learn" (Schreck, 2011, p. 61).

State mandated tests focus on instructional strategies that teach to the test through memorization and rehearsal (Savery, 2006). The assessments function to hold teachers and schools accountable for effective teaching and to quantify student learning. In my South Carolina History courses the state requires students to successfully complete South Carolina Assessment of State Standards (SCPASS). SCPASS is a 60-question multiple-choice test that is used for accountability measures for the teacher and the school. Students are not held accountable for the scores that they receive on their test; except, in determining whether they can be placed into advanced level courses in the academic year to follow. The test assesses content spanning over four hundred years and requires memorization of facts as it is nearly impossible to determine the actual material that will be asked on a 60-question state test. SCPASS alters the instructional process of the content by creating a need to cover more material in less depth.

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As a method to improve state testing scores for all tested subjects, my district aimed to improve low test scores with more testing. The district incorporated end of the nine weeks assessments that would be administered within all content areas. These nine weeks benchmarks would allow teachers to collect and analyze the data to determine areas of content that tested poorly. When students performed poorly on the benchmarks, teachers were instructed to meet with their content partner to determine the method of instruction that worked best for the tested material. The students that performed poorly would be retaught the material using the instructional strategy used by the teacher with the better performance results. In some cases, students still failed to meet mastery of the retaught materials; thus, exacerbating the problem of students not learning the content in depth.

The identified Problem of Practice is at Pine Grove Middle School (pseudonym) in West Columbia, SC. The teacher-researcher aims to make a difference in the academic achievement of students in the current South Carolina history curriculum taught in the eighth-grade at Pine Grove Middle School. The teacher-researcher is seeking to conclude that by implementing inquiry-based learning, the researcher can improve student achievement by making the content relevant to lived experiences.

Student inquiry in education "inspires and requires critical thinking, moving beneath the surface of the topics, and working towards understanding" (Selwyn, 2014, p. 268). Inquiry allows students to ask questions and find answers to topics that they truly want to know. Competence in the subject matter may be important in an age of standardization but developing students' powers of inquiry may be equally as important. Thornton (2005) argues that young people learn the content most "effectively and

enthusiastically" (p. 52) when it is related to their personal experiences and the goals they seek to obtain. Thornton (2005) continues to elaborate that standardization of the learning content provides a great injustice to students when opportunities of individualization are limited. Teachers who help students develop their ethnic, cultural, or racial identity unlock student success in education (Jensen, 2016). Allowing more inquiry-based learning into the curriculum is a feasible strategy to gain more cultural relevance in the content and improve academic achievement.

Purpose of the Research

The purpose of the research is to increase the level of student academic achievement in an eighth-grade South Carolina History social studies class. Students that will be targeted for the research will be those students that scored a level of "Not Met" on the state mandated assessment, SCPASS. The opportunity to make a change in the performance of students is important to this teacher-researcher and is a major goal of the school and district.

The study will seek to identify and describe the effects of inquiry-based learning within the class and its connection to academic performance. Inquiry-based learning allows for students to work to uncover understandings of the content and break away from the role of mere bystander of the curriculum as taught by teachers through lectures, worksheets, and tasks that are not relevant (Cooper & Murphy, 2016). Inquiry-based learning allows teachers to establish relevance and enhance learning by situating the curriculum taught around questions that are thought provoking (Fisher & Frey, 2015). "If students are going to learn deeply, engage completely, and create lasting understanding of content, we must provide opportunities to question" (Cooper & Murphy, 2016, p. 24).

The social studies classroom is a place where "teachers and students raise questions of whose knowledge is in the curriculum and how power and equality are maintained [and where] students begin to learn how to develop questions and gather information in ways that enable them not only to better understand society but also to change it" (Hursh & Ross, 2000, p. 10). Students are more likely to forget information that does not have any larger meaning to them (Fisher & Frey, 2015). A classroom that is successful in inquiry-based learning allows for creativity and the opportunity for students to dig deeper into learning that is driven by their own curiosities (Cooper & Murphy, 2016). When teachers help students find their voices in the classroom, they are helping the students find their identity and empowering the student to excel academically (Jensen, 2016). Inquiry-based learning can be driven and enhanced with interactions from the environment around them. Students are more prone to ask questions and find answers when they can interact with the resources available to them whether in the classroom or in their lived experiences (Cooper & Murphy, 2016). "Good questions can evoke curiosity, relevance, and reflection. Great questions can change class climate or even student lives" (Jenson, 2016, p. 164).

Research Question

The identified problem of practice evolved out of the desire to make a difference in the performance of students in an eighth-grade South Carolina history class at Pine Grove Middle School. The teacher-researcher will look to determine if a class that is centered on inquiry-based learning improves student achievement.

1. How does the implementation of inquiry-based learning impact academic achievement in a South Carolina history classroom?

As an educator who teaches South Carolina history, I feel lucky to be able to teach a content that is visible all around. The students in my class have a chance to see the living history that still exists and has long since passed as taught in the current curriculum. Unfortunately, all students are not eager to learn. There are various underlying factors that can impact student disengagement such as learning disabilities, language barriers, or a lack of relevance to the students' lived experiences. The opportunity to make an improvement in the educational experiences of students is important to this teacher-researcher. As an action researcher, it is important to evaluate one's classroom to determine the necessary actions needed to create an environment that promotes equal opportunities for success for each student. The research question will guide this action research plan and provide more insight into inquiry-based learning as a possible method of action to improve academic achievement.

Action Research Methodology

According to Craig Mertler (2014), action research allows teachers to study their own classrooms to better understand them and to be able to improve their quality or effectiveness. Action research focuses specifically on the unique characteristics of the population with whom a practice is employed or with whom some action must be taken. Geoffrey Mills (2018) defines action research as inquiry conducted by teachers, administrators, counselors, or others with an interest in the teaching and learning process for the purpose of gathering information about how their school operates, how they teach, and how their students learn. Action research can help to improve the quality of a school by starting within the four walls of a classroom. Teachers must be willing to investigate potential solutions to issues that may hinder a student's academic performance. Mertler

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(2014) contends that teachers must critically examine themselves as practitioners and "how students (both collectively and individually) learn best" (p. 12). The use of action research seeks to offer a process to change a current practice employed by the teacher toward the betterment of the students. McMillan (2004) claimed that the overarching goal of action research is to improve practice immediately within one or a few classrooms or schools. More detail into the action research design of this study will be presented in Chapter three of this paper.

Per Mertler (2014), action research is a four-stage procedure: the planning stage, the acting stage, the developing stage, and the reflecting stage. The four stages are outlined below about the nine specific steps that compose the process of action research. The planning stage is composed of identifying and limiting the topic, gathering information, reviewing the related literature, and developing an action research plan. The planning phase of this paper began with identifying a problem related to students scoring a level of "Not Met" on the state-mandated test, SCPASS, for eighth-grade South Carolina history. The proposed focus of this study is to identify and describe the ways that an eighth-grade middle school social studies teacher at Pine Grove Middle School makes students feel related to the content within the class and enhances academic achievement. Identification of the problem led the teacher-researcher to limiting the topic into a more manageable project by formulating a research question that focused on the impact of inquiry-based learning on academic achievement. The purpose of the research is to increase the level achievement for students in an eighth-grade social studies class. The researcher gathered data from teacher created pre- and posttest as they relate to the students of focus for this action research plan.

The acting stage contains implementation of the plan and collecting and analyzing the data collected. The researcher will be using elements of data collection that are quantitative in nature. A teacher made pre- and posttest will be administered to collect data for the unit of study for the research plan. Both assessments will be 30 multiple-choice questions that illicit higher-order thinking skills and shift from the traditional questioning of state-assessments that are merely factual regurgitation of materials. The assessments will be analyzed by standard for accuracy using Mastery Manager software. The analysis of data from the assessment pieces will be critical within the plan as to determine if inquiry-based learning has an impact on academic achievement.

The developing stage is where the necessary revisions, changes or improvements arise, and future actions are developed (Mertler, 2014). After the data are collected and reviewed, an action plan will be written to solve the original problem. The action plan will be proposed for an individual teacher teaching four classes of South Carolina history. Once the trial period has ended, the information collected will be analyzed to determine if inquiry-based learning in a classroom is beneficial to the performance of students as determined by the scores collected from the pre- and posttest.

The reflecting stage is the summarizing of the results of the study. A strategy is created for sharing results and a reflection on the action research plan is written. After the plan has been put into place, a reflection piece on the process will be drafted to summarize the findings of the action research plan. The information will be shared with fellow colleagues at Pine Grove Middle School and the administration.

Ethical Considerations

According to Mertler (2014), "making sure that action research adheres to ethical standards is a primary responsibility of the educator-researcher" (p. 106). All research undertaken in situations which involve people interacting with each other will have an ethical dimension; educational research is no exception and the ethical issues are often complex (Stutchbury & Fox, 2009). As Mills writes (2014), "the roles of ethics in any teaching endeavor ought to be considered in terms of how each of us treats the individuals with whom we interact at our school setting: students, parents, volunteers, administrators, and teaching colleagues" (p. 31).

Dana and Yendol-Hoppey (2014) encourage educators to "embrace working through the ethical dimensions of your work by engaging in a "self-interrogation." This interrogation, of sorts, is posing on-going questions that need to be continually revisited as you teach and inquire into your teaching practices" (p. 155). The researcher will continually ask these "self-interrogating" questions. From the onset, the research will be confined to the four walls of the researcher's classroom. But within that, the researcher will be seeking the assistance of the students, their parents, and the school for guidance. The researcher will be collecting data from assessment pieces used throughout the unit of study. The district requires that all student and parent information remain confidential and free from any identifying markers. In accordance with district policy, the research must maintain its confidentiality to stay within the guidelines of FERPA and the Children's Online Privacy Protection Act (COPPA).

Much of the findings for this research plan will be based on the researcher's classroom. I am aware of the students within my classroom and the bias I have toward

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them and them toward me. It will be very important in this action research plan to let go of any predispositions I have towards my students and the PASS scores that they currently hold for social studies. The findings from these classes must be driven by the data and free from my personal opinions of my students.

The principle of beneficence, principle of honesty, principle of importance, and the National Education Association's Code of Ethics (NEA) will also be considered in the research and reviewed in Chapter three. Mertler (2014) writes that research should be done to acquire knowledge about human beings and the educational process. Educational research should benefit someone or some group of people. Honesty must be exhibited in all aspects of a research study (principle of honesty). Furthermore, the value of the findings of the research should be worth the time, effort, and energy expended (principle of importance). The NEA (2013) Code of Ethics states the educator strives to help each student realize his or her potential as a worthy and effective member of society. All educators should strive for equality in education for all students.

When considering an action research project, a teacher-researcher must adhere to research ethics that "deal with the moral aspects of conducting research, especially research that involves human beings" (Mertler, 2014, p. 41). "Keeping caring, fairness, openness, and truth" as top priorities in action research promotes an ethical work (Dana & Yendol-Hoppey, 2014, p. 150). Action research, or any type of research, should never be considered to harmful, unfair, or illegal. According to Chambliss and Schutt (2016), the most important aspects of protecting research subjects are

1. avoiding harm to research participants.

2. obtaining informed consent.

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3. avoiding deception in research, except in limited circumstances.

4. maintaining privacy and confidentiality (p. 44).

Researchers must protect the rights of the human participants that have willing agreed to be a part of the research project. Following these four guidelines will help this teacher-researcher maintain the ethical requirements needed to produce a valid action research project.

Conclusion

The proposed action research plan outlined above is to provide an education that promotes the highest level of academic achievement for all students. The purpose of this action research plan seeks to determine if the implementation of inquiry-based learning as a method of instruction has an impact on the academic of achievement of students within a South Carolina history class. Chapter one highlights the effects of high-stakes testing in a social studies classroom and places emphasis on the need for more inquiry in the content. Chapter two of the proposed study contains relevant literature that will guide the action research and help to determine the effectiveness of inquiry-based learning as a feasible solution to the research question posed. Chapter three will detail the stages of action research and the methodology to be employed by this teacher-researcher along with ethical considerations for the research. By using the information collected from students over the course of this study, along with continued research into relevant scholarly literature, this teacher-researcher believes that an ethical study will be developed to address the problem at Pine Grove Middle School.

GLOSSARY OF KEYWORDS

Academic Achievement: represents performance outcomes that indicate the extent to

  which a person has accomplished specific goals that were the focus of activities in

  instructional environments, specifically in school, college, and university

  (Steinmayr, Meibner, Weidinger, & Wirthwein, 2014).

Action Research: any systemic inquiry conducted by teachers, administrators,

  counselors, or others with a vested interest in the teaching and learning process or

  environment for gathering information about how their schools operate, how they

  teach, and how their students learn (Mertler, 2014).

Afrocentricity: an education that provides students the opportunity to study the world

  and its people, concepts, and history from an African world view (Asante, 1991).

Attachment Theory: is a psychological theory of human connection. Attachment theory

  suggests that (a) human beings are wired to connect with one another emotionally,

  in intimate relationships; (b) there is a powerful influence on children's

  development by the way they are treated by their parents, especially by their

  mothers; and (c) a theory of developmental pathways can explain later tendencies

  in relationship based on such early experiences (Bowlby, 1988).

Critical Consciousness: is the ability to perceive social, political, and economic

  oppression and to act against the oppressive elements of society (Freire, 2013).

Culturally Relevant Pedagogy: a pedagogy that empowers students intellectually, socially, emotionally, and politically by using cultural referents to impart knowledge, skills, and attitudes (Ladson-Billings, 1995).

Culturally Relevant Teaching: is a student-centered approach to teaching in which the students' unique cultural strengths are identified and nurtured to promote student achievement and a sense of well-being about the student's cultural place in the world (Gay, 2010).

Curriculum: refers to the lessons and academic content taught in a school or in a specific course or program (Curriculum, 2015).

Deculturalization: is the educational process that aims to destroy a people's culture and replace it with a new culture (Spring, 2014).

Democratic Education: the process of educating society by means of education activities by transferring the principles and rules of democracy, human rights and freedoms being transferred into open or closed goals in the education program (Şanlı & Altun, 2015).

High-Stakes Testing: is any test used to make important decisions about the methods used in schools that have an impact on the students, teachers, administration, or the school district (High-Stakes testing, 2014).

Literature Review: a research study, addressing research questions and using the literature as data to be coded, analyzed and synthesized to reach overall conclusions (Ridley, 2012).

Multiculturalism: an educational system that tries to create equal educational opportunities for all students by ensuring that the total school environment reflects

the diversity of groups in classrooms, schools, and the society as a whole (Banks,

1994).

Pedagogy: the art, science, or profession of teaching (Pedagogy, n. d.)

Positive Teacher-Student Relationships: is defined as the degree of positive interactions,

open communication, and warm feelings between children and teachers

(Mashburn & Pianta, 2006).

Relevancy in the content: the perception that something is interesting and worth knowing

(Roberson, 2013).

Social Consciousness: an attitude of sensitivity toward and sense of responsibility

regarding injustice and problems in society (Social consciousness, n. d.).

Social Justice Education: is an education system where students learn to develop critical

analytical tools necessary to understand oppression and their own socialization

within oppressive systems, and to develop a sense of agency and capacity to

interrupt and change oppressive patterns and behaviors in themselves and in the

institutions and communities of which they are a part (Bell, 2007).

Student Inquiry: an approach to teaching and learning that places students' questions,

ideas and observations at the center of the learning experience (Selwyn, 2014).

CHAPTER TWO

LITERATURE REVIEW

The identified Problem of Practice for the present action research study centers on a social studies classroom in Pine Grove Middle School (pseudonym) located in West Columbia, SC. The identified problem evolved out of this teacher-researcher's desire to make a difference in the academic achievement of students within the current social studies curriculum taught in the eighth-grade. The purpose of the present action research study is to explore the impact of inquiry-based learning on student achievement for middle level students in an eighth-grade South Carolina History social studies class.

Importance of a Literature Review

Action research focuses specifically on the unique characteristics of the population with whom a practice is employed or with whom some action must be taken. Mertler (2014) writes, ""related literature" can be loosely defined as any existing source of information that can shed light on the topic selected for investigation" (p. 39). According to Boote and Beile (2005), a literature review is an evaluative report of studies found in the literature related to one's selected area and Problem of Practice. Ridley (2012) describes a literature review as "in itself a research study, addressing research questions and using the literature as data to be coded, analyzed and synthesized to reach overall conclusions" (p. 190). A literature review can be helpful in many ways while conducting action research. Related literature can help researchers find others who are interested in a particular research question, and aides in finding results of similar or

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related studies (Fraenkel, Wallen, & Hyun, 2015). To gather relevant literature for this study, the teacher-researcher used electronic databases such as Education Resources Information Center (ERIC), EBSCOhost, JSTOR, government websites, doctoral dissertations, newspaper articles, books, and academic journals. The following literature review will explore constructivism in education, the power of high-stakes testing, social studies and a democratic society, the teacher's voice, making connections with the students taught, student inquiry in education, and limitations to inquiry.

Constructivism in Education

In the late 1800's, Horace Mann had an idea that would shape the education system for many years. Mann proposed that students begin taking written exams as opposed to the traditional oral exams to show their knowledge. The goal of the testing change was to find and replicate the best teaching methods so that all students had access to equal educational opportunities (Gershon, 2015). While Mann's idea did not take a strong hold on education during his time, decades of educational reform have embraced standardized testing and have shifted the operations of our educational system (Gershon, 2015). The use of standardized testing hit its high point during the tenure of President George W. Bush. During his presidency, Bush signed into order the *No Child Left Behind Act* (ProCon.org, 2016). *No Child Left Behind* sought to advance the competitiveness of the American student against other students in the global society. The program also attempted to assist in closing the achievement gap between minority and poor students and their more advantaged peers (Klein, 2015).

In 2009, President Barack Obama initiated a series of educational reforms that linked the American educational system to competition in the global markets (Spring,

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2014). Race to the Top helped to change the education system by raising its standards and aligning policies to promote college and career readiness skills (The White House, 2016). The federal educational policy specifically referenced the need for American students to be able to compete in the global market (Spring, 2014). Race to the Top pushed for the development of a nationally centralized curriculum known as Common Core of State Standards (CCSS). The primary goal of Common Core State Standards was to prepare students to enter the global workforce (Spring, 2014) by aligning standards to the expectations of colleges, workforce training programs, and employers (Common Core, 2017).

The combined effects of *No Child Left Behind,* Race to the Top, and the Common Core of State Standards still rings true in education where testing accountability measures drive the curriculum. The massive amounts of data that are collected from standardized testing under these educational policies creates an education system that "controls the behaviors of students, teachers, school administrators, and colleges of education" (Spring, 2014, p. 449). The equal education that students deserve under these programs is one that encourages a state to teach the same curriculum and test the curriculum with the same standardized tests (Spring, 2014). The curriculum that is taught is the body of the content of knowledge students must master in some manner (Au, 2013b). Yet, standardized testing limits the scope of what is taught within the curriculum because of the narrowing effect of testing accountability measures and places limitations on teachers to meet the culturally diverse needs of students (Au, 2013a). Whether this "back-to-basics" instruction is the intent, the emphasis on standardized testing and improving test scores is the reality (Kohn, 2000). With schools grappling to meet the demands of high-stakes

testing, social studies is taking a back seat to English and math courses which are the subjects primarily targeted in federal education reform. The focus on English and math courses limits the amount of time teachers and schools allocate to history content. This curricular "narrowing" of the content places a lack of emphasis on social studies and compels teachers to teach the content in fragments and small bits of information using lecture-based, teacher-centered instruction to address the needs of testing (Au, 2013b; Rabb, 2007). Rabb (2004) contends that schools are now forced to "train" students rather than "educate" them (p. 20). If teachers could teach history in depth, the enthusiasm of teaching the content would return and allow students in a social studies class the opportunity to gain a sense of perspective about themselves, their peers, and the world around them (Rabb, 2007).

Students learn best by actively participating and taking ownership of their learning (Guskey & Anderman, 2008). Teachers, administrators, and schools have a moral obligation to ensure that "sound educational experiences involve, above all, continuity and interaction between the learner and what is learned" (Dewey, 1938, p. 11). Education must allow students the opportunity to find their identity within a culture (Bruner, 1996) and merge this cultural awareness into what it means to be human (Jorgensen, 2014). Social studies teaching should not be reduced to meet the demands of policymakers and high-stakes testing but should rather focus on creating personal and meaningful understandings of the world for students and how they can be changemakers in that world (Ross et al., 2014). Dewey (2013) wrote "all education proceeds by participation of the individual in the social consciousness of race…. education must begin with insight into the child's capacities, interests, and habits" (p. 34). For educators to

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build on the strengths of the students, they must engage the students by making the content relevant to their lived experiences. Before teachers can achieve a relevant curriculum, they must be prepared to reflect upon their own understandings of race and the intersections of their beliefs, thoughts, and practices. The aim of this research is to explore the theoretical viewpoints of constructivism and inquiry-based learning as a method to combat the essentialist view of high-stakes testing and its implications for social studies teaching and learning to better prepare students for the real-world.

Constructivist theory is grounded in the concept that learners are able to construct knowledge for themselves as he or she learns (Hein, 1991). Constructivist concepts of learning are constructed by the learner based on their interpretations of the world in correlation to his or her own lived experiences (Ertmer & Newby, 1993). Constructivism transforms learning by transforming the student from a passive receiver of knowledge to an active participant in the learning process guided by the teacher (Concept to Classroom, 2004). Constructivism can be seen in the historical works of Dewey, Piaget, Bruner, Goodman, Bartlett, von Glasserfield, and Vygotsky (Ertmer & Newby, 1993; Harasim, 2012; Mergel, 1998; Olusegun, 2015). These historical works stress that learning outcomes should focus on the construction of knowledge and that learning goals be measured with authentic tasks with specific learning objectives (Olusegun, 2015). The constructivist approach to learning and acquisition of knowledge is a far-cry from the "one size fits all" mentality of high-stakes testing and testing accountability.

For constructivist education to adequately take place, it is critical that learning occur in realistic settings with the learning relevant to the lived experiences of the students' (Ertmer & Newby, 1993). Far too often, curricular programs that are

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established by subject matter experts are of little to no interest to most students (Thornton, 2005). Students come to secondary social studies classes without appropriate content knowledge and without the skills or experience in social studies (Selwyn, 2014). As instructional gatekeepers to the classroom, a teacher has the unique ability to be flexible and give the students some choice in what they study and how they study it (Thornton, 2005). Nel Noddings (2002) contends that teachers must break the hold of traditional academic subjects on the school curriculum if we are serious about pursuing student interests and engaging them actively in the content of social studies. High student engagement in social studies may become more prevalent if it related to the life interests of the students (Flinders, 1996). David Snedden (1935) wrote, "school promoted learnings are to be valued as means to the personal and social behaviors which they motivate, initiate, and guide" (p. 9). In other words, social studies should foster an educational atmosphere that prepares students for their lives. When interest in social studies content occurs, academic effort in education will follow suit (Thornton, 2005).

To increase the interest in social studies, more competence must be given to students' powers of inquiry. In other words, students must learn how to learn (Bruner, 1960). The constructivist approach to learning allows teachers to guide students in finding their own answers to questions and problems posed by the teacher (Concept to Classroom, 2004). Naylor & Keogh (1999) define this learning as "an active process in which learners' construct meaning by linking new ideas with their existing knowledge" (p. 93). The focus of constructivism on learning becomes a shift from knowledge as a product to knowledge as a process (Jones & Brader-Araje, 2002). "The presentation of information and skills to students in relevant contexts increases the likelihood they will

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be able to transfer the knowledge and skills to real-world situations" (Jenkins, 2006, p. 3). Through the inquiry-based learning process, students are placed into situations that demand critical thinking skills and not rote memorization of facts and are encouraged to internalize the major concepts of the learning (Bevevino, Dengel, & Adams, 1999). Learning the major parts of the lesson helps to break the cycle of curriculums that are broken into small fragmented parts for the sake of testing measures and accountability. Many students that can pass high-stakes testing are unable to apply even those small amounts of learned information to other concepts or demonstrate how the concepts relate to larger themes of the content (Brooks & Brooks, 2001). Students involved in an inquiry-based approach to learning will leave the classroom with a valuable set of strategies for how concepts fit into the world. Students can develop the "skills, knowledge, and dispositions that will allow them to continue to pursue asking questions, concerns, and curiosities, to evaluate whatever they encounter, and to communicate with others about issues and challenges of their days" (Selwyn, 2014, p. 286). Even when the content of the class has a set list of objectives that must be covered in some detail, teachers can find ways to incorporate student interest into the activities and make the learning personally connected so that students pursue ideas and deepen their intellectual processes (Thornton, 2005). The hope of this action research plan is to achieve a deeper and more meaningful experience in the classroom by allowing students to break away from traditionally taught social studies classes and find their voices and make meaning of the content in relation to the world around them in a class that is guided by inquiry.

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The Power of High-Stakes Testing

Social studies in the eighth-grade for the state of South Carolina focuses on the development of the state and its place within United States history. The curriculum covers a vast span of time starting with the Eastern Woodlands Natives 37,000 years ago and ending with a focus on South Carolina today (South Carolina Department of Education, 2011).   Adequately covering this much information in each school year is nearly impossible and standardized testing in mid-May creates additional pressure on educators and students alike. Educators are under so much pressure to meet the expectations set forth through standardized testing that part of history is never taught or is diluted to little or of no importance to fit time constraints. Wayne Au (2013b) described this pressure and the negative effects experienced in a social studies classroom: high-stakes testing has a "predominant effect of narrowing the curricular content to those subjects in the tests, increases fragmentation of information into bits and pieces for the sake of the tests, and compels teaching to be more lecture-based and teacher-based" (p. 246). High-stakes testing policies have had a disproportionate negative impact on students from racial minority and low socioeconomic backgrounds (Firestone, Camilli, Yurecko, Monfils, & Mayrowetz, 2000). The consequences of high-stakes testing not only narrows the curriculum to mere factual information but leads to higher rates of retention in grades and higher dropout rates; especially in schools that serve poor and minority communities (Amrein & Berliner, 2002). Even more, research findings have determined that states with high-stakes testing policies have measured worse in academic achievement than states with low stakes testing programs or no testing programs (Haney, 2001; Haney, 2000; Neill & Gayler, 1999; Sacks, 1999).

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High-stakes testing is reshaping the classroom that aims to promote a democratic society. High-stakes testing (n.d.) is any test used to make important decisions about the methods used in schools that have an impact on the students, teachers, administration, or the school district. The purpose of these high-stakes tests is accountability as an attempt to ensure that students are receiving the best education by the best educators. High-stakes testing limits students' lives, in all their variations, as schools focus on teaching a curriculum that fits into the curricular norms of established tests (Au, 2009). The direct transmission of facts and a curriculum that is powered by high-stakes testing creates a disconnection between the learner and the subject (Vogler & Virtue, 2007). Wayne Au (2013b) provides three very different levels of control that high-stakes testing has on educational curriculum: content control, formal control, and pedagogic control. Content control can have a narrowing effect or an expansion effect on the curriculum employed. Au concluded that the content of social studies experienced a narrowing effect on the curriculum, as teachers are more likely to teach to the high-stakes test that determines their accountability. Formal control of the curriculum is taken over when the teacher either provides information that is fragmented or integrated. When teachers teach the curriculum in fragmented pieces, they are teaching in direct relation to the test and not encompassing the other subject matter that would deepen knowledge. Pedagogic control forced by high-stakes testing creates a classroom that is driven by the teacher and not by the student. The teacher is prone to delivering "teacher centered-instruction associated with lecturing and direct transmission of test-related facts" (Au, 2013b, p. 244). Eisner (2013) believed that "we [educators] need to provide the opportunities for youngsters and

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adolescents to engage in challenging kinds of conversation and we must help them learn to do so" (p. 281).

The social studies classroom becomes a place focused on teacher led instruction and limits students' abilities to have discussions, role play, construct research papers, or engage in cooperative learning (Vogler & Virtue, 2007). Thornton (2005) concludes that educators are aware that interest in a subject and effort exerted within that subject are interconnected. "The most obvious reason for students' lack of effort in social studies is that it fails to interest them" (p. 24). Eisner (2013) understood the importance of schooling as a path to do better in life and the relevancy of a content that exceeds the limits that standardized testing creates. If we truly are to be better as a society, we must teach our students to be better citizens (Eisner, 2013). The field of social studies has the capacity to achieve that realization. As Jorgensen (2014) states, "social studies as an entity is an overarching concept that merges the social nature of mankind with what it means to be human" (p. 3). Sleeter and Stillman (2013) assert that educators must question the curriculum and the relationships it fosters among race, ethnicity, language, and social groupings. Educators must ask "who has the right to define what schools are for, whose knowledge has the most legitimacy, and how the next generation should think about the social order and their place within it" (p. 266).

Social Studies and a Democratic Society

In 1992 the National Council of the Social Studies (NCSS) formally adopted the definition of social studies as:

The integrated study of the social sciences and humanities to promote civic competence. Within the school program, social studies provides coordinated,

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systematic study drawing upon such disciplines as anthropology, archaeology,

economics, geography, history, law, philosophy, political science, psychology,

religion, and sociology, as well as appropriate content from the humanities,

mathematics, and natural sciences. The primary purpose of social studies is to

help young people make informed and reasoned decisions for the public good as

citizens of a culturally diverse, democratic society in an interdependent world. (p.

3)

History is often presented to young students within a single interpretative framework with

little suggestion of the existence of alternative historical interpretations (Spring, 2014).

As Spring (2014) states, "public schools functioned to ensure the domination of a

Protestant Anglo-American culture in the United States" (p. 5). Anglo-American culture

most often refers to a region in the Americas. The English language would heavily

influence the region and British culture would have a significant impact historically,

ethnically, linguistically, and culturally. The reality is that most of the public education

system in the United States holds true to the Anglo-American culture described by Spring

(2014). Children of color, specifically African American children, are not provided a

more culturally responsive curriculum or learning opportunities (Gay, 2000). The current

curriculum, as viewed by the researcher, does not provide students with stimulating

activities and learning environments that ensure an equal educational opportunity; thus,

having a negative effect on student engagement and performance within the class.

Spring (2014) states, "Violence and racism are a basic part of the American social

and school history" (p. 7). However, he continues to believe that there are some that

fought for racial equality. As Spring (2014) so poignantly explains, "the European

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Americans who were abolitionists and civil rights advocates are the real exemplars of democracy and equality in American history" (p. 8). Today's educators need also to be advocates for equality and step away from the ideals of a school system controlled by as Counts (1978) notes the wishes of the groups or classes that rule society. Educators have a unique opportunity to be real exemplars of democracy and equality and stand up for those that have been underrepresented in education. It is Counts (1978) who believes teachers should reach for the power to make the most for change and fashion a curriculum and the procedures of their school to positively influence the social attitudes, ideals, and behaviors of the coming generations. Students need a history curriculum that is full of heroic individuals who found something within them to help them overcome tremendous obstacles from various backgrounds. Reverend King, Jr. (1947) believed that education must enable a man to become more efficient, to achieve with increasing facility the legitimate goals of his life. He also agreed that the basic function of education was to teach one to think intensively and to think critically. As Van Roekel (2011) wrote, "Quality public education must remain a priority for America. There is no better way to honor Dr. King than to work together to ensure that every student in America, regardless of race or background, has access to the great equalizer—a quality education." A quality education can be classified as an education that promotes healthy quality learners, quality learning environments, high-quality content, and high-quality teachers (UNICEF, 2000). Our schools cannot allow for the deculturalization of another people's culture. Deculturalization, as defined by Spring (2014), is the educational process that aims to destroy a people's culture and replace it with a new culture. It should be noted that this researcher does not believe it is the intent of Pine Grove Middle School to

destroy the culture of its students. However, the long-standing history of the deculturalization of peoples other than Anglo-Americans has been an issue in the American schooling system since its inception and continues to appear.

The driving force behind the action research plan proposed is the desire to improve the achievement of students on SCPASS and within the eighth-grade social studies classroom. Urban (Counts, 1978, p. x) believed "that the school was not all powerful, neither was it all powerless." The goal of action research is to allow teachers to study their own classrooms to understand them better and to be able to improve their quality or effectiveness (Mertler, 2014). Counts (1978) ideas express the desire to change our schools and classrooms into an ideal society for which this country was founded. The idea of a democratic society that "emancipates itself from the influence of class and faces squarely and courageously every social issue" (p. 7). If change is to be made to improve academic achievement of students at Pine Grove Middle School, the distinctions between social classes cannot keep the ideals of democracy and equality at bay. As an educator who molds the future generations, it is the role of the teacher to ensure that the curriculum and methods of teaching positively influence the social attitudes, ideals, and behaviors of the coming generations.

The Teacher's Voice

Our school districts can take substantial steps in the improvement of education with the use of resources they currently have at their disposal. According to Darling-Hammond (2007) keeping good teachers should be a top priority for any leader within the education system. Teachers are the most important school-level factor in students' learning (McCaffrey, Koretz, Lockwood, & Hamilton, 2004; Rivkin, Hanushek, & Kain,

2005). Good teachers that are capable and well prepared for the education setting will have the highest impact on overall student success. When leaders hire effectively and use their school resources efficiently, they can help to make a difference in the quality of teachers and in student education within the confines of the school. Darling-Hammond (1998) contends that schools can overcome the disparities between the education of white and non-Asian minority students by focusing on hiring well-qualified teachers along with teaching a high-quality curriculum and by creating personal learning communities where the students are well known. She points out that most schools have the best teachers teaching the high performing students and the less effective teachers are teaching the low performing students. In his book, *Visible Learning*, John Hattie (2009) found that quality instruction carried a coefficient of .77 and teacher-student relationships carried a coefficient rating of .72. The most valuable resource our education system has is its teachers.

For equal opportunity to exist in the public-school setting, quality teachers need to teach all students and not just the students that are high performing. Even in schools with very little monetary resources, obtaining high-quality teachers should be a must. Cook (2015) suggest that "schools serving minority populations have less-experienced, lower-paid teachers that are less likely to be certified" (p. 6). It is also in these schools and districts that teacher turnover rate is the highest. Our state and our school districts must find ways to reallocate public funds to increase the success of all students. Focusing on the job satisfaction of new teachers is important because of the teacher turnover problem that exists nationally (Ingersoll, 2001). To better support new teachers, principals and district must provide support. Support can come in many forms like competitive salaries,

improved working conditions, better teacher preparation programs, and mentor support (Darling-Hammond, 2007). While these methods of support are attributed to keeping new teachers in education, they are also important factors for all teachers no matter their year of service. In addition to these factors, Hughes, Matt, and O'Reilly (2015) add that teachers need more support in having more curriculum and planning time, receiving more positive feedback and recognition for a job well done, more opportunities for professional development, and adequate staffing to meet the needs of the student body. When teachers, new or seasoned, are given the opportunity to grow as professionals and learn effective instructional practices, they are the most important variable in student achievement outcomes (Darling-Hammond, 2004). Students depend on their teachers to assist them in their academic potential, social adjustments, and emotional well-being and look for their teachers to have high expectations and create a space for them to reach their full potential (Howard, 2010). Getting the right teachers with the right students is a step in the right direction for equality. Students need their teacher to affirm their racial identity while acknowledging and helping them navigate the challenges that students of color face (Diversity, Community, and Achievement, 2011). The right teachers let go of the colorblind ideologies that insist that minority students are incapable of learning when compared to their white counterparts. Howard (2010) acknowledges that the color of one's skin should have no bearing in the commitment of excellence in education for all students. White teachers are capable of teaching black students and black teachers are capable of teaching white students. A high-quality teacher, regardless of skin tone, will "disrupt the colorblind ideologies, to recognize the potential of students' ability to learn, and to structure rigorous learning spaces centered on students' strengths" (p. 42).

All teachers are curricular-instructional gatekeepers—they largely decide the day-to-day curriculum and activities students' experience. How teachers enact curriculum, even with today's constraints such as standards and high-stakes test, still matters" (Thornton, 2013, p. 334). Even in an age of standardized testing, educators must not give way to the constraints placed upon them. Educators have the ability within themselves and their classrooms to manipulate the curriculum to increase the needs and desires of all students educationally. "Teaching to the test" is not acceptable in a time and age that requires our students to be more than just fact banks. Thornton (2005) suggested that "the curriculum be individualized to some extent and, thus, is more consistent with a curriculum that to a degree emerges out of classroom interactions than with one that is entirely preplanned" (p. 25). Educators must try to understand the needs and the beliefs of students as they are, not as the educator thinks they should be. Fostering a relationship-driven classroom that considers students lived experiences and beliefs could be the method needed to support achievement for students at Pine Grove Middle School. Engagement in the classroom is heightened when a positive student-teacher relationship exists (Schreck,2011). Learning occurs only when what is being presented is meaningful enough to the student that he or she decides to actively engage in the learning experience (Caine & Caine, 1994). Rogers and Renard (1999) contend that a relationship-driven classroom takes hard work and dedication from the teacher when standardized testing tends to control the curriculum. However, the end results of a classroom driven by teacher-student relationships can encourage "students to learn and achieve to the highest standard" (p. 43).

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Making Connections with the Students Taught

The constructivist theory to learning and instruction is not a new approach in education. Constructivism has historical roots in the works of Dewey (1938), Bruner (1960), Vygotsky (1962), and Piaget (1980). Constructivism's central idea is that "human learning is constructed, that learners build new knowledge upon the foundations of previous learning" (Olusegun, 2015, p. 67). Applying a constructivist approach to learning using inquiry as the instructional method leads to more student involvement in the content, more student ownership in what they learn and how they learn, makes connections with real-world applications, and builds upon communication and critical analysis skills (Concept to Classroom, 2004).

Jeff Nesbit (2016) remarked that a society must be willing to embrace our story and share them with others without fear. An open dialogue must exist between each of us for us to fully understand the true impact of our judgments of others. We are an adaptable society and have the capacity to change our outlook on each other. Cornell and Hartmann (2007) stated that "the critical issue for the 21st century is not so much whether ethnicity and race will continue to serve as categories of collective identity, but what kinds of ethnic and racial stories we choose to tell and how these stories are put to use" (p. 266). Human beings have created the boundaries of race and have the power to change them in time. It is up to us to transform historical legacies and current manifestations of racism and white supremacy to create a society with justice for all (Castañeda & Zuñiga, 2013). White people are paying a significant price for the system of advantage. The cost is not as high for whites as it is for people or color, but a price is being paid…the dismantling of racism is in the best interest of everyone (Tatum, 2013).

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Beverly Daniel Tatum (2013) believed the impact of racism starts early and the prejudices we have are learned by our upbringings. She contends that even as preschoolers we are "exposed to misinformation about people different from ourselves. That many of us grew up in neighborhoods where we had limited opportunities to interact with people different from our very families" (p. 65). This misinformation about others creates negativity between the races and distorts our very perceptions on cultures we are not directly related to as individuals. Downey (2016) contends that schools that allow students to talk about race are allowing students to create stronger identities for themselves and others, experience more productive learning, and feel safer at schools. This is especially important for minority students that feel the effects of racism more readily than the majority. Helling (2011) argues that race needs to be talked about more in the classroom and not less. She acknowledges that each person that lives in this country has the right to have positive affirmations of their race and that each culture has given numerous contributions to the building of the U. S.

To talk about race in the classroom, we must realize that it still exists. Secondly, we must admit that it lives in the lives of our students of all colors (Helling, 2011). To completely understand and learn from the world around us, we must let the world in and for many students within the school system, racism is a critical factor. Allowing students the opportunity to dialogue about race leads to improved cognitive skills such as critical thinking and problem solving (Antonio, Chang, Hakuta, Kenny, Levin, & Milem, 2004). Diverse learning environments better prepare students for the global society by helping to reduce racial stereotypes and helping students to foster an understanding of all races.

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President Barack Obama stated in a major address on education "no matter what we look like or where we came from or who our parents are, each of us should have the opportunity to fulfill our God-given potential" (Obama, 2008). The education system must be free of bias and begin to assist in the open dialogue of racial tensions that plague our state and nation as Nesbit (2016) and Cornell and Hartmann (2007) suggest. For change to be made to promote achievement for students, this teacher-researcher must also be aware that each student that comes into the classroom has lived a life with varying experiences. "Students have a greater capacity to learn when new content is connected to personal background knowledge" (Cooper & Murphy, 2016, p. 23). John Dewey (1938) believed that experiences held by individuals shaped further experiences of those individuals. Educators can no longer teach history from one viewpoint. Educators must encompass the great achievements and successes of all. Making the curriculum relevant to the lives of all students taught may be beneficial in promoting success in the classroom for these students. Students experience academic engagement through feelings of relevance and choice and the knowledge that their work and learning matters and is valued by themselves and by others (Buchanan, Harlan, Bruce, & Edwards, 2016). Students experience a positive connection between choice and task success when they have an initial interest in the topic or activity (Patall, 2013). Asante (1991) asserted that when students are able to use cultural and social referents from their own historical backgrounds, they will become empowered in their classrooms, will feel more confident about their schooling experiences, and will be more highly motivated to engage in the educational process.

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Livingstone, Celemencki, and Calixte (2014) wrote, "students believed that the school curriculum was not adequately adapted to the multicultural realities and backgrounds of students. One student from the study said, "We need some time for our history too, you know, we are people too" (p.296). In the context of my own classroom I hear this same concern. African American students are always curious as to why they only learn about themselves during Black History Month. Courses on the history and contributions of people of African descent are vital not only for black youth to learn about their heritage but also to form positive identities and to see empowering visions of themselves in the wider world (Livingstone et al., 2014). To help with the positive identities of students, the research of Livingston, Celemencki, and Calixte (2014) revealed that students looked to their teachers for guidance and support. Student confidence and motivation is elevated when the teacher sets high expectations for success and provide the support and encouragement they need.

Schools with strong visionary leaders for change are vital in the transformation of schools. Teachers that do not "teach down" to their students and only accept the very best are needed. The time is now to reshape the American Dream so that every US citizen has an equal opportunity to achieve success and prosper. For our children, it starts in school and there is no better place to start this transformation of the American Dream than in an institution that every student has access to. Jerome Bruner (1996) challenged education with the statement, "a system of education must help those growing up in a culture find an identity within that culture" (p. 42). In 1933 Carter G. Woodson wrote in his work *The Mis-education of the Negro*, "the so-called modern education, with all its defects, however, does others so much more good than it does the Negro, because it has

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been worked into conformity to the needs of those who have enslaved and oppressed weaker peoples" (p. 5). If we cannot find ways to improve our social studies curriculum and promote a positive academic experience, black students "will not leave their history course with any sense of a coherent history of Africans in the Americas," and the ways these individuals struggled for social and political recognition (Ladson-Billings, 2003, p. 3).

Supportive teachers can help to build relationships with their students and can help to build relationships among the students within the classroom. Creating an environment that welcomes talk about race can help to build a healthy learning environment. The teacher needs to maintain clear rules for respect when talking about issues that are racially sensitive. Students must be able to master social, emotional, and communication skills before an open dialogue can begin into subject matter that many retreat from (Downey, 2016). Students cannot help to break the persistent social problems of race if they do not understand how to effectively talk and listen to others from different cultures. The classroom, with a strong teacher in control, can assist students in learning the proper skills needed to forge relationships across differences. We must not be afraid of racial challenges if we hope to make change for our students and society. Students come to school with the weight of their diverse communities on their shoulders. Schools that do not acknowledge the diversity of its students will limit the personal experiences of these students and create a sense of lowered school membership and school esteem. Schools need to change this attitude and refocus the curriculum and the emphasis on standardized testing.

Student Inquiry in Education

Inquiry based learning encompasses the broader vision of what education should seek to accomplish: to support the growth of healthy, engaged individuals able to contribute their communities as satisfied, productive students, citizens and lifelong learners (Barron & Darling-Hammond, 2008; Noddings, 2005). Inquiry is defined as the dynamic process of being open to wonder and puzzlements and coming to know and understand the world (Alberta Learning, 2004). According to Branch and Solowan (2003), inquiry-based learning (IBL) is a student-centered approach of learning focused on the asking of questions, critical thinking, and problem solving which enables students to develop skills needed throughout their whole lives. IBL can be implemented at different levels. These levels are constructed inquiry, guided inquiry, and free inquiry (Colburn, 2000). For the action research plan that follows, the researcher will be implementing a guided-inquiry method of IBL. In a guided-inquiry IBL model, the teacher provides guidance for the construction of questions, students plan their own questions and processes, and they generate new concepts by creating connections between prior knowledge and new information (Colburn, 2000). IBL provides students with knowledge and skill development, increased intrinsic motivation, development of expertise, self-efficacy, task commitment, positive attitudes about learning, competence or expertise, and greater creativity (Saunders-Stewart, Gyles, & Shore, 2012).

Inquiry, as an instructional model, focuses on the process of learning and solving problems using a hands-on approach that involves reflection and evaluation in a cyclical manner (Dewey, 1938; Spring, 2005; Van Deur, 2010). Inquiry methods of learning provide opportunities for students to focus on the process of how they learn through

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questioning and reflection skills (Kuhlthau et al., 2007; Littky & Grabelle, 2004; Wiggins & McTighe, 1998). Inquiry skills are aligned with methods of learning that have been referred to as problem-based learning, authentic learning experiences, investigative processes, learning through lenses, and other activities that immerse students and teachers in both the making of personal connections and well thought out choices (Harvey & Daniels, 2009; Jacobs, 2010; Kuhlthau et al., 2007; Littky & Grabelle, 2004). Inquiry based learning allows students to make determinations about problems, challenges and issues they investigate, and helps to move the student into a more meaningful engagement and deeper learning (Buchanan, Harlan, Bruce, & Edwards, 2016). Gaining the skills of inquiry in education is important for students and their future as citizens in a democratic society. However, educational reforms such as No Child Left Behind, Race to the Top, and the Common Core are putting teachers into a state of standardized testing that focuses more on the standards taught than the skills students need to thrive in society. A consequence of these government educational policies is that students enter middle level social studies classes without "content knowledge and without any skills or experiences in the social studies." (Selwyn, 2014, p. 267). Students come to these classes trained to follow the teacher's direction and learn the content standards for the benefit of a good performance on the state-mandated testing. These tests narrow the possibilities of the curriculum and limit the ability of the teacher to address the sociocultural needs of the students (Au, 2013b). High-stakes testing places control on the instruction in a social studies class. Content control focuses on the idea of "teaching to the test." Within this level of control, the teacher focuses more on teacher-centered instruction where students are less likely to engage in inquiry learning or critical analyses (Au, 2009). As Ross

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(2000) points out, "The dominant pattern of classroom social studies pedagogy is characterized by text-oriented, whole group, teacher-centered instruction, with an emphasis on memorization of factual information" (p. 47). Standardized test measures are geared at finding out how well students will perform on achievement measures rather than focusing on whose knowledge, language, and points of view are most worth learning (Sleeter & Stillman, 2013). Social studies teachers are more inclined to narrow the content to match the tests, adopt more teacher-centered instruction, and resort to fast-paced lectures to cover the content in a timely manner (Smith, A. M., 2006; Vogler, 2005; van Hover & Heinecke, 2005).

Eisner (2013) believes the function of school should focus on enabling students to do better in life and not just to do well in school. In order to seek this opportunity for all students, educators must demand more than rote memorization of facts for students and the social studies content. A school that limits the curriculum to teaching to the test is assisting in undermining the opportunity for students to be curious and interested in engaging and challenging ideas. For when students are engaged and challenged, thinking is being promoted (Eisner, 2013). Teaching social studies allow teachers to open the minds of students and allow the student to see the connections of the past, present, and future. When students walk into a classroom they come with different viewpoints and pathways that make their own experiences unique. Social studies can foster those characteristics that make us different and use them to make us more aware of the beauty we all possess. Providing ways in which the students are exposed to a more culturally relevant curriculum is important in the social studies classroom if we envision a society that is a "melting pot" of different people. Social studies, whenever possible, must start

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with a topic of study that piques a student's own interest and provides issues or problems that has a consequence to society (Jorgensen, 2014). For students to engage in effective inquiry, the teacher must provide a classroom that rests upon positive connections between the teacher and the student, positive relationships between peers, ample time for students to speak with one another, and a classroom that fosters empathy (Cooper & Murphy, 2016).

Children are born innocent and free of the influences of our society. How they are taught by the people around them will play a huge factor into the type of person they will become and how they will treat the others they encounter. A welcoming home or school is about supporting all students. Students should feel competent to discuss and address issues of injustice that impact themselves and others. Schools and parents must work to keep the innocence and sense of justice in our children for as long as possible (Michael, 2014). Creating an atmosphere for open-dialogue can help to build bridges between different people from different social backgrounds. This is becoming increasingly important as our society continues to become more diversified (Zúñiga, 2013). Children and students need to feel they are in a safe place to openly communicate. They need to feel valued, respected, and cared for with a sense of compassion for topics they are passionate about or need assistance with (Teaching Tolerance, 2016). Experiences of children and students need to be considered when dialogue occurs. Parents and teacher, which ever holds the responsibility of teaching social justice, should not stir the learner into the path of their own opinion. Learners that feel their experiences and opinions not valued will not hold discussion of identity and justice issues using their own voices. While parents and teachers are the source of holding the dialogue, they

should merely remain a facilitator to the conversation and not influence the conversation with their personal bias.

Inquiry based learning is grounded in the constructivist learning approach and focuses on the importance of the learner constructing their own knowledge rather memorization of information (Pappas, 2014). It can be defined as a process of discovering new relationships, with the learner formulating hypothesis and testing them by conducting experiments or making observations (Pedaste, Mäeots, Leijen, & Sarapuu, 2012). There are for forms of inquiry that are commonly used in inquiry-based instruction. They are confirmation inquiry, structured inquiry, guided inquiry, an open inquiry (Pappas, 2014). The first level of inquiry is confirmation inquiry in which students are provided with the question and method as well as the results, which are known in advance (Tafoya, Sunal, & Knecht, 1980). The second level of inquiry learning is structured learning where the students are introduced to the experience of conducting investigations or practicing specific inquiry skills like those of collecting and analyzing data (Banchi & Bell, 2008). The third level of inquiry is guided inquiry and is the level of inquiry instruction used as the treatment for this action research study. Guided inquiry is the inquiry level where the question and procedure are provided by the teacher; however, the students arrive at an explanation supported by research they have collected (Tafoya et al., 1980). The final level of inquiry learning is free inquiry. In free inquiry, students form their own questions, design their own methods of investigation, and carry out the inquiry process without guidance from the teacher (Pappas, 2014).

For the current research study, the researcher is implementing the 5-E Model as the guided inquiry approach to learning. The 5-E Model consists of five phases:

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engagement, explanation, exploration, elaboration, and evaluation (Warner & Myers, 2008). The 5-E Model of inquiry is organized around relevant, authentic problems or questions. The model places heavy emphasis on collaborative learning and activity. Students are cognitively engaged in sense making, developing evidence-based explanations, and communicating their ideas. The teacher plays a key role in facilitating the learning process and may provide content knowledge on a just-in-time basis (Hmelo-Silver, Duncan, & Chinn, 2007). In guided inquiry, the teacher acts as a facilitator and provides scaffolding of the content whenever needed to ensure the correct flow of knowledge for students in the inquiry process. Scaffolding makes the learning more attainable for students by changing complex and difficult tasks in ways that make these tasks accessible, manageable, and within student's zone of proximal development (Rogoff, 1990; Vygotsky, 1978). With the teacher scaffolding the inquiry process, the students can engage in sense making, managing their investigations and problem-solving processes, and articulate on their thinking and reflect on their learning (Quintana, C., Reiser, B. J., Davis, E. A., Krajcik, J., Fretz, E., Duncan, R. G., et al., 2004). While rote memorization is an important skill to master, inquiry is a skill that will take you into the 21st century and inquiry allows students to seek answers and find resolutions (Cox, 2009).

A study conducted by Prokes (2009) sought to improve student inquiry skills, attitudes, and interest in social studies based on inquiry-based planning and teaching. The study compared the effects of inquiry-based instruction with traditional, teacher-centered instruction. The study used the 5E model of instruction which is an inquiry-based model that was designed for use in the science classrooms in the late 1980s (Bybee & Landes, 1990). The study aimed to use the 5E model as an approach to plan and

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deliver inquiry-based lessons in social studies using the five steps of the model. The five steps of the 5E model are (1) engage, (2) explore, (3) explain, (4) elaborate, and (5) evaluate. The study cites the necessity of using inquiry-based learning as the vehicle of instructional planning and teaching to ensure that social studies classrooms are "powerful and authentic, made meaningful through active strategies, interdisciplinary planning, and the critical exploration of enduring social issues" (Prokes, 2009, p. 15).

The study found that students in the 5E model instructed classes were more eager to share their own experiences and knowledge in relation to the content. Students were actively engaged in the lessons and activities and worked well with peers to accomplish assigned tasks. The students in the 5E model approach of instruction were more motivated to continue working and seek more depth in the content than those students in the traditionally taught class. Work returned and student dialogue that occurred in the 5E model class was far greater and more accurately detailed than that of the traditionally instructed classes. The response from the implementation from the 5E model of inquiry-based instruction had a positive impact on the attitudes and academic performance of students. The research found that student interest was increased which helped to develop mastery of concepts and an improvement in recall of knowledge.

In a similar study, the constructivist approach to instruction was more effective in increasing the academic achievement of students when compared to students that received traditional instruction. Students in the inquiry-based instruction classes outperformed their traditionally taught peers with an average of 40% growth from the pre-assessment to the post-assessment. The researchers believe this growth occurred due to the nature of constructivism and inquiry-based learning as a vehicle to "encourage

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students to discover or construct information by themselves" (Witt & Ulmer, 2010, p. 279). In turn, the content is more meaningful to students which promotes a greater opportunity for retention of information. The shift to allow for more identity or relevance for all students in the current curriculum is important for this study. The focus of the course taught is the developing of South Carolina as a state and its influence in the creation of the nation. The standards are heavily European and focus on the accomplishments of the white population. There is a constant struggle seen in the standards for equality for blacks with continued resistance from whites. A school (or curriculum) based on African American experience, it is believed, would eliminate the patterns of rejection and alienation that engulf so many African American school children, especially males (Pollard & Ajirotutu, 2000). An educator of African American students must develop a curriculum that implements a more Afrocentric education for those students that are not relational connected to the content. An Afrocentric curriculum is a systematic study of the multidimensional aspects of black thought and practice centered around the contributions and heritage of people of African descent (Pollard & Ajirotutu, 2000). A major issue addressed by the authors is the ongoing quest by African Americans for educational opportunity and access concerns the integration of their history and culture in the curriculum and in instructional processes and techniques (Pollard & Ajirotutu, 2000).

Furthermore, it is believed that African Americans have been educated away from their own culture and traditions and attached to the fringes of European culture (Asante, 1991). The kind of assistance the African American child needs is as much cultural as it is academic. If the proper cultural information is provided the academic performance

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will surely follow suit (Asante, 1991). Asante (1991) believed that students that could learn cultural and social referents from their own historical backgrounds could become empowered in their classrooms. This empowerment would create more confidence about their schooling experiences and make the student more highly motivated to engage in the educational process. It is important that educators find methods to help expose African American students to an education that holds them in relational context (Bartell, 2011). Students that find themselves in the curriculum are more eager to participate and achieve. Asante (1991) believed that educators should provide philosophical and theoretical guidelines and criteria centered on an African perception of reality. Afrocentricity maybe just the education African Americans so desperately need to facilitate academic success and break away from the cycle of miseducation and dislocation. Educators can no longer teach history from one viewpoint. We must encompass the great achievements and successes of all. Making the curriculum relevant to the lives of all students can be an important step in academic improvement in the classroom and increase their interest in social studies (Gay, 2004). Inquiry allows students to ask question and find answers to topics that they truly want to know. Student inquiry allows students to learn that their own interests and curiosities matter and are important to their educational process (Selwyn, 2014). Social studies, whenever possible, must start with a topic of study that piques a student's own interest and provides issues or problems that has a consequence to society (Jorgensen, 2014). "We can best prepare our students for life after school and engage them while they are in school if we are working with their interests and questions" (Selwyn, 2014, p. 268).

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Limitations to Inquiry

Limitations do arise when trying to implement a constructivist approach to learning. Inquiry-based instruction and learning is affected by influences that can be overcome with the right guidance and support. Challenges can be a lack of resources or multiple perspectives, not enough time to plan and properly implement inquiry lessons and assessments, the ease of direct instruction over inquiry instruction, limiting classroom disruptions, and the attitudes of teachers and students in the inquiry process.

Inquiry-based learning cannot thrive on access to the textbook alone. Having limited resources and limited perspectives for students to view hinders their ability to historically think about information as learned. This historical thinking encompasses the interconnected dimensions of historical comprehension, chronological thinking, historical analysis and interpretation, historical research capabilities, and historical issues-analysis and decision-making (NCHS, 1996). Students must move beyond the facts in the course textbook and examine "documents, journals, diaries, artifacts, historic sites, works of art, quantitative data, and other evidence from the past" (Prokes, 2009, p. 16). The use of multiple resources and perspectives is important in classes that stress skills for life-long learning, communication, and critical thinking (Scott, 2015).

"An important restriction of education is that teachers cannot simply transmit knowledge to students, but students need to actively construct knowledge in their own minds" (Olusegun, 2015, p. 66). Unfortunately, the nature of testing accountability and its time constraints are making direct transmission of facts all too common in education; especially, in the social studies content (Au, 2013b). The difficulty in finding the right balance often leads teachers to use direct instruction to speed up the content so that

enough information is learned before state-mandated testing. However, teachers can find the right balance to bring the valuable set of skills and strategies of inquiry to their classrooms and beyond (Selwyn, 2014). To assist in inquiry-learning, teachers must create useful inquiry questions that "are broad enough to offer depth and complexity and narrow enough to be meaningful and graspable" (Selwyn, 2014, p. 269). Good questioning grants teachers the opportunity to connect concepts and provide students with the necessary content needed to perform at high levels of mastery (Mathis, 2015).

To build high-levels of mastery in the inquiry approach to learning, students must be given the opportunities to teach and learn from each other (Pahomov, 2014). Collaboration is vital to the success of inquiry and most schools are not designed for inquiry with their desks facing forward in rows. But with collaboration, students can openly communicate with each other creating potential challenges to inquiry instruction. Disruptions in the learning environment happen even in the inquiry process. Some of the disruptions in this approach to learning are pressure to conform to majority opinion, domination of the group by one student, and members of the group not completing their share of the work (Burke, 2011). Teachers can overcome these challenges to the inquiry process by using peer evaluations, grading students both individually and as a group, assigning specific roles to the students, creating team contracts with roles, rules, and expectations for the task, assisting groups in appropriate communication, giving feedback to groups as they are working, and giving inquiry time to occur (Barkley, n. d.; Pahomov, 2014).

Another challenge is the impact of teacher and student attitudes on the inquiry process. Teachers that have never taught with a constructivist approach believe they have

never opened to the learning theory due to "rigid curriculums, unsupportive administrators, and inadequate preservice and in-service educational experiences" (Brooks & Brooks, 2001, p. 101). Students, on the other hand, have more frequently been exposed to more teacher-centered instruction and have little to no experience in inquiry (Pahomov, 2014). To combat negative attitudes about inquiry for teachers and students, Brooks and Brooks (2001) offer these actions to bring about instructional change to inquiry learning. Brooks and Brooks (2001) assert that teachers need in-service programs that revolve around constructivist approaches in preservice education along with continued education and that resources and educational spending should be dedicated to teacher professional development. Student attitudes can be shifted toward inquiry when the content holds meaning to their lived experiences and the learning environment is "caring and fosters individual growth and isn't based on measuring one student against another" (Pahomov, 2014, p. 25).

Conclusion

Chapter two of the proposed study reviewed the relevant literature that guides the action research and helps to determine the effectiveness of inquiry-based learning as a feasible solution to the research question posed. The chapter explored constructivism in education, the power of high-stakes testing on the social studies curriculum, social studies and its role in contributing to a democratic society, the teacher's voice in developing the curriculum, making connections with the students taught, student inquiry in education, and limitations to inquiry. In Chapter three, the stages of action research and the methodology to be employed by this teacher-researcher will be explained.

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CHAPTER THREE

METHODOLOGY

Everyday educators work with students to prepare them for the grade levels to come and the future lives they will live. Within this context of education, teachers must guide their students to achieve the highest level of learning they can attain. For educators to enhance student achievement, a teacher must analyze what is working for the students or what is not working for the students. Action research, as defined by Fraenkel, Wallen, and Hyun (2015), "is conducted by one or more individuals or groups for the purpose of solving a problem or obtaining information to inform a local practice" (p. 587). Furthermore, Richard Sagor (2000) defines action research as a process of inquiry conducted by and for those persons for which an action is taken. The purpose of action research is to assist the person in improving upon or refining a skill. Teachers, administrators, counselors, and others can conduct action research. This type of research allows persons invested in the teaching and learning process to gather information related to their schools and how they operate, how they teach, and how their students learn (Mertler, 2014). Action research is especially important for classroom teachers as it allows them to analyze the best methods possibly to improve the effectiveness or quality of work demonstrated by either the teacher or the students with which engaged (Sagor, 2000). The use of action research guides the process of identifying a possible solution to improve the academic performance of students at Pine Grove Middle School. This chapter will outline the steps involved in action research design and the methods used by

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this researcher. The purpose of this action research study is to identify the effect of inquiry-based learning on middle level student achievement in a South Carolina history classroom. The research question guiding the study is as follows: How does the implementation of inquiry-based learning impact academic achievement in a South Carolina history classroom?

The Role of the Researcher

Action research is an attempt to study real problems faced in a real school setting with the hopes to improve the quality of actions and the results garnered (Schmuck, 2006). Through action research, "teachers are encouraged to become continuous, lifelong learners in their classrooms with respect to their practice" (Mertler, 2014, p. 13). This teacher-researcher sought to use action research as a tool to understand better the impact inquiry-based learning had on academic achievement of students in a South Carolina history classroom. The researcher teaches 96 eighth-grade social studies students. The researcher is one of two eighth-grade social studies teachers teaching South Carolina history. The educator teaches two general South Carolina history classes and two Advanced South Carolina history classes. My role as an insider was to design instructional strategies that fostered inquiry-based learning. I acted as a facilitator and guided the students in their journey of inquiry within the content. All the while, I studied and reflected upon my own practice as the class instructor. The researcher has been teaching social studies content for six years, with four of those years focusing on South Carolina history. The researcher is well versed in the content and follows the guidelines of the South Carolina State Department, the school district, and the school. Along with teaching, the researcher is involved in several school activities. The educator is one of

two team lead teachers for the grade level. The researcher is ADEPT (Assisting, Developing, and Evaluating Professional Teaching) certified using the SAFE-T (Summative ADEPT Formal Evaluation of Classroom-Based Teachers) model to train and oversee second year teachers completing the formal evaluation process to obtain their professional teaching certificate from the State of South Carolina. The researcher is part of the Data Team at the school that researches best practices for closing the achievement gap between students of different races. The district also requires the educator to be a part of the Professional Learning Community (PLC) where educators are taught ways in which to make data relevant to their teaching practice, grow through professional development, learn effective instructional and best practices strategies, and build a guaranteed and viable curriculum.

Research Context

The middle school of focus consists of grades sixth through eighth and is in West Columbia, South Carolina. The school district consists of two high schools, four middle schools, seven elementary schools and two primary schools. The total student population of Pine Grove Middle School is nearly 540 students with each grade level having an equal number of students. The school employs thirty-nine teachers for all grade levels, including the elective and special education teachers. Eighth grade social studies classes at Pine Grove Middle School are divided based on student performance on South Carolina Palmetto Assessment of State Standards (SCPASS) test for social studies. Typically, most of the students in the advanced level classes have scored Exemplary on SCPASS for social studies, which was administered in May of the seventh-grade year or have been identified as gifted-talented (G/T) students based on G/T testing in the third-

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grade. The general education classes typically consist of students that have scored a level of Met or Not Met on SCPASS. Occasionally, the general education classes will have one or two students that scored exemplary on SCPASS but did not perform well academically in their seventh-grade social studies class; thus, their placement in a general education class for the eighth-grade year. These students usually perform well on class assessments but do not complete the work assigned in the class. Classes meet every day for 60 minutes for the entire school year. The focus population for the action research study are those students within my general education classes. The general education classes differ in gender, backgrounds, and test scores, as well as, their knowledge base and learning style. Most of the students are eager to participate in the class, which is evidenced by their participation in class discussions and offering at times, thought provoking questions and answers. A few of the students need accommodations in the classroom. These accommodations are outlined in either an Individual Education Plan (IEP), and ESOL plan, or a 504 plan.

Steps in Action Research and PoP

The goal of educational research is to "explain, predict, and/or control educational phenomena" (Mills & Gay, 2016, p. 5). Action research is inquiry conducted by teachers for themselves and is not imposed on them by someone (Mills, 2018). Action research is for the teacher-researcher to improve their practice and continually grow as a professional by understanding their students, solving problems, and developing new skills that enhance education (Efron & Ravid, 2013). The teacher-researcher in this action research study followed the four basic stages of action research as described by Craig Mertler (2014). Action research has four basic stages: (1) the planning stage, (2) the acting stage,

(3) the developing stage, and (4) the reflecting stage (Mertler, 2014). Included within each of these stages are several steps that specifically guide an action research study.

The planning stage. Within this stage, researchers are asked to address the following steps: (1) identify and limit the topic of the study, (2) gather relevant information, (3) review related literature, and (4) develop a research plan (Mertler, 2014). According to Mertler (2014), the first major step in the action research process is the identification of a problem. The problem can be anything that is observed and would need to be improved or changed for the betterment of the population targeted in the research. To investigate a topic for action research, it must be manageable (Fraenkel et al., 2015) and narrow in focus (Mertler, 2014). Identifying and limiting the topic is important in determining exactly what the researcher wants to study over the course of the action research study. Since action research deals with local issues, it is of upmost importance that the researcher focuses on a topic that he/she is interested in investigating.

Planning. During the planning phase of the action research plan, the researcher determined a problem within the classroom. I have always fought to make my classroom more student-driven and student-centered than teacher-led. However, that is easier said than done with the constant fear of high-stakes testing and teacher accountability. But at the end of the day, the most important person in my classroom is the student. Following the constructivist theory of education, I focused my action research plan on implementing a curriculum driven by inquiry-based learning. As a teacher-researcher in this plan, I must be willing to let go of some of the classroom control and allow my students to critically think about the content and how it relates to the world around them and their lived experiences. I must also continue researching and finding relevant literature. This

portion of the planning phase is truly ongoing and helps to narrow the focus of the Problem of Practice into a more manageable action research plan. Step two in the planning stage was gathering of information. The researcher gathered SCPASS scores for students within the two general education classes from their seventh-grade academic year. Specifically, the researcher looked to identify students that scored a level of "Met" or "Not Met" on the state-mandated test. Step three in the planning stage was the collection of related literature. Relevant literature was needed to guide the initial phase of the project and to help construct the argument and assist in conveying what others in the field of education are saying with regards to aspects of the proposed study. Related literature for this action research plan focused on the historical and theoretical underpinnings of inquiry-based learning and instruction, the importance of high-stakes testing and its implications on the social studies curriculum, the importance of the teacher as an instructional gatekeeper for the curriculum, and the influence of inquiry-based learning on academic achievement.

Step four was the final step in the planning stage of action research. Within this step, the teacher-researcher developed a quantitative research design and plan for collecting data. An experimental quantitative research design was selected for this study to determine the effects of inquiry-based learning on academic achievement. The experimental quantitative design was determined to be the best fit for this plan of action due to the nature of experimental design allowing the researcher to manipulate a variable and determine the relationship between cause-and- effect relationships (Fraenkel et al., 2015). Having a research question prior to this step helped to guide the action plan and keep it focused on the problem to be solved. I designed my study and decided what data

I would collect to answer my research question: How does the implementation of inquiry-based learning impact academic achievement in a South Carolina history classroom? The independent variable for the research question is inquiry-based learning. The dependent variable for my research question is the impact on academic achievement or the growth of students from the pretest to the posttest. The teacher-researcher sought to conclude that the sample population that was subjected to inquiry-based instruction would garner better posttest scores than the sample population taught with traditional instruction. I designed my study to include a control group and treatment group. The control group received traditional instruction defined as lecture, note-taking, and summative assessments that assess mastery of content. The control group had more teacher-centered instruction. The treatment group received inquiry-based learning instruction. The treatment group was exposed to inquiry-based projects that allowed the students to make connection with the curriculum as it related to their own lived experiences. Students were given the chance to take full ownership of the inquiry process in hopes to make the content more culturally relevant to their lived experiences. The curriculum was more student-centered, and my instructional role was to be that of facilitator.

The study began on August 22nd which was the first full week of school after summer break. The classes that were used for this study were my two general education classes. Those classes were selected for this study because these students traditionally score the lowest on in-class assessments and on state-mandated testing as compared to those students in my advanced level classes. I believed these students would show the most growth academically with the implementation of an inquiry-based learning

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approach. At the start of the study, I determined which section of my two general education classes would receive instruction that is traditional, teacher-centered versus instruction that is inquiry-based and more student-centered. That determination was made after I analyzed SCPASS data from their seventh-grade year and trends in final grades for middle level social studies from grades sixth and seventh. Students selected as the sample population for the proposed study were those students in my two general education classes that have scored a level of Not Met or lower on SCPASS from the seventh-grade year.

Once the determination of which class received the inquiry-based instruction, I began implementation of the inquiry process for that class and gave my other class traditional, teacher-centered instruction on August 22nd. The topic of study for the action research plan was the study of geography and its impact on society and the study of the earliest inhabitants in South Carolina. The study of geography was selected as the first unit of study to familiarize students with the foundations of South Carolina geography and its impact on the people that will later come to know the state as their home. The study of the earliest inhabitants in South Carolina followed the study of geography to illustrate the importance of geography on the development of cultures. The South Carolina State Standard that were addressed throughout the guided inquiry-based learning action research design is Standard 8-1; Indicator 8-1.1 (SCDOE, 2011). Standard 8-1 and its indicator of study are:

Standard 8-1: The student will demonstrate an understanding of the settlement of South Carolina and the United States by Native Americans, Europeans, and Africans.

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Indicator 8-1.1: Summarize the collective and individual aspects of the Native American culture of the Eastern Woodlands tribal group, including the Catawba, Cherokee, and Yemassee.

The intervention used during the action research study was guided inquiry-based learning. Guided-inquiry learning allows for students to take the lead in their education while the teacher acts as a facilitator. The teacher guides the inquiry process to ensure the success of the students in meeting the curricular needs of the content, the individual needs of the students, and the criteria for quality work (Manitoba, 2003). Guided inquiry was selected as the method of intervention in this IBL action research study due to the nature of guided inquiry. This inquiry approach to learning gives students the opportunity to enhance their levels of inquiry and logical thinking skills without wasting too much time and prevents frustrations in unexpected results with guided help from the teacher (Trautmann, MaKinster, & Avery, 2004). The model of guided inquiry-based learning that was implemented was the 5E Model developed by Biological Sciences Curriculum Study (BSCS). The 5E Model of guided inquiry-based learning is divided into the five phases: engage, explore, explain, elaborate, and evaluate (Bybee, 2009) (see Appendix A).

During the *engage* stage of guided inquiry, the student's interest is piqued and helps to get them personally involved in the lesson (Erickson, 2017). Within this stage, teachers try to elicit prior knowledge from the students by providing a "hook" that stimulates curiosity in the content without providing an explanation. The point of the "hook" is to guide students to find the explanation for themselves through the next stages

of the 5E Model. To engage students within the first level of the 5E model, the teacher posed a "hook" question related to the content to be covered during the data collection phase. The "hook" question was the guiding question that drove the inquiry process. The "hook" question for the current study was, "*How does geography influence a society and its culture?"* To assist students in making sense of the question and guided inquiry, they worked with a KWL Chart for information collection throughout the lesson. A KWL Chart guides students to identity what they already know about the guiding question, what they want to find out about the question, and what they learned regarding the question posed by the teacher (Appendix B). Each student in the treatment group receiving guided inquiry-based instruction completed the first two columns of the KWL Chart during the engage stage of inquiry.

The next phase of the 5E Model is *exploration.* In the exploration phase, students get involved in the topic by working in teams of four to apply process skills, such as observing, questioning, investigating, testing predictions, hypothesizing, and communicating (Duran & Duran, 2004). Students worked together to compare what they had written on their individual KWL Charts from the engage stage of inquiry. Questions posed by the students that relate to the overarching "hook" were explored during this phase of inquiry. During this stage, the teacher acts as a facilitator, providing materials and guiding the focus of the groups as they explore (Erickson, 2017). Students can find information and draw conclusions for themselves prior to any formal explanation of terms, definitions, or concepts explained by the teacher (Duran & Duran, 2004). Students recorded all information that relates to the guiding question of the lesson on an inquiry chart (Appendix C). During this phase of the study, students worked collaboratively to

investigate the guiding question using a variety of resources that the teacher provided. Resources for the investigation included, but were not limited to, academic journals, educational web resources, resources available at the school library, and/or the course textbook.

After exploration of resources, students entered the *explain* stage of the 5E Model. In the explain stage, students were provided the opportunity to communicate what they had learned so far and figure out what it meant in relation to the guided question (Erickson, 2017). The initial phase of this stage is a time for the teacher to merely facilitate and ask students to describe and discuss their learning experiences (Duran & Duran, 2004). It is important in the study and in this stage for the teacher to allow the students to share their own explanations and ideas before explanation and clarification by the teacher. Students will analyze and synthesize their ideas (Gejda & LaRocco, 2006). Students may build models, clarify concepts, and develop explanations while the teacher gives formal definitions, labels, and explanations (Gejda & LaRocco, 2006). As the phase evolves, it becomes more teacher directed and guided by the information students found during the exploration phase (Duran & Duran, 2004). Once students have shared their findings within the inquiry learning experience, the teacher will point out any misconceptions or incorrect conclusions and guide students back to the explore phase to gather additional information (Lynn, 2012).

Following the elaboration stage is the *elaborate* stage. In the elaborate stage, students apply their new understandings of the guided question, while reinforcing new skills and deepening their understanding of the guided question (Duran & Duran, 2004). During this phase of the research, the teacher instructed students to complete a WebQuest

that helps students to conduct additional investigations into the guided question while making connections to prior knowledge and researched knowledge. The WebQuest that was used during this stage of inquiry is entitled, *Native Americans in South Carolina.* The WebQuest allowed students to distinguish between the early Native American cultures of South Carolina and the impact geography had on these tribes. Students worked together to create a visual to inform their classmates about one of the tribes researched through the WebQuest. The teacher guided students to make connections about the concepts studied and discuss real-world applications of the concepts (Lynn, 2012).

The final stage of the 5E Model is evaluate. During this stage, the teacher and the students determine how much learning and understanding has taken place (Erickson, 2017). Student evaluation was on-going throughout the 5E Model with the teacher using informal assessments such as observations, KWL charts, inquiry note-taking sheets, and the product created during the WebQuest. The summative evaluation of student growth was conducted using a teacher-made posttest comprised of 30 multiple choice questions that target concepts of geography and South Carolina's early inhabitants. The data from the posttest was used to determine if the implementation of guided inquiry-based learning was beneficial to the academic achievement of students versus traditional teaching methods.

The pre-test for the study was administered on this day and covered the material from two instructional units. The unit of instruction or the content to be learned covered two units of instruction and begin after administration of the pre-test. The first unit of instruction was on the geography of South Carolina and lasted approximately two weeks.

The second unit of instruction was on the Earliest Americans and lasted approximately four weeks. Both time frames shifted a bit as the school year started and lessons had to be tailored to meet the goals of the content. Traditionally, the first two units of the course are the easiest for the students because the content has been studied in previous grades. After the instructional period ended, the posttest was administered on October 3rd to determine which method of instruction garnered the highest achievement from students.

Acting. For the purposes of the current action research plan proposed, the teacher-researcher took the role of both an active and non-active participant. As an active participant, the teacher-researcher facilitated inquiry-based learning and helped students relate to the content being taught by helping the students formulate deeper levels of critical thinking about the connection of the content with their own lived experiences. At other times, this teacher-researcher was able to take a step back and allow students to collaborate with each other to develop deeper connections with each other and to the content taught. The acting stage consists of two parts: (1) collecting data and (2) analyzing data. Within this stage, the researcher determined the types of data to be collected to answer the research question of the study.

Sample. For ease of data collection and daily exposure to subjects, the teacher-researcher used convenience sampling as the method to determine the research population. The sample population for the proposed study were students from my own classes. The researcher teaches four classes of SC history that meet daily for 60 minutes. Two of the classes are for advanced level students (students scoring "Exemplary" on SCPASS or identified Gifted/Talented) and two of the classes are for students that are

general education (students scoring "Met" or lower on SCPASS). The classes that were the focus of the study were the two general education classes.

Data collection. The proposed action research design used quantitative data to answer the research question posed. Quantitative data collection was selected as the method of data collection due to the teacher-made pre- and posttest (Appendix D) as assessment measures to determine academic achievement after a period of instruction (Mertler, 2003). To maintain the privacy of students' scores during the data collection phase, the researcher made sure that no one had access to the data collected from the study. Data collected was free from any identifying markings that could possibly reveal the participants identity. For this action research plan, students taking part in the study were identified by a randomly assigned number; no names were used. The coding scheme for the research was stored in a secure location throughout the study and was only accessible to the researcher. The data collected from teacher-made assessments provided the teacher-researcher with accessible information about how well "their students are responding to a particular teaching or curriculum innovation" (Mills, 2018, p. 133). Quantitative data is numerical in nature and allows the teacher-researcher to collect data from numerous individuals at any given time (Mertler, 2014). The data collected required different types of processes to ensure the data collected is appropriate and addressed the research question. Data analysis for action research is not as formal as traditional research designs and can be analyzed by the researcher with the help of others if needed. The quantitative data used for the current research study was the data collected from the unit of study's pre- and posttest. Students in both groups took an identical pretest to assess their knowledge on the unit of study covered during the proposed action

research plan. Prior to the pretest, students from the sample population took part in a pilot test to determine the validity and reliability of the pretest and posttest. In quantitative data collection, the researcher must be aware of validity and reliability concerns. Validity in action research ensures that the teacher-researcher has measured what the study intended to measure (Mertler, 2014). Reliability is the consistency of scores obtained in the data collection. Scores that are inconsistent are not reliable enough to use in any study (Fraenkel et al., 2015). To account for variability and reliability, the researcher is using the Kuder-Richardson approach; specifically, the KR21 formula. The KR21 formula requires three pieces of information and is used when the researcher can assume that all questions are close to the same difficulty level (Fraenkel et al., 2015). The three pieces of information used to collect the KR21 formula are the number of items on the test, the mean of the test scores, and the standard deviation (Gulliksen, 1950). The researcher concluded from the pilot test that the questions asked were related to the content that would be learned during the action research plan. Students could clearly identify the pilot test as being related to geography and Native American societal life. Due to the constraints of the action research timeline, the pilot test has been administered once. Changes that have occurred from the pilot test are clearer photos, sequencing of questions from easiest to hardest, and the option to take the test with a paper format. The pilot test was administered online using Mastery Manager. When using this program, the KR21 is calculated along with the tests results for all the students. For the pilot test, the KR21 reliability coefficient that was calculated was .54. The reliability coefficient for most teacher-made assessments has a value of around .50 and around .90 for commercially developed standardized tests (Frisbie, 1988). Students shared concerns that

they had a hard time reading from the tablet with the smaller print and would like to be able to annotate questions or use test-taking strategies that a paper version of the test would provide. The pretest was comprised of 30 multiple choice questions that assessed their understanding of the content prior to instruction. The questioning was designed similarly to the questions viewed in the SCPASS review book along with the school district benchmark created by the eighth-grade teachers from the four middle schools. At the study's conclusion, the teacher-researcher administered the posttest to the control and treatment groups. The posttest was identical for both groups and consisted of 30 multiple-choice questions that elicited higher order thinking skills of analysis and evaluation from Bloom's Taxonomy. Within the collection and analysis of data, the researcher made sure the information was manageable and relevant to the study. To assist in data collection, the teacher-researcher input the pretest and posttest into the school district's assessment software, Mastery Manager. Mastery Manager is an on-line program that allows teachers instant access to standards-based reporting for assessments given within the classroom. Teachers can measure their students learning progress in real time with assessments that are created using the online testing feature (Goldstar Learning, 2017). The teacher-researcher for the current study administered the pretest and posttest online using their school issued iPads during the students' regular class period. Results from the online assessments are immediate using Mastery Manager which is beneficial for the time frame of the study. Mastery Manager also allows the teacher-researcher to lock students into the program while the test is being administered so that students cannot use any other feature of their device until the test is completed. After the pretest and

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posttest was administered, the quantitative data was analyzed to determine if the application of inquiry-based learning improves academic achievement.

     Statistical analysis. Quantitative data collected is analyzed by means of either descriptive or inferential statistics. The researcher used descriptive statistics that deal with "simple mathematical procedures that serve to simplify, summarize, and organize relatively large amounts of numerical data" (Mertler, 2014, p. 169). The teacher-researcher used pre- and posttest results to collect quantitative data. The teacher-researcher used measures of central tendency (mean and median) to analyze the data collected from the pre- and posttest. Mean and medium are the only measures of central tendency used to analyze data from the pre- and posttest because the mode is "the least useful measure of central tendency in educational research" (Mills, 2018, p. 198). To account for variability in the measures of central tendency, the teacher-researcher also determined the standard of deviation for the data collected. Standard deviation is the spread of a set of scores around the mean (Mills & Gay, 2016). The teacher-researcher employed the use of a t-test for independent means to compare the results of the two sample populations on the posttest. A t-test is used to compare the mean scores of two different groups exposed to two different teaching methods but given the same posttest assessment (Fraenkel et al., 2015). For inquired-based instruction to be the contributing factor in academic achievement over traditional instruction, the inferential statistics of the study need to be considered statistically significant (Mertler, 2014). Statistical significance is found by obtaining a p-value and comparing it with the alpha level, which is .05 in educational research (Fraenkel et al., 2015). The use of Excel software helped to guide the teacher-researcher into managing the data. Researchers must ensure that the

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data they collect is accurate and represents the study for which it was measured, collected, and analyzed (Mertler, 2014). Results that are misleading or inaccurate may keep the researcher from getting the results desired or dissuade others from the research.

Developing. The developing stage is the stage in which the action plan is developed. This stage occurs after the data has been analyzed and interpreted. Within this stage, the "action" of the research plan is set into motion. Mertler (2014) suggests that this process is the strategy for implementing the results of your data. If the results of the study prove to be in favor of inquiry-based learning as a strategy for academic improvement, an action plan will be put into place to ensure students can receive more instruction of this nature. The developing stage of action research begins the cyclical nature that action research tends to conform. The effectiveness of the plan must be continually monitored, evaluated, and revised as necessary to answer the research question and effectively determine if the problem of practice is improved upon.

Reflecting. The reflecting stage consists of two parts: (1) sharing and communicating the results and (2) reflecting on the process. The stage is equally as important as any of the other stages in action research. In this stage, the results of your findings are shared with those that have a vested interest in your topic. To ensure the cyclical nature of action research continues, teachers must reflect on their own practices as it relates to the study. The continual self-examination of the implemented plan must occur throughout the entire action research project (Mertler, 2014). Reflecting on one's work throughout the process helps to guide the research and make decisions or revisions that are appropriate to answer the research question. In addition to self-reflection, this stage allows the opportunity to share my research findings with others with similar

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interests. When sharing results with others not directly involved with the study, ethical considerations must be considered.

Conclusion

The proposed action research plan sought to find a possible solution to the problem this teacher-researcher has identified at Pine Grove Middle School. The purpose of this study was to identify and describe the effects of inquiry-based learning within the class and its correlation to academic performance. Inquiry-based learning has the potential to improve the achievement of students within the class and, by extension, standardized testing scores as well. The research question that guided the study sought to determine if the implementation of inquiry-based learning impacted academic achievement in a South Carolina history classroom. The teacher-researcher collected data using a pre-test and posttest. The data collected from the assessments was quantitative in nature as the researcher determined the measures of central tendency, the standard deviation, and verified the statistical significance of the study with a *t*-test. To achieve the research goal, the teacher-researcher used the action research framework as described by Mertler (2014). The researcher continued to grow as a learner and a researcher through the process and continued to evaluate the research plan. *Planning, Acting, Developing,* and *Reflecting* and repeating the cycle helped to ensure the research question was answered with valid and reliable information that can help to solve the problem identified for the study. The following chapter, chapter four, will provide an analysis of the data collected during the reach study and its implications for education.

CHAPTER FOUR

FINDINGS

The purpose of chapter four of the current action research is to convey the findings of the study. The data collected during the study will be used to address the following research question:

1. How does the implementation of inquiry-based learning impact academic achievement in a South Carolina history classroom?

The problem of practice for the present action research study identified the need of change in the teaching methods in an eighth-grade South Carolina History class to attempt to illicit higher academic performance of students within the course.

To address the problem of practice, the teacher-researcher implemented guided-inquiry teaching and instruction in the Fall of 2017 to one section of 19 South Carolina History students. The other section of 18 students received traditional teaching and instruction. The students within these sections were chosen based on the South Carolina Palmetto Assessment of State Standards (SCPASS) scores from their seventh-grade year. The students chosen for this study scored a "Met" or a "Not Met" on SCPASS. Scores of "Met" are represented as students that have met the grade level standard while those scoring "Not Met" did not met the grade level standard (SCPASS, 2017). The SCPASS break-out for students selected in this study are divided into section one and section two (Table 4.1). Section one of the study received the treatment of guided-inquiry learning and instruction while section two received traditional methods of learning and instruction.

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Table 4.1

South Carolina Palmetto Assessment of State Standards Scoring for Participants of Study

Section One (19 students)		Section Two (18 students)	
SCPASS Score	Number of Students	SCPASS Score	Number of Students
Not Met	8	Not Met	9
Met	6	Met	2
Exemplary	0	Exemplary	2
No Data	5	No Data	5

Students that scored "Exemplary" on SCPASS were not included in the study due to the nature of exemplary scores. SCPASS (2017) identifies "Exemplary" students as those students that have demonstrated exemplary performance in meeting the grade level standard. While these students possibly would benefit from the proposed research, the researcher excluded them from the study because they have shown mastery in previous social studies standards and courses. This mastery of content may skew the data for the proposed study by giving results in the pretest that are too high to determine growth from the pretest to the posttest that is of statistical significance. Likewise, the researcher also excluded students that did not have data provided for SCPASS from the study. This subgroup was excluded due to the nature of not knowing what their SCPASS scores were and the fear that some of these students may have scored "Exemplary."

Section one was chosen to be the treatment group based on their prior SCPASS scores and their characteristics displayed during our two-week teambuilding exercises.

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Section one of my general education classes scored an average of 47% on the pretest. Section two of my general education classes scored an average of 43% on the pretest. Scores ranged in section one from a 24% to 69% while scores in section two ranged from 28% to 90%. The student that scored the 90% only missed two questions on the pretest. I have no SCPASS data on the student and have come to find out that the student is a repeat eighth-grader. This student will not be part of the sample population because he has been exposed to the current content as a repeat student. Likewise, the student's very high score on the pretest due to his prior exposure to the content will have a negative impact on the study by skewing the data collected in the control group. Other than this one outlier, the highest score in section two was also a 69%. It appears that both sections of my general education classes are slightly balanced in their initial average scores. During the two weeks prior to the unit of study, classes were challenged with getting to know each other by working together in various teambuilding and community building games. Section one displayed great strength in working together as a team which is very important in inquiry learning. Collaborative learning increases interest among the students and promotes critical thinking (Gokhale, 1995). Students are more engaged in discussion and take responsibility for their own learning (Totten, Sills, Digby, & Russ, 1991). Section one participants of the study were more eager to offer suggestions and come to agreement in activities that pushed them to work with others and figure out solutions to challenges and problems helping to solidify the teacher-researcher's decision to implement guided-inquiry learning with this section of participants. In addition, this section of students had a greater population of participants

that were "Not Met" or "Met" on SCPASS as compared to the control group giving the teacher-research a larger sample size for treatment of guided-inquiry and data collection.

Results of the Pretest and Posttest for the Treatment Group

As previously described in chapter three of the research study, section one and section two were given the pretest as the first activity of the unit of study. The unit of study for the action research focused on geography and the impact it had on the early inhabitants of South Carolina. The pre- and posttest were constructed to emphasize the social studies content standard of Standard 8-1; Indicator 8-1.1 (SCDOE, 2011). Standard 8-1 and its indicator of study are:

Standard 8-1: The student will demonstrate an understanding of the settlement of South Carolina and the United States by Native Americans, Europeans, and Africans.

Indicator 8-1.1: Summarize the collective and individual aspects of the Native American culture of the Eastern Woodlands tribal group, including the Catawba, Cherokee, and Yemassee.

The pretest was composed of 30 multiple choice questions that assessed students' understanding of the content prior to instruction. The findings of the pretest provided the teacher-researcher with a baseline of knowledge that the students exhibited related to geography and Native American culture before the unit of instruction began. Below (Table 4.2) is the abbreviation used for each type of question presented on the pretest and the posttest. The table includes the number of questions on the pretest for each category (geography or Native American culture) as well as the percentage of correct student answers for each category.

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Table 4.2

Pretest Breakdown of Questions by Category and Class Score for Section One

Category Abbreviation	Type of Question	# of Questions per Category	% with Correct Answer by Question Category
GEO	Geography	14	43%
N.A.C.	Native American Culture	16	43%

The pretest was completed on a scantron and put into our district program, Mastery Manager. A scantron is a machine-readable paper on which students mark answers to test questions. Mastery Manager is a program purchased by the school district that uses a scanning machine to scan the QR code on a scantron linked to students within the class. The Kuder-Richardson formula (KR-20) was used to determine and assess the reliability of the test scores for the teacher-made assessments. A reliable teacher-made assessment generally has KR-20 values of .80 or lower (Quaigrain & Arhin, 2017). Rudner and Schafer (2002) suggest that teacher-made assessments have reliability coefficients around .50 or .60. Looking over the item analysis report from the program, the Kuder-Richardson Formula 20 elicited a reliability score of .70 for the sample populations confirming that the teacher-made pretest was reliable.

Section one pretest results by question. Displayed below is the percentage of students that answered questions correctly on the pretest based on the categories of geography (Table 4.3) and Native American culture (Table 4. 4).

Table 4.3

Section One Pretest Percentage for Correct Responses on Geography Related Questions

Item Number	Questions	Percentage
1	Where was the seacoast located during ancient times in South Carolina?	21%
2	What ocean borders the state of South Carolina?	64%
3	What two states border South Carolina?	71%
4	The Blue Ridge Mountains are part of what mountain range?	79%
7	Many Native Americans lived in the area shaded in green. What was this area called?	43%
11	In which two regions did the Cherokee live?	36%
12	In which region did the Catawba live?	43%
13	In which region did the Yemassee live?	29%
17	Which region is being described based on the following description? Beaches and salt marshes are found in this region. Many seashells can be found on its sandy shores.	86%
18	Which region is being described based on the following description? This region has many mountains and waterfalls. It is part of the Appalachian Mountain Chain.	86%

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19	Which region is being described based on the following description?	57%
	This region means "foot of the mountain." It has rolling hills and valleys.	
20	Which region is being described based on the following description?	50%
	The soil in this region is sandy because the shoreline used to be here. Fossils of ocean life can be found in this region.	
21	What factor contributed to the 3 tribes of South Carolina being so different from one another?	21%

Table 4.4

Section One Pretest Percentage for Correct Responses on Native American Culture Related Questions

Item Number	Questions	Percentage
5	Which crop is not one of the three primary agricultural crops of Native Americans?	29%
6	What does it mean to lead a life without a fixed residence and move from place to place?	71%
8	What was the purpose of slash and burn method used by Eastern Woodland Native Americans?	50%
9	Which of the following is the best description for the Cherokee wattle and daub home?	50%
10	Explain why the Catawba Tribe called themselves the "river people."	36%
15	Look at the picture to the right. What kind of home is this?	71%
16	Based on your answer for Number 15, which tribe lived in that type of home?	14%

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Item Number	Questions	Percentage
22	The Cherokee and Catawba built a protective barrier around their villages called a what?	50%
23	This animal was typically hunted by Native Americans of the Eastern Woodlands?	36%
24	In addition to meat, what did animals provide to the peoples of the Eastern Woodlands?	71%
25	It is believed that the Natives reached North America by crossing a land bridge at the Bering Strait *(between Alaska and Russia)*. Today it is covered with water. Which of the following explains why the Natives were able to cross it 15,000 years ago?	43%
26	Sometime after 5,000 BC, Native Americans stopped living a nomadic lifestyle and began living in small villages for a longer period of time. Which of the following occurrences made this development possible?	29%
27	Long before the arrival of the Europeans, many Native Americans lived as hunter-gatherers. The hunter-gatherers lived a nomadic lifestyle that required constant movement from place to place: Why was this the case?	29%
28	All of the Native American tribes living in South Carolina during the 17th century are divided into four language groups *(Siouan, Iroquoian, Algonquian, and Muskogean)*. Which of the following best explains why language groups were used to distinguish Native American tribes?	29%
29	This illustration shows what some Native Americans may have looked like before the arrival of Europeans in North America. The Native Americans in this illustration *most likely* lived in which area?	57%

Item Number	Questions	Percentage
30	These images show housing used by Native Americans at the time Europeans arrived. Based on these images, what can be drawn about people living in North America at the time the Europeans arrived?	29%

Most notable from the pretest is that the students scored a passing rate of 60% as determined by the 10-point grading scale (Appendix F) used within our school district on more geography related questions than Native American culture questions. Students had a greater understanding and correctly scored higher than 60% on questions related to geography more frequently than questions related to characteristics of Native American societies that thrived in early South Carolina history. These questions dealt specifically with the geographical regions of South Carolina and South Carolina's relationship to other landform features such as position between other states and along what ocean and mountain chain the state borders. On geography related questions, students scored above the 60% passing rate on questions 2, 3, 4, 17, and 18. On Native American culture related questions, students scored above the 60% passing rate on questions 6, 15, and 24. These findings suggest that students remember basic geography either from earlier studies like those they were exposed to in elementary school or they are aware of their

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surroundings and can use what they know currently as indicators toward the correct

answer.

Section one pretest/posttest results by question. The posttest was identical to

the pretest. Below (Table 4.5) is the abbreviation used for each type of question

presented on the posttest. The table includes the number of questions on the posttest for

each category (geography or Native American culture) as well as the percentage of

correct student answers for each category.

Table 4.5

Posttest Breakdown of Questions by Category and Class Score for Section One

Category Abbreviation	Type of Question	# of Questions per Category	% with Correct Answer by Question Category (Posttest)
GEO	Geography	14	64%
N.A.C.	Native American Culture	16	62%

Table 4.6 shows the abbreviation used for each type of question presented on the posttest.

The table includes the number of questions on the pretest for each category (geography or

Native American culture) as well as the percentage of correct student answers for each

category as compared to the posttest.

Table 4.6

Pretest and Posttest Breakdown of Questions by Category and Class Score for Section One

Category Abbreviation	Type of Question	# of Questions per Category	% with Correct Answer by Question Category (Pretest)	% with Correct Answer by Question Category (Posttest)
GEO	Geography	14	43%	64%
N.A.C.	Native American Culture	16	43%	62%

The breakdown of questions by category for the posttest shows improvement in the content learned after the implementation of guided-inquiry instruction. Students were successful in improving their percentage of correct answers based on questions dealing with geography from 43% on the pretest to 64% on the posttest. Likewise, students performed favorably on the posttest showing growth in correct responses dealing with questions pertaining to Native American culture by improving to 62% on the posttest as compared to their initial percentage of 43%. In both sections of questioning offered on the pretest and the posttest, students within the treatment group were able to correctly respond nearly 20% points higher on the posttest over the pretest.

Table 4.7 shows increased growth in students selecting the correct response for tested items on questions related to geography from the pretest to the posttest. On the pretest, students scored a passing rate of 60% on five questions while that number increased to nine questions on the posttest. Of the thirteen questions related to geography, students in section one improved on eleven of the thirteen posed questions for an improvement percentage of 85%.

Table 4.7

Section One Pretest Percentages of Correct Responses Compared to Percentage of Posttest Correct Responses on Geography Related Questions

Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
1	Where was the seacoast located during ancient times in South Carolina?	21%	93%
2	What ocean borders the state of South Carolina?	64%	86%
3	What two states border South Carolina?	71%	81%
4	The Blue Ridge Mountains are part of what mountain range?	79%	86%
7	Many Native Americans lived in the area shaded in green. What was this area called?	43%	71%
11	In which two regions did the Cherokee live?	36%	43%
12	In which region did the Catawba live?	43%	36%
13	In which region did the Yemassee live?	29%	21%
17	Which region is being described based on the following description?	86%	100%

Beaches and salt marshes are found in this region. Many seashells can be found on its sandy shores.

Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
18	Which region is being described based on the following description?	86%	93%
	This region has many mountains and waterfalls. It is part of the Appalachian Mountain Chain.		
19	Which region is being described based on the following description?	57%	86%
	This region means "foot of the mountain." It has rolling hills and valleys.		
20	Which region is being described based on the following description?	50%	71%
	The soil in this region is sandy because the shoreline used to be here. Fossils of ocean life can be found in this region.		
21	What factor contributed to the 3 tribes of South Carolina being so different from one another?	21%	79%

Table 4.8 displays the percentage of students in section one with the correct response to

Native American culture related questions on the pretest as compared to the posttest. The

data collected shows an increased growth in students selecting the correct response for

the tested items on questions related to Native American culture from the pretest to the

posttest. On the pretest, students scored a passing rate of 60% on three questions while

that number increased to ten questions on the posttest. Of the sixteen questions related to

Native American culture, students in section one improved on ten of the sixteen questions posed for an improvement percentage of 63%.

Table 4.8

Section One Pretest Percentages of Correct Responses as Compared to Percentage of Posttest Correct Responses on Native American Culture Related Questions

Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
5	Which crop is not one of the three primary agricultural crops of Native Americans?	29%	93%
6	What does it mean to lead a life without a fixed residence and move from place to place?	71%	79%
8	What was the purpose of slash and burn method used by Eastern Woodland Native Americans?	50%	50%
9	Which of the following is the best description for the Cherokee wattle and daub home?	50%	79%
10	Explain why the Catawba Tribe called themselves the "river people."	36%	64%
15	Look at the picture to the right. What kind of home is this?	71%	93%
16	Based on your answer for Number 15, which tribe lived in that type of home?	14%	21%
22	The Cherokee and Catawba built a protective barrier around their villages called a what?	50%	79%

Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
23	This animal was typically hunted by Native Americans of the Eastern Woodlands?	36%	36%
24	In addition to meat, what did animals provide to the peoples of the Eastern Woodlands?	71%	79%
25	It is believed that the Natives reached North America by crossing a land bridge at the Bering Strait *(between Alaska and Russia)*. Today it is covered with water. Which of the following explains why the Natives were able to cross it 15,000 years ago?	43%	71%
27	Long before the arrival of the Europeans, many Native Americans lived as hunter-gatherers. The hunter-gatherers lived a nomadic lifestyle that required constant movement from place to place: Why was this the case?	29%	64%
28	All of the Native American tribes living in South Carolina during the 17th century are divided into four language groups *(Siouan, Iroquoian, Algonquian, and Muskogean)*. Which of the following best explains why language groups were used to distinguish Native American tribes?	29%	36%

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Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
29	This illustration shows what some Native Americans may have looked like before the arrival of Europeans in North America. The Native Americans in this illustration *most likely* lived in which area?	57%	43%
30	These images show housing used by Native Americans at the time Europeans arrived. Based on these images, what can be drawn about people living in North America at the time the Europeans arrived?	29%	36%

Questions 12, 13, and 29 did not favor well for students as they did not make improvements from the pretest to the posttest or dropped percentage points on those questions from the pretest to the posttest. These questions were similar in content and required students to be able to identify the various tribes that lived within regions of South Carolina; thus, encompassing attributes of both geography and Native American culture. Questions dealing with identifying characteristics of the Native American tribes elicited students' skills of application which is a higher order thinking skill in Bloom's Taxonomy (Dalton & Smith, 1986). Bloom's Taxonomy is used in educational settings

to promote higher forms of thinking rather than focusing on rote memorization of facts (Collins, 2014). More guided instruction is needed to ensure student mastery of this objective in the future. Overall, the posttest provided results that were promising for student academic growth when using guided-inquiry learning and instruction.

Section one pretest/posttest averages and significance. Table 4.9 provides the breakdown of averages for students in section one as scored on the pretest and the posttest. The scores on the pretest ranged from 24% to 69% while the posttest scores ranged from 33% to 80%. The overall class average for the pretest was a 46.62% while the posttest garnered a passing percentage of 62.92%. The improvement in averages is an indicator that the treatment of guided-inquiry did improve students' academic performance from the pretest to the posttest.

Table 4.9

Section One Pretest and Posttest Results with Class Averages

Student Coding	Pretest Scores	Posttest Scores
15908	38	73
15917	48	53
17393	24	63
19356	66	70
16172	45	73
21987	45	73
15115	69	73
14228	38	53
10220	55	67
22629	41	40
12435	62	80
10866	38	67
15197	41	33
Class Averages	46.92	62.92

To ensure for significance in growth from the pretest to the posttest, a paired t-test was used to compare the sample populations testing means before and after the intervention of guided-inquiry. There was a significant difference in the scores of the posttest ($M = 62.92$, $SD = 14.14$) and the pretest ($M = 46.92$, $SD = 12.87$); $t(12) = 3.89$, $p = .0022$. These results suggest that guided-inquiry instruction and learning have a statistically significant effect on the academic growth and performance of students in a middle level social studies class. These findings support the teacher-researcher's research question and the use of guided-inquiry learning in the classroom as a feasible method for educators to increase academic performance for students.

Results of the Pretest and Posttest for the Control Group

The pretest administered to section two was identical to the pretest administered to section one of the research study. The findings of the pretest provided the teacher-researcher with a baseline of knowledge that the students exhibited related to geography and Native American culture before the unit of instruction began. Additionally, the pretest administration to section two gave the teacher-researcher a better understanding of the content knowledge previously known for participants in the study. Below (Table 4.10) is the abbreviation used for each type of question presented on the pretest. The number of questions on the assessment for each category (geography or Native American culture) as well as the percentage of correct student answers for each category is displayed.

Table 4.10

Pretest Breakdown of Questions by Category and Class Score for Section Two

Category Abbreviation	Type of Question	# of Questions per Category	% of Class with Correct Answer by Question Category
GEO	Geography	14	36.5%
N.A.C.	Native American Culture	16	33.4%

Section two pretest results by question. The tables below offer the percentage of students that answered questions correctly on the pretest based on the categories of geography (Table 4.11) and Native American culture (Table 4.12).

Table 4.11

Section Two Pretest Percentage for Correct Responses on Geography Related Questions

Item Number	Questions	Percentage
1	Where was the seacoast located during ancient times in South Carolina?	12%
2	What ocean borders the state of South Carolina?	38%
3	What two states border South Carolina?	62%
4	The Blue Ridge Mountains are part of what mountain range?	50%
7	Many Native Americans lived in the area shaded in green. What was this area called?	38%
11	In which two regions did the Cherokee live?	25%
12	In which region did the Catawba live?	38%
13	In which region did the Yemassee live?	25%

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Item Number	Questions	Percentage
17	Which region is being described based on the following description? Beaches and salt marshes are found in this region. Many seashells can be found on its	62%
18	Which region is being described based on the following description? This region has many mountains and waterfalls. It is part of the Appalachian Mountain Chain.	50%
19	Which region is being described based on the following description? This region means "foot of the mountain." It has rolling hills and valleys.	50%
21	What factor contributed to the 3 tribes of South Carolina being so different from one another?	12%

Table 4.12

Section Two Pretest Percentage for Correct Responses on Native American Culture Related Questions

Item Number	Questions	Percentage
5	Which crop is not one of the three primary agricultural crops of Native Americans?	25%
6	What does it mean to lead a life without a fixed residence and move from place to place?	38%
8	What was the purpose of slash and burn method used by Eastern Woodland Native Americans?	25%
9	Which of the following is the best description for the Cherokee wattle and daub home?	38%

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Item Number	Questions	Percentage
10	Explain why the Catawba Tribe called themselves the "river people."	50%
15	Look at the picture to the right. What kind of home is this?	38%
16	Based on your answer for Number 15, which tribe lived in that type of home?	25%
22	The Cherokee and Catawba built a protective barrier around their villages called a what?	12%
23	This animal was typically hunted by Native Americans of the Eastern Woodlands?	25%
24	In addition to meat, what did animals provide to the peoples of the Eastern Woodlands?	38%
25	It is believed that the Natives reached North America by crossing a land bridge at the Bering Strait *(between Alaska and Russia).* Today it is covered with water. Which of the following explains why the Natives were able to cross it 15,000 years ago?	38%
26	Sometime after 5,000 BC, Native Americans stopped living a nomadic lifestyle and began living in small villages for a longer period of time. Which of the following occurrences made this development possible?	25%
27	Long before the arrival of the Europeans, many Native Americans lived as hunter-gatherers. The hunter-gatherers lived a nomadic lifestyle that required constant movement from place to place: Why was this the case?	25%

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Item Number	Questions	Percentage
28	All of the Native American tribes living in South Carolina during the 17th century are divided into four language groups *(Siouan, Iroquoian, Algonquian, and Muskogean)*. Which of the following best explains why language groups were used to distinguish Native American tribes?	50%
29	This illustration shows what some Native Americans may have looked like before the arrival of Europeans in North America. The Native Americans in this illustration *most likely* lived in which area?	62%
30	These images show housing used by Native Americans at the time Europeans arrived. Based on these images, what can be drawn about people living in North America at the time the Europeans arrived?	25%

Like section one, section two had slightly more prior knowledge in questions dealing with geography than with questions related to Native American cultures in South Carolina. On geography related questions, students scored above the 60% passing rate on questions 3 and 17. On Native American culture questions, students scored above a 60% passing rate on only one question: question 29.

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Section two pretest/posttest results by question. The findings of the posttest are presented in Table 4.13 for section two. The table includes the number of questions on the posttest for each category (geography or Native American culture) as well as the percentage of correct student answers for each category on the posttest.

Table 4.13

Posttest Breakdown of Questions by Category and Class Score for Section Two

Category Abbreviation	Type of Question	# of Questions per Category	% of Class with Correct Answer by Question Category
GEO	Geography	14	44%
N.A.C.	Native American Culture	16	52%

Below (Table 4.14) is the abbreviation used for each type of question presented on the posttest. The table includes the number of questions on the posttest for each category (geography or Native American culture) as well as the percentage of correct student answers for each category as compared to the pretest.

Table 4.14

Posttest Breakdown of Questions by Category and Class Score for Section Two

Category Abbreviation	Type of Question	# of Questions per Category	% of Class with Correct Answer by Question Category (Pretest)	% of Class with Correct Answer by Question Category (Posttest)
GEO	Geography	14	36.5%	44%
N.A.C.	Native American Culture	16	33.4%	52%

The breakdown of questions by category for the posttest shows improvement in the content learned with use of traditional teaching methods. Students were successful in improving their percentage of correct answers based on questions dealing with geography from 36.5% on the pretest to 44% on the posttest. Likewise, students performed favorably on the posttest showing growth in correct responses dealing with questions pertaining to Native American culture by improving to 52% on the posttest as compared to their initial percentage of 33.4%. In both sections of questioning offered on the pretest and the posttest, students within the control group were able to correct respond nearly 10% points higher on geography related questions on the posttest over the pretest and nearly 20% higher on Native American culture questions on the posttest over the pretest.

Like the pretest, the posttest was completed on a scantron and put into our district program, Mastery Manager. Displayed below (Table 4.15) is the percentage of students in section two with the correct response to geography related questions on the posttest as compared to the pretest. Table 4.15 shows increased growth in students selecting the correct response for tested items on questions related to geography from the pretest to the posttest. On the pretest, students scored a passing rate of 60% on two questions while that number increased to five questions on the posttest. Of the thirteen questions related to geography, students in section two improved on eight of the thirteen questions for an improvement percentage of 62%.

Table 4.15

Section Two Pretest Percentages of Correct Responses Compared to Percentage of Posttest Correct Responses on Geography Related Questions

Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
1	Where was the seacoast located during ancient times in South Carolina?	12%	25%
2	What ocean borders the state of South Carolina?	38%	50%
3	What two states border South Carolina?	62%	38%
4	The Blue Ridge Mountains are part of what mountain range?	50%	62%
7	Many Native Americans lived in the area shaded in green. What was this area called?	38%	52%
11	In which two regions did the Cherokee live?	25%	12%
12	In which region did the Catawba live?	38%	20%
13	In which region did the Yemassee live?	25%	62%
17	Which region is being described based on the following description?	62%	62%

Beaches and salt marshes are found in this region. Many seashells can be found on its sandy shores.

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Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
18	Which region is being described based on the following description?	50%	38%
	This region has many mountains and waterfalls. It is part of the Appalachian Mountain Chain.		
19	Which region is being described based on the following description?	50%	62%
	This region means "foot of the mountain." It has rolling hills and valleys.		
20	Which region is being described based on the following description?	38%	62%
	The soil in this region is sandy because the shoreline used to be here. Fossils of ocean life can be found in this region.		
21	What factor contributed to the 3 tribes of South Carolina being so different from one another?	12%	38%

Table 4.16 displays the percentage of students in section two with the correct response to

Native American culture related questions on the posttest as compared to the pretest. The

data collected shows an increased growth in students selecting the correct response for

the tested items on questions related to Native American culture from the pretest to the

posttest. On the pretest, students scored a passing rate of 60% on one question while that

number increased to nine questions on the posttest. Of the sixteen questions related to

Native American culture, students in section two improved on eleven of the sixteen

questions posed for an improvement percentage of 69%.

Table 4.16

Section Two Pretest Percentages of Correct Responses Compared to Percentage of Posttest Correct Responses on Native American Culture Related Questions

Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
5	Which crop is not one of the three primary agricultural crops of Native Americans?	25%	38%
6	What does it mean to lead a life without a fixed residence and move from place to place?	38%	38%
8	What was the purpose of slash and burn method used by Eastern Woodland Native Americans?	25%	25%
9	Which of the following is the best description for the Cherokee wattle and daub home?	38%	62%
10	Explain why the Catawba Tribe called themselves the "river people."	50%	62%
15	Look at the picture to the right. What kind of home is this?	38%	88%
16	Based on your answer for Number 15, which tribe lived in that type of home?	25%	50%
22	The Cherokee and Catawba built a protective barrier around their villages called a what?	12%	62%

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Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
23	This animal was typically hunted by Native Americans of the Eastern Woodlands?	25%	62%
24	In addition to meat, what did animals provide to the peoples of the Eastern Woodlands?	38%	62%
25	It is believed that the Natives reached North America by crossing a land bridge at the Bering Strait *(between Alaska and Russia).* Today it is covered with water. Which of the following explains why the Natives were able to cross it 15,000 years ago?	38%	38%
27	Long before the arrival of the Europeans, many Native Americans lived as hunter-gatherers. The hunter-gatherers lived a nomadic lifestyle that required constant movement from place to place: Why was this the case?	25%	62%
28	All of the Native American tribes living in South Carolina during the 17th century are divided into four language groups *(Siouan, Iroquoian, Algonquian, and Muskogean).* Which of the following best explains why language groups were used to distinguish Native American tribes?	50%	12%
29	This illustration shows what some Native Americans may have looked like before the arrival of Europeans in North America. The Native Americans in this illustration *most likely* lived in which area?	62%	75%

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Item Number	Questions	Percentage with Correct Response on Pretest	Percentage with Correct Response on Posttest
30	These images show housing used by Native Americans at the time Europeans arrived. Based on these images, what can be drawn about people living in North America at the time the Europeans arrived?	25%	75%

Section two pretest/posttest averages and significance. Table 4.17 provides the breakdown of averages by students in section two as scored on the pretest and the posttest. The scores on the pretest ranged from 28% to 45% while the posttest scores ranged from 33% to 67%. The overall class average for the pretest was a 35.75 % while the posttest garnered a failing percentage of 47.88%.

Table 4.17

Section Two Pretest and Posttest Results with Class Averages

Student Coding	Pretest Scores	Posttest Scores
15641	45	40
11531	28	47
13769	41	43
26029	34	67
21650	38	33
14481	28	57
15608	38	53
18050	34	43
Class Averages	35.75	47.88

To ensure for significance in growth from the pretest to the posttest, a paired t-test was used to compare the sample populations testing means before and after the intervention of traditional teaching. There was no significant difference in the scores of the posttest (*M* =47.88, *SD* = 10.74) and the pretest (*M* = 35.75, *SD* = 5.97); *t* (7) = 2.36, *p* = .0501. These results suggest that traditional instruction and learning have no statistically significant effect on the academic growth and performance of students in a middle level social studies class. These findings support the teacher-researcher's research question and the use of guided-inquiry over traditional learning in the classroom as a method for educators to increase academic performance for students.

Results of the Pretest and Posttest for Section One and Section Two

Below (Table 4.18) is the abbreviation used for each type of question presented on the pretest. The number of questions on the assessment for each category (geography or Native American culture) as well as the percentage of correct student answers for each category is displayed. The data collected from the pretest for both sections shows that the two sections were within a 10% differential of each other in content knowledge. The two sections were very close in the amount of content knowledge they previously knew prior to the teaching of the unit of study. This close relationship during the pretest will be helpful in determining if the implementation of guided-inquiry is a success and a viable method of instruction to promote continued learning and more academic growth over traditional teaching methods.

Table 4.18

Pretest Breakdown of Questions by Category and Class Score for Section One and Section Two

Category Abbreviation	Type of Question	# of Questions per Category	% of Class with Correct Answer by Question Category (Section One)	% of Class with Correct Answer by Question Category (Section Two)
GEO	Geography	14	43%	36.5%
N.A.C.	Native American Culture	16	43%	33.4%

When comparing both the treatment group and the control group, the treatment group performed better than the control group when responding to questions related to geography and Native American culture as depicted in Table 4.19. This data helps to assist in answering the research question by providing evidence to support the increased academic performance of students while taught using guided-inquiry over students traditionally instructed.

Table 4.19

Posttest Breakdown of Questions by Category and Class Score for Section One and Section Two

Category Abbreviation	Type of Question	# of Questions per Category	% of Section One with Correct Answer by Question Category (Posttest)	% of Section Two with Correct Answer by Question Category (Posttest)
GEO	Geography	14	64%	44%
N.A.C.	Native American Culture	16	62%	52%

Displayed below (Table 4.20) is the percentage of students in section one with the correct answer on the posttest as compared to the percentages of students with the correct response in section two on geography related questions. Table 4.20 shows increased

growth in students selecting the correct response for tested items using guided-inquiry instruction on questions related to geography over those students in the traditionally taught class. On the posttest, section one scored a passing rate of 60% on ten questions while section two scored a passing percentage rate of 60% on five questions. Of the thirteen total questions related to geography, section one's score improved on ten of thirteen questions for an improvement rate of 77% while section two only improved by 38% on the same questions.

Table 4.20

Comparison of Correct Response Distribution on Posttest in Section One and Section Two for Geography Related Questions

Item Number	Question	Percentage of Section One Students with the Correct Response	Percentage of Section Two Students with the Correct Response
1	Where was the seacoast located during ancient times in South Carolina?	93%	25%
2	What ocean borders the state of South Carolina?	86%	50%
3	What two states border South Carolina?	71%	38%
4	The Blue Ridge Mountains are part of what mountain range?	86%	62%
7	Many Native Americans lived in the area shaded in green. What was this area called?	71%	52%
11	In which two regions did the Cherokee live?	43%	12%

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Item Number	Question	Percentage of Section One Students with the Correct Response	Percentage of Section Two Students with the Correct Response
12	In which region did the Catawba live?	36%	50%
13	In which region did the Yemassee live?	21%	62%
17	Which region is being described based on the following	100%	62%

Beaches and salt marshes are found in this region. Many seashells can be found on its sandy shores.

description?

18	Which region is being described based on the following description?	93%	38%

This region has many mountains and waterfalls. It is part of the Appalachian Mountain Chain.

19	Which region is being described based on the following description?	86%	62%

This region means "foot of the mountain." It has rolling hills and valleys.

Item Number	Question	Percentage of Section One Students with the Correct Response	Percentage of Section Two Students with the Correct Response
20	Which region is being described based on the following description?	71%	62%
	The soil in this region is sandy because the shoreline used to be here. Fossils of ocean life can be found in this region.		
21	What factor contributed to the 3 tribes of South Carolina being so different from one another?	79%	38%

Table 4.21 displays the percentage of students in section one with the correct answer on the posttest as compared to the percentages of students with the correct response in section two on Native American culture related questions. Table 4.21 shows increased growth in students selecting the correct response for test items using-guided inquiry instruction on questions related to Native American culture over those students in the traditionally taught class. On the posttest, section one scored a passing rate of 60% on ten questions while section two scored a passing percentage rate of 60% on eight questions. Of the sixteen total questions related to Native American culture, section one's score improved on ten of sixteen questions for an improvement rate of 63% while section two improved by 50% on the same questions.

Table 4.21

Comparison of Correct Response Distribution on Posttest in Section One and Section Two for Native American Culture Related Questions

Item Number	Question	Percentage with Correct Response on Posttest	Percentage with Correct Response on Posttest
5	Which crop is not one of the three primary agricultural crops of Native Americans?	93%	38%
6	What does it mean to lead a life without a fixed residence and move from place to place?	79%	38%
8	What was the purpose of slash and burn method used by Eastern Woodland Native Americans?	50%	25%
9	Which of the following is the best description for the Cherokee wattle and daub home?	79%	62%
10	Explain why the Catawba Tribe called themselves the "river people."	64%	62%
15	Look at the picture to the right. What kind of home is this?	93%	88%
16	Based on your answer for Number 15, which tribe lived in that type of home?	21%	50%
22	The Cherokee and Catawba built a protective barrier around their villages called a what?	79%	62%
23	This animal was typically hunted by Native Americans of the Eastern Woodlands?	36%	62%

Item Number	Question	Percentage with Correct Response on Posttest	Percentage with Correct Response on Posttest
24	In addition to meat, what did animals provide to the peoples of the Eastern Woodlands?	79%	62%
25	It is believed that the Natives reached North America by crossing a land bridge at the Bering Strait *(between Alaska and Russia)*. Today it is covered with water. Which of the following explains why the Natives were able to cross it 15,000 years ago?	71%	38%
26	Sometime after 5,000 BC, Native Americans stopped living a nomadic lifestyle and began living in small villages for a longer period of time. Which of the following occurrences made this development possible?	71%	38%
27	Long before the arrival of the Europeans, many Native Americans lived as hunter-gatherers. The hunter-gatherers lived a nomadic lifestyle that required constant movement from place to place: Why was this the case?	64%	62%
28	All of the Native American tribes living in South Carolina during the 17th century are divided into four language groups *(Siouan, Iroquoian, Algonquian, and Muskogean)*. Which of the following best explains why language groups were used to distinguish Native American tribes?	36%	12%

Item Number	Question	Percentage with Correct Response on Posttest	Percentage with Correct Response on Posttest
29	This illustration shows what some Native Americans may have looked like before the arrival of Europeans in North America. The Native Americans in this illustration *most likely* lived in which area?	43%	75%
30	These images show housing used by Native Americans at the time Europeans arrived. Based on these images, what can be drawn about people living in North America at the time the Europeans arrived?	36%	75%

Overall, the posttest data provided by section two did not favor results that were as promising as the data collected from section one's posttest. Section two was only able to successfully score over 60% on fourteen of the 30 multiple-choice questions asked on the posttest, while section one was able to successfully score over 60% on twenty questions. Even more noticeable, is the range in percentage points achieved on the posttest for section one over section two. For section two, students' frequency distribution results for questions over 60% ranged from a score of 62% - 88%. Section one's frequency distribution results for questions over 60% ranged from 64% - 100%.

The improvement in averages is an indicator that use of traditional teaching methods did improve students' academic performance from the pretest to the posttest but did not offer a better academic performance when compared to section one students that received the implementation of guided-inquiry as shown in Table 4.22.

Table 4.22

Section One and Section Two Pretest and Posttest Class Averages

Class Section	Pretest Scores	Posttest Scores
Section One	46.92	62.92
Section Two	35.75	47.88

To ensure for significance in growth when comparing the use of guided-inquiry instruction and learning against the use of traditional instruction and learning, an unpaired t-test was used to compare the sample populations posttest means after each intervention. There was a significant difference in the scores of the treatment group ($M = 62.92$, $SD = 14.14$) and the control group ($M = 47.88$, $SD = 10.74$); $t(19) = 2.57$, $p = .0184$. These results suggest that guided-inquiry instruction and learning have a statistically significant effect on the academic growth and performance of students in a middle level social studies class over traditional instruction and learning. These findings support the teacher-researcher's research question and the use of guided-inquiry learning in the classroom as a feasible method for educators to increase academic performance for students.

Comparison of posttest results of section one and section two based by race.
When dividing the student populations into subgroups based on race, as indicated in Table 4.23, students in the treatment grouped performed better than those students in the

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control group. Black Students in Section One out performed Black students in Section

Two 59.2 % to 57%. Hispanic Students in Section One performed better than Hispanic

Students in Section Two 60.75% to 42.25%. White Students in Section One out

performed White Students in Section Two 69.75% to 43%. In each subgroup, students

that received guided-inquiry instruction had a higher average than those students that did

not receive guided-inquiry instruction.

Table 4.23

Class Average of Posttest Results by Race for Both Sections

Race	Section One Posttest Scores	Section Two Posttest Scores
Black Students	59.2	57
Hispanic Students	60.75	42.25
White Students	69.75	43

An unpaired t-test was used to compare the posttest means of students in section

one and section two based on race after each intervention. There was no significant

difference in the posttest scores of the black students in the treatment group ($M = 59.20$,

$SD = 12.97$) and the posttest scores of the black students in the control group ($M = 57.00$,

$SD = 10.00$); $t(6) = .25$, $p = .8111$. Additionally, there was no statistical significance in

the posttest scores for Hispanic students in the treatment group ($M = 60.75$, $SD = 18.66$)

and the posttest scores of the Hispanics in the control group ($M = 42.25$, $SD = 8.30$); $t(6)$

$= 1.81$, $p = .120$. These results suggest that guided-inquiry instruction and learning have

no statistically significant effect on the academic growth and performance of students in a

middle level social studies class when compared to students taught using traditional

teaching practices. More research is needed in this area to determine the best possible

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teaching method to obtain significance in the academic performance of students that are black or Hispanic.

However, the results of the unpaired t-test comparing the white students from the sample populations were considered statistically significant. There was statistical significance in the posttest scores of the white students in the treatment group ($M = 69.38$, $SD = 11.64$) and the posttest scores for the white students in the control group ($M = 43.00$, $SD = 0$); $t = (4)$, $p = .038$. These findings support the teacher-researcher's research question and the use of guided-inquiry learning in the classroom as a feasible method for educators to increase academic performance for white students.

Comparison of posttest results for section one and section two by sex. The student populations were divided into subgroupings based on sex, as indicated in Table 4.24. The data collected shows that students in the treatment grouped performed better than those students in the control group. The boys from Section One averaged a 64% percent pass rate over the pass rate of 45.67% from Section Two. The girls from Section One averaged 62.33% over the 49.2% of the girls from Section Two. Students that received guided-inquiry instruction had a higher average than those students that did not receive guided-inquiry instruction.

Table 4.24

Class Average of Posttest Results for Boys vs. Boys and Girls vs. Girls

	Section One	Section Two
Boys	64%	45.67%
Girls	62.33%	49.2%

After collection of the posttest results, an unpaired t-test was used to compare the sample populations posttest means for boys vs. boys and girls vs. girls from section one and section two. There was no significant difference in the posttest scores of the male students in the treatment group ($M = 64.00$, $SD = 18.14$) and the posttest scores of the male students in the control group ($M = 45.67$, $SD = 12.06$); $t(6) = 1.53$, $p = .178$. Likewise, there was no statistical significance in the posttest scores for female students in the treatment group ($M = 62.33$, $SD = 11.59$) and the posttest scores of the female students in the control group ($M = 51.50$, $SD = 11.36$); $t(11) = 1.56$, $p = .146$. These results suggest that guided-inquiry instruction and learning have no statistically significant effect on the academic growth and performance of students in a middle level social studies class when compared to students taught using traditional teaching practices. More research is needed in this area to determine the best possible teaching method to obtain significance in the academic performance of gender groupings.

Interpretation of the Results

Guided-inquiry instruction was successful in improving the academic performance of students in an eighth-grade social studies classroom when guided-inquiry was used over traditional teaching. Students taught with guided-inquiry instruction in this action research were successful in improving their class average from the pretest to the posttest. Students instructed with guided-inquiry also outperformed the traditionally taught students on the posttest. During the research, guided-inquiry activities were focused on the essential question: "How does geography influence a society and its culture?" Students in section one were instructed with minimal interference from the teacher-researcher and could construct their own understandings of the essential question

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and how each inquiry activity related to the next. In this framework of learning, students are more engaged in the content and learning is stimulated by doing rather than being passive learners while the teacher provides all the needed information (Silber, 2018). With traditional teaching more focus is placed on the curriculum and the standards taught for passing tests and moves away from the student-focused learning of inquiry (Tomlinson, 2000). Guided-inquiry activities focus on student-centered approaches that get "the student in the learning process rather than allow the student to passively gather information from a delivered lecture in the more traditional method of instruction (Slunt & Giancario, 2004). Based on the research of Oliver (2007) and Prince and Felder (2007), students within inquiry-based learning are more motivated to learn and find answers to questions using investigation. The learning process emphasizes student active thinking which helps them to become better critical thinkers and develop a deeper understanding of the content (Wang & Posey, 2011). In traditionally taught courses, students' attentiveness to the content is diminished after fifteen minutes of direct instruction (Davis, 1993). The statistically significant results on both the paired and unpaired t-test used during data collection of the current research highlight the significance of guided-inquiry as an instructional strategy to promote academic achievement and answer the teacher-researcher's research question.

In addition, the teacher-researcher included subgroups in the research to assess whether guided-inquiry improved the academic performance of various student groupings based on race and sex as opposed to the entire class population. These subgroupings were selected because there is a misrepresentation of blacks, Hispanics, and women in history curriculums and textbooks (Morgan, 2011) used in traditionally instructed

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environments. This misrepresentation creates a lack of engagement and achievement for students that find the content "boring, and too far removed from their experience" (Schug, Todd, & Beery, 1982). Inquiry-based learning helps students build confidence and self-esteem in the content by using multiple sources and perspectives (Kyle, 2016). While guided-inquiry instruction did improve the class averages of students in section one over students in section two based on race and sex, the results of the data were not statistically significant. Further research is needed for these groupings to address the research question posed with significance.

Conclusion

The pretest/posttest analysis was conducted to determine if guided-inquiry instruction and learning had a positive effect on the academic achievement in South Carolina history for middle school students over the use of traditional teaching methods. The analysis of the data collected when comparing the pretest results to the posttest results of section one participants (treatment group) indicates that guided-inquiry instruction and learning is effective in increasing academic performance of students. The results of the independent t-test for section one from the pretest to the posttest are statistically significant. Similarly, the analysis indicates that guided-inquiry instruction produces better posttest results than traditional teaching methods when comparing the treatment group to the control group. The results of the paired t-test indicate that the use of guided-inquiry has statistical significance over the use of traditional teaching methods. The conclusion of this action research study finds that guided-inquiry instruction makes a difference in academic achievement for students that is greater than the achievement of students in a traditionally taught social studies class. The use of guided-inquiry allowed

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students more time for questions and discussion about the topic of study among peers and the teacher. Students were engaged with collaboration activities that took them beyond the standards and allowed them to critically think about the essential question guiding the unit of study. Students were more eager to participate in activities and were more successful in completion of activities when they had others to support and guide them through the inquiry process. In the final chapter, chapter five, of the action research, conclusions for the data collected in the study will be summarized, implications for future research will be addressed along with challenges faced throughout the intervention period, and an action plan is discussed to promote further instruction using guided-inquiry.

CHAPTER FIVE

IMPLICATIONS AND RECOMMENDATIONS

The purpose of chapter five is to summarize and conclude the current action research study concerning the implementation of guided inquiry instruction and learning and its effects on the academic achievement of students in an eighth-grade social studies classroom. The framework of guided inquiry that was used adhered to the 5-E Model of Guided Inquiry as established by preceding studies so that students participating in this action research study had the greatest opportunity for success. The 5-E Model consists of five phases: engagement, explanation, exploration, elaboration, and evaluation (Warner & Myers, 2008). The 5-E Model of inquiry is organized around relevant, authentic problems or questions. The model places heavy emphasis on collaborative learning and activity. Students are cognitively engaged in sense making, developing evidence-based explanations, and communicating their ideas. The teacher plays a key role in facilitating the learning process and may provide content knowledge on a just-in-time basis (Hmelo-Silver, Duncan, & Chinn, 2007). In guided inquiry, the teacher acts as a facilitator and provides scaffolding of the content whenever needed to ensure the correct flow of knowledge for students in the inquiry process. Scaffolding makes the learning more attainable for students by changing complex and difficult tasks in ways that make these tasks accessible, manageable, and within student's zone of proximal development (Rogoff, 1990; Vygotsky, 1978). With the teacher scaffolding the inquiry process, the students can engage in sense making, managing their investigations and problem-solving

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processes, and articulate on their thinking and reflect on their learning (Quintana, C., Reiser, B. J., Davis, E. A., Krajcik, J., Fretz, E., Duncan, R. G., et al., 2004). These attributes of guided inquiry assisted the teacher-researcher in designing a unit of study that allowed for academic growth that was superior to students in a traditionally taught social studies class. This study highlights the growth of students' academic achievement as demonstrated be improved performance from the unit of study's pretest to the posttest. Additionally, the study focuses on the improved performance of the treatment group over the control group when comparing the posttest. The results of this action research study will be used to determine the best possible teaching strategy to implement in a social studies classroom and to develop a plan for future courses.

Statement of the Problem

The identified problem evolved out of the desire of this teacher-researcher to make a difference in the academic achievement of low performing students in the current South Carolina History curriculum taught in the eighth-grade at Pine Grove Middle School. Students identified in this study as low performing are those students that scored a level of "Met" or "Not Met" on state-mandated testing, SCPASS, for their seventh-grade year. The teacher-researcher is seeking to conclude that by implementing student inquiry, we can improve low performing student achievement by promoting critical thinking skills and making the content relevant to lived experiences.

Purpose of the Research

At Pine Grove Middle School, teachers act as instructional leaders within their classrooms and are in control of the day-to-day routines that are placed inside their four walls. The instructional methods employed are used to promote the academic success of

students. When instructional methods fail, teachers have the capability of implementing a new strategy to better assist students in learning the content for mastery. Each year in May, students in the eighth-grade are challenged with proving their skills of mastery in the content with the South Carolina Assessment of State Standards (SCPASS) in South Carolina history. This high-stakes test is used to hold teachers and schools accountable for the academic standards taught within the subject. In recent years and trends of data provided during faculty meetings and one-to-one teacher conferences with administrators, social studies content testing scores have dropped for teachers at Pine Grove Middle School; including the teacher-researcher of this study. Additionally, more and more students are failing social studies courses than experienced in previous years. The purpose of the research is to find a method of instruction and learning that combats this decline in social studies learning.

Research Question

The teacher-researcher sought to implement a new instructional strategy into one section of eighth-grade students enrolled in South Carolina history.   The teacher-researcher sought to determine if a class that was centered on student inquiry improved student achievement.

1. How did the implementation of student inquiry impact academic achievement in a South Carolina History classroom?

Participants

The action research study was implemented during the fall semester of 2017 with a total of twenty-five students. Of this population, fourteen students made up the treatment group while the other eleven students participated in the control group. The

students that participated in the research study were chosen by their SCPASS scores for their seventh-grade academic year. The students within this study either scored "Met" or "Not Met" on the state-standardized assessment. Students in the study generally range from the ages of thirteen to fourteen years. Every student within the study was informed of the nature of the study and eager to participate. The study was composed of students within the teacher-researcher's general education classes. Classes meet every day for 60 minutes for the entire school year. The general education classes differ in gender, backgrounds, and test scores, as well as, their knowledge base and learning style. A few of the students need accommodations in the classroom. These accommodations are outlined in either an Individual Education Plan (IEP), and ESOL plan, or a 504 plan.

Conclusions from the Pre/Post Test Analysis of the Treatment Group

The pre/posttest analysis was conducted to determine if eight weeks of guided inquiry instruction and learning had a positive impact on the academic achievement of students in an eighth-grade social studies class. The analysis of the data collected from the pretest and posttest indicates that the implementation of guided inquiry had a positive impact on the academic achievement for students in section one. Students were given a 30-question multiple-choice pretest assessment prior to the topic of study to collect initial data and to assess students' previous content knowledge on the topic of study used during the intervention period. Additionally, a posttest identical to the pretest was used after the conclusion of the study to determine if guided-inquiry instruction was beneficial in improving the academic performance of students in the treatment group. The results of the independent t-test for section one on the pretest to the posttest show that students growth in academic performance are very statistically significant with a p value of .0022.

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The students within this section of participants were able to increase their class average from a 46.92% on the pretest to a posttest score of 62.92%. The conclusion drawn by the teacher-researcher over the six-week implementation of guided-inquiry instruction and learning is effective in increasing the academic performance of students. The six-week implementation period allowed students to work collaboratively with various people in the class. The collaborative nature of guided-inquiry allows students to work in small groups to openly discuss and construct their own knowledge about the content (Classroom Observation Project, 2016). Students are able to successfully navigate group work and work through problems or challenges in activities assigned (Brame & Biel, 2015). Open-dialogue among students deepens their knowledge of each other and topics covered (Burke, 2011). As discussed in chapter three, inquiry is best implemented when students are assigned roles during group work with group members switching roles during each activity assigned allowing students the opportunity to assist in different manners. Throughout the guided-inquiry process, the teacher was able to facilitate groups and guide as needed. In this guidance, the teacher was able to address questions and concerns of individual groups as they appeared.

Conclusions from the Posttest Analysis of the Treatment Group versus the Control Group

The posttest comparison analysis of the treatment group versus the control group was used to determine if the implementation of guided-inquiry produced higher achievement results on the unit of study's posttest compared to the results of the students that received traditional teaching and learning. The results of the posttest indicate that students in the treatment group performed higher than the students in the control group on

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the posttest. The t-test conducted during the data analysis concludes that the use of guided-inquiry is statistically significant over the use of traditional teaching. Students in the treatment group scored a class average of 62.92% on the posttest while students in the control group scored a class average of 47.88%.

When grouping gender, guided-inquiry instruction provided favorable results for boys and girls in section one over boys and girls in section two. Boys in section one outperformed boys in section two by 18.33%. Girls in section one garnered results on the posttest that were 13.13% higher than girls in section two on the posttest. In addition, when using subgroupings of race to construct data, results were favorable for guided-inquiry instruction over traditional instruction. White students in section one outscored section two students by 26.75%; Hispanic students in section one outscored section two students by 18.5%; Black students from section one outscored section two students by 2.2%. While White students and Hispanic students scored relatively close to each other when comparing the results of the posttest in the treatment group over the control group, the results for Black students were not as favorable. This subsection of students only bridged a separation in results of 2.2% bringing forth questions as to the reasoning for such a small variant in the treatment of guided-inquiry as opposed to traditional instruction and implications for future research.

Challenges

The teacher-researcher encountered several challenges through the implementation of guided-inquiry. The first inquiry activity engaged the students in discovery of the various geographical features of the regions in South Carolina. Many students struggled with identifying states that bordered South Carolina and the ocean that

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borders our coast. The regions of South Carolina were completely new to them. According to the 2014 National Assessment of Educational progress nearly three-quarters of all eighth-graders tested below proficient in geography (Camera, 2015), which is a major challenge to the social studies content. Students lack basic knowledge for United States geography and South Carolina geography was setback to the action research study as this content had to be retaught before the first inquiry project could begin.

Challenge two came from a thorough command of technology. During the six-weeks of guided-inquiry instruction, students were tasked with completing various webquest that helped to answer the essential question developed for the unit of study. At the end of every webquest, students were tasked with creating a product that helped to establish their understanding of the content and how the information they gathered through research answered the essential question. During the first inquiry activity, many of the students had questions regarding the steps in the webquest contrary to the steps being hyperlinked on the left hand of the page. Initially, the teacher-researcher gave no instructions regarding the webquest as it is all included if students followed the steps as provided. I quickly found out that many of the students in my treatment class had never completed a webquest and they were lost. Also, many of them did not bother to read the instructions as they have always been told what to do. So, after numerous questions during the first inquiry activity, I stopped the class and walked them through the process of completing the webquest, reading a rubric, and creating multiple visuals with their IPads. The latter part was also shocking as many students said they only used Google Docs in classes last year and had no prior experience with Google Slides or

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iMovie. Naturally the very easy first inquiry assignment took longer to explain how to navigate and complete a webquest without teacher direction and how to use applications on the IPad. While this did not appear to have any impact on the academic performance of the students, the scheduling of implementation had to be adjusted to accommodate for the extended time to complete the first inquiry project. Additionally, as the other inquiry projects began, time was allotted at the start of the inquiry projects to walk students through the needed steps of the assignment and how to create the product needed at the end of the inquiry activity.

Action Plan

Findings suggest that the use of guided-inquiry promoted an increase in the academic performance of students in an eighth-grade social studies class that was higher than the performance of students in a traditionally taught class. The intervention of guided-inquiry allowed for greater comprehension of the content covered and a stronger connection to the essential question that resonated through the six-week intervention period as indicated in the results of the study. Students in inquiry learning are more engaged and apt to discuss the content with each other to address the needs of the inquiry activities working as co-creators and collaborative problem-solvers (Kwek, 2011). Students have a higher level of motivation in inquiry learning as they have freedom to make choices, are provided with the chance to self-regulate, and take part in projects they are interested in (Tuan, Chin, Tsai, and Cheng, 2005).

Promoting Social Justice

Social justice in the classroom is made possible when teachers teach students how to "make positive change in the world by connecting with them, discussing real-world

problems and multiple perspectives, creating a classroom community, and including authentic assessment" (Dell'Angelo, 2014). Guided-inquiry learning promotes social justice by following these principles. The use of guided-inquiry in a collaborative environment provided every student with equal opportunity to learn and have a voice in the discussion throughout the inquiry lessons and in the creation of the product to be designed at the end of each inquiry activity. Students were given the opportunity to select different group roles during the inquiry process without repeating a previously held role from other activities. Changing the roles in the groups and the group members during each inquiry activity allowed students to work with students they typically do not work with and provided them with different leadership roles. Using collaboration during the unit of study, students were able to create a classroom community where students questioned, became interested in, and created new ideas about each other, themselves, and the content. Students were not only in a quest for knowledge but were challenged to make a connection to real world problems and multiple perspectives through inquiry. Through this action research study every student was provided equal opportunity to learn and have a voice in the classroom and in the class inquiry activities. All students in the treatment group except for two were able to improve their posttest averages when compared to their results on the pretest. Black and Hispanic students from the treatment group scored higher on the posttest than students of the same race in the control group. Academic improvement on the posttest was always greater in the treatment group when divided by gender over the results obtained by the control group. These results and the nature of inquiry-based learning were successful in improving student learning and promoting social justice.

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Action Plan

The action research plan is important so that the teacher-researcher has a strategy for trying, carrying, and putting into practice the intervention that was found to be successful in an action research study (Creswell, 2005; Fraenkel & Wallen, 2003). The action plan is the part of the action research that puts the action for change into place in the educational setting (Mertler, 2014). The teacher-researcher for this study must consider all aspects of the research and determine the next steps to promote the findings of the study conducted. From this study, the teacher-researcher can conclude that the implementation of guided-inquiry did improve the academic achievement of students providing better results than those students taught with traditional instruction. The next steps for the action plan are to carry out more guided-inquiry lessons with students taught by the teacher-researcher and move away from traditional teaching strategies for the treatment group and the control group. The teacher-researcher will be responsible for continuing to develop units of study for the remainder of the academic school year that target inquiry-based learning and student collaboration for these two classes. The findings of the action research study will be shared with the teacher-researcher's content partner and the administration. In addition, the school's district office must receive the findings of the study. All future data regarding guided-inquiry learning and instruction will be collected and analyzed by the teacher-researcher as the intervention will continue to occur in her classroom. After SCPASS testing and when testing reports have been returned to the teacher-researcher, another analyze of the impact of guided-inquiry on academic achievement will be used to determine if this instruction did improve the results on state testing for students scoring a "Met" or "Not Met" from the sample populations of

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the study. This analysis of data will continue the cyclic nature of action research and help guide the decision to use or not use guided-inquiry in the 2018-2019 school year.

Teacher-researcher as a Curriculum Leader

In the classroom, educators ask students to reflect on their work to determine what they could have done differently to achieve a better outcome. This same accountability given to students is important for educators as well. Educators must take the time to reflect on their teaching practices and roles within the school community. When teachers reflect on their practices they are taking the lead to find ways to do work better and more effectively (Mertler, 2014). In action research, reflection is a key component and should be integrated into each step of the process. Teacher reflection can help support teachers with providing evidence for the decisions they make regarding students, changes in the curriculum, and/or changes in pedagogy (Dana & Yendol-Hoppey, 2014). Reflecting and sharing the results of action research provides the teacher-researcher with power to transform their teaching practices and inspire the teaching practices of others. Reflecting on one's work throughout the process helps to guide the research and make decisions or revisions that are appropriate to answer the research question. As an educator it is important to reflect upon my teaching and leadership philosophies and my roles as a curriculum leader and a teacher-researcher. Reflecting on my practice ensures that the cyclical nature of action research continues.

In addition to reflecting, the teacher-researcher must share the findings of the research with fellow colleagues and the administration at Pine Gove Middle School. Mertler (2014) asserts, "Sharing the results of research studies also provides an opportunity for teacher-researchers to gain additional insight into their study and ultimate

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findings" (p. 265). During the second round of implementation, the teacher-researcher will work with her content partner to build a curriculum that implements more guided-inquiry into classroom instruction for eighth-grade students. After the second cycle is completed, the pair will compare findings and determine the next phase. This process will be cyclical as the teacher-research continues to expand the team of educators that work with eighth-grade students and; ultimately, all students at Pine Grove Middle School.

Social Studies subject matter is extensive and for most students overwhelming and boring. I aim to change this attitude toward Social Studies by making it interesting and fun. Social Studies is the story of human life and the trials and tribulations faced by many before us. But, it is also the story of great success and achievements that push us forward as a society. This discipline grows daily and impacts each of us in ways that change our actions and attitudes toward the past, present, and future. Students can see themselves in Social Studies and watch the field expand before them. All in all, students are living history. Students need the opportunity to be better citizens. I want them to understand their past so that they can shape their futures. I hope my students will leave the class with open minds and knowledge gained that will guide them in our global society. To gain knowledge about Social Studies, students must be allowed to learn from a variety of teaching methods. Lessons in Social Studies need to relate to the students in some manner. I believe in finding a connection between past events and something that the students may have experienced in their own lived experiences. Seeing themselves in what they are learning is an easy way to maintain their attention and inspire them to

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learn. Offering a connection to lived experiences along with the use of technology and teaching methods that inspire critical thinking is a must for me as an educator.

Student inquiry in education "inspires and requires critical thinking, moving beneath the surface of the topics, and working towards understanding" (Selwyn, 2014, p. 268). Inquiry allows students to ask questions and find answers to topics that they truly want to know. Social Studies, whenever possible, must start with a topic of study that piques a student's own interest and provides issues or problems that has a consequence to society (Jorgensen, 2014). Progressive education, in part due to the many works of John Dewey, promotes the school as a laboratory where the student is the experimentalist (Palm, 1940). As an experimentalist, the student is free to ask questions and think critically about the lesson before them. Progressive education is centered on students' interests and human problems (Labaree, 2005). My action research plan enables me to seek to get students interested and more invested in the curriculum by making the content more relevant to their lived experiences and the world around them. Within this theory of education, I am merely a facilitator to the students and guide them through their inquiry process. Students can move freely, and knowledge is gained by play, direct experience, or social interactions. They are active participants in their own education and eager to assist in decision making for themselves and each other as a collective. The goal is to enable students to develop the ability to think critically and engage with each other and our differences. Social Studies lends itself beautifully for student inquiry and creating a classroom that promotes education for change. So much of what our students experience has happened before and allowing them to become thinkers and problem-solvers may hold the answers to a more democratic society in the future.

Implications for Future Research

Action research in education is used by teachers, administrators, counselors, and other school personnel to enhance their professional practice by "enhancing their ability to grow professionally, to tackle classroom and school challenges, to make autonomous research-based decisions, and to assume responsibility for their own practice" (Efron & Ravid, 2013, p. v). The teacher-researcher for this study aimed to find an instructional strategy that improved the academic achievement of students in an eighth-grade social studies classroom at Pine Grove Middle School. Guided-inquiry instruction and learning is successful in improving the academic achievement of students in social studies classes. The great challenge in teaching social studies is two-fold. Educators must expose students to a wide body of American history in a year-long course so that they are adequately prepared for high-stakes testing while developing skills and knowledge needed to be critical thinkers and citizens in our democracy (Lazar, 2011). Through the process of inquiry, individuals construct their own knowledge by looking for solutions to questions or issues and move beyond the memorizing of facts and information (Concept to Classroom, 2004). Empowering students to take responsibility in their own learning is important to enhance understanding and build a foundation of knowledge to become successful in social studies. To build a classroom that shifts from traditional learning to inquiry-based learning, an educator must build a classroom with a solid presence, create strong relationships in a respectful environment, and set high expectations for all learners (Quigley, Marshall, Deaton, Cook, & Padilla, 2011).

The findings of this action research study are effective in determining that guided-inquiry instruction and learning improved the academic performance of students in an

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eighth-grade South Carolina history classroom when compare to students taught traditionally. The students that participated in the treatment group had positive outcomes that reached far beyond scores reported on the posttest. However, the results for Black students were not as favorable. This subsection of students only bridged a separation in results of 2.2% when comparing the treatment group to the control group. This small percentage of growth brings forth questions in the treatment of guided-inquiry as opposed to traditional instruction and implications for future research in this subsection of race. In 1964, Reverend King, Jr. declared that education was not meeting the needs of the African American student and was giving them second-class educations. Minority students need to be able to engage in their education with a sense of belonging and acceptance for who they are as a person and as a culture. As the nation and the state of South Carolina have evolved various racial groups have immigrated to the country. Some of those immigrants by choice and others by force. Students need their teacher to affirm their racial identity while acknowledging and helping them navigate the challenges that students of color face (Diversity, Community, and Achievement, 2011). Teachers, no matter their race, should understand that developing a critical consciousness about race is important to the education of students (Howard, 2010). Students must use cultural and social referents from their own historical backgrounds to help them become empowered in their classrooms and feel more confident about their schooling experiences; thus, making them more highly motivated to engage in the educational process (Asante, 1991).

As evidenced from this study, guided-inquiry proved to illicit better academic performance for students when compared to traditional instruction. To further the

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research, the teacher-researcher would like to explore in more detail the instances of the dissertation findings that did not prove favorable for guided-inquiry instruction. Key questions for future research are provided.

1. Students within the sample populations that are classified as black or Hispanic did not provide statistical significance when comparing the posttest results from section one to section two. How can the implementation of guided inquiry better improve the academic performance of black students and Hispanic students?

2. Male students from section one and female students from section one carried no statistical significance in their reported posttest results as compared to comparative groups in section two. How can the implementation of guided-inquiry better improve the academic performance of male students and female students?

3. Use of technology was needed throughout the course of the unit of study to assist students in researching and presentation of their findings. However, many challenges arose with the lack of prior knowledge with using technology for research and product creation. How can the implementation of technology be integrated into the guided-inquiry curriculum to improve understanding?

Conclusion

The use of guided-inquiry learning and instruction, based on the theoretical framework of constructivism and the 5-E Model, provides educators with the opportunity for improving student learning and increasing academic achievement in the classroom. Throughout the study, the teacher-researcher implemented learning activities so that students were accountable to themselves and their group members through collaboration.

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The constructivist nature of guided-inquiry allowed students to be transformed from passive learners to active participants in the learning process so that they construct knowledge in their own minds (Olusegun, 2015). This construction of knowledge allowed students to "construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences" (Bereiter, 1994). The teacher-researcher as an insider was merely a facilitator and guide through the inquiry process as students worked in heterogenous groups to answer the essential question of the unit of study. Allowing students to take authority in their construction of knowledge improved their thinking and understanding of the content studied. The findings of the study suggest that guided-inquiry instruction was successful in improving the academic performance of students.

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APPENDIX A

THE 5E MODEL OF GUIDED INQUIRY

What Should Be Happening at Each Stage?	
Student Role	**Teacher Role**
ENGAGEMENT	
• Shows interest in the topic • Asks questions such as, "Why did this happen?" "What else can I find out about this?"	• Creates interest • Generates curiosity • Raises questions • Elicits responses that uncover what the students know or think about the concept or topic
EXPLORATION	
• Forms new predictions and hypotheses • Tests predictions and hypotheses • Records observations and ideas • Asks related questions • Thinks freely (within the limits of activity)	• Encourages the students to work together without direct instruction from the teacher • Observes and listens to the students as they interact • Asks probing questions to redirect the students' investigations when necessary • Provides time for the students to puzzle through problems • Acts as a consultant for students • Creates a "need to know" setting
EXPLANATION	
• Listens critically to others' explanations • Explains own answers or possible solutions to others • Questions others' explanations • Listens to and tries to comprehend • explanations that the teacher offers • Refers to previous activities • Uses recorded observations in explanations • Assesses own understanding	• Encourages the students to explain concepts and definitions in their own words • Asks for justification (evidence) and clarification from students • Formally clarifies definitions, explanations, and new labels when needed • Uses students' previous experiences as the basis for explaining concepts • Assesses students' growing understanding
ELABORATION	
• Applies new labels, definitions, explanations, and skills in new but similar situations • Uses previous information to ask questions, propose solutions, make decisions, and design experiments • Draws reasonable conclusions from evidence • Records observations and explanations • Checks for understanding among peers	• Expects the students to use formal labels, definitions, and explanations provided previously • Encourages the students to apply or extend the concepts and skills in new situations • Reminds the students of alternate explanations • Refers the students to existing data and evidence and asks, "What do you already know?" "Why do you think …?" (Strategies from Exploration also apply here.)
EVALUATION	
• Demonstrates an understanding or knowledge of the concept or skill • Evaluates his or her own progress and knowledge • Answers open-ended questions by using observations, evidence, and previously accepted explanations • Asks related questions that would encourage future investigations	• Observes the students as they apply new concepts and skills • Assesses students' knowledge and skills • Looks for evidence that the students have changed their thinking or behaviors • Allows students to assess their own learning and group-process skills • Asks open-ended questions such as, "Why do you think …?" "What evidence do you have?" "What do you know about x?" "How would you explain x?"

Detailed explanation of the roles of students and teachers during the 5E Model of guided inquiry process. Adapted from "The 5E Instructional Model – Why You Should Be Using It in Your Classroom," by Nitty Gritty Science. Copyright 2016 by Nitty Gritty Science.

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APPENDIX B

KWL CHART

Name _____ Date _____

KWL Chart

Before you begin your research, list details in the first two columns. Fill in the last column after completing your research.

Topic _____		
What I Know	**What I Want to Know**	**What I Learned**

APPENDIX C

INQUIRY CHART

INQUIRY CHART
Hoffman, 1992

TOPIC	(FACT QUESTION)	(CONCEPT QUESTION)	(SKILL QUESTION)	What questions do I have?
What do I (we) already know?				
TEXT SOURCE 1				
TEXT SOURCE 2				
PRIMARY SOURCES:				
OTHER SOURCES				
Summary				

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APPENDIX D

PRETEST/POSTTEST

NAME: _____DATE: _____

_____

Directions: Please record all answers on the Scantron sheet provided. You may write on this test to help you with test-taking strategies but only those answers recorded on the Scantron will be accepted. Please take your time. Good Luck!

1) Where was the seacoast located during ancient times in South Carolina?

   a) Blue Ridge

   b) Piedmont

   c) Sandhills

   d) Outer Coastal Plains

2) What ocean borders the state of South Carolina?

   a) Atlantic Ocean

   b) Pacific Ocean

   c) Indian Ocean

   d) Arctic Ocean

3) What two states border South Carolina?

   a) North Carolina and Georgia

   b) North Carolina and Tennessee

   c) North Carolina and Florida

   d) North Carolina and Texas

4) The Blue Ridge Mountains are part of what mountain range?

   a) The Appalachian

   b) The Rockies

   c) The Sierra-Nevada

   d) The Alps

5) Which crop is not one of the three primary agricultural crops of Native Americans?

   a) Corn

   b) Squash

   c) Beans

   d) Wheat

6) What does it mean to lead a life without a fixed residence and move from place to

   place?

   a) Urban

   b) Rural

   c) Nomadic

   d) Suburban

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7) Many Native Americans lived in the area shaded in green. What was this area called?

   a) The Forbidden Plains

   b) The Western Woodlands

   c) The Great Plains

   d) The Eastern Woodlands

8) What was the purpose of slash and burn method used by Eastern Woodland Native

   Americans?

   a) To protect their villages from hostile tribes.

   b) To drive out animals and clear fields for farming.

   c) To poison and stun fish causing them to rise to the surface.

   d) To sharpen sticks for bow hunting.

9) Which of the following is the best description for the Cherokee wattle and daub

   home?

   a) Walls were made of a mixture of grass and clay with roofs made of bark and

      branches

   b) Walls were made of sapling trees covered with grassy mats and reeds

   c) Walls were made of animal hide held up frames made of animal bones and

      branches

   d) Walls were made of palmetto logs with roofs made of palmetto leaves.

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10) Explain why the Catawba Tribe called themselves the "river people."

    a) They lived along the rivers in the Piedmont region in villages surrounded by palisades.

    b) They had a strong belief in nature and held the natural resource of water in high regard.

    c) They believed it was necessary to bathe three times a day for spiritual cleansing.

    d) The Catawba were a nomadic tribe and followed the river systems in search of food.

11) In which region did the Cherokee live?

    a) Blue Ridge.

    b) Outer Coastal Plain.

    c) Piedmont.

    d) Sandhills.

12) In which region did the Catawba live?

    a) Blue Ridge.

    b) Outer Coastal Plain.

    c) Piedmont.

    d) Sandhills

13) In In which region did the Yemassee live?

    a) Blue Ridge.

    b) Coastal Zone.

    c) Piedmont.

    d) Sandhills.

14) Based on your answers for numbers 11, 12, and 13, correctly label those regions on the map below.

LANDFORM REGIONS
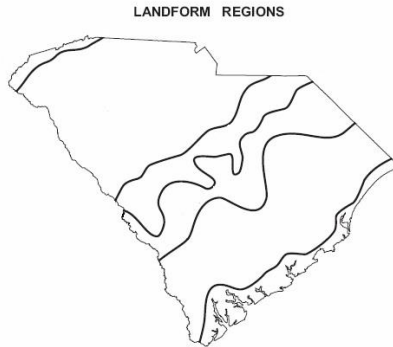
15) Look at the picture to the right. What kind of home is this?

a) A wigwam

b) A wattle and daub

c) A longhouse

d) A pueblo

16) Based on your answer for Number 15, which tribe lived in that type of home?

a) Cherokee

b) Catawba

c) Yemassee

d) Saluda

17) Which region is being described based on the following description?

> Beaches and salt marshes are found in this region. Many
> seashells can be found on its sandy shores.

   a) Blue Ridge

   b) Piedmont

   c) Coastal Zone

   d) Sandhills

18) Which region is being described based on the following description?

> This region has many mountains and waterfalls. It is part of
> the Appalachian Mountain Chain.

   a) Blue Ridge

   b) Piedmont

   c) Coastal Zone

   d) Sandhills

19) Which region is being described based on the following description?

> This region means "foot of the mountain." It has rolling hills
> and valleys.

   a) Blue Ridge

   b) Piedmont

   c) Coastal Zone

   d) Sandhills

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20) Which region is being described based on the following description?

> The soil in this region is sandy because the shoreline used to be here. Fossils of ocean life can be found in this region.

a) Blue Ridge

b) Piedmont

c) Coastal Zone

d) Sandhills

21) What factor contributed to the 3 tribes of South Carolina being so different from one another?

a) Geographic region

b) Government

c) Religion

d) Ancestral background

22) The Cherokee and Catawba built a protective barrier around their villages called a what?

a) A palisade

b) A dugout

c) The Three Sisters

d) Daub and wattle

23) This animal was typically hunted by Native Americans of the Eastern Woodlands?

   a) Antelope

   b) Deer

   c) Buffalo

   d) Bison

24) In addition to meat, what did animals provide to the peoples of the Eastern

   Woodlands?

   a) Skins and fur for clothing

   b) Oil and grain for warmth

   c) Successful hunting methods

   d) Friendship and skills for hunting

25) It is believed that the Natives reached North America by crossing a land bridge at the

   Bering Strait *(between Alaska and Russia).* Today it is covered with water.

      Which of the following explains why the Natives were able to cross it 15,000

years ago?

   a) The Bering Strait is a man-made canal created in the last century. When the

      Natives crossed it in pre-historic times, it was a solid land mass.

   b) It is believed that a major drought dried up the Bering Strait for a period of

      several decades, and the Natives came over during that time.

   c) It was during the Ice Age, which lowered sea levels and gave the Natives a solid

      foundation of ice and sand to walk across.

   d) Even today, the Bering Strait is less than one-mile wide, and a person can easily

      swim across it.

26) Sometime after 5,000 BC, Native Americans stopped living a nomadic lifestyle and began living in small villages for a longer period of time. Which of the following occurrences made this development possible?

a) A knowledge of agriculture *(this enabled food to grow in one location for extended periods of time)*

b) Change in weather *(a warmer climate helped Natives stay in one area without having to run from cold weather)*

c) Destruction of enemies *(the stronger tribes were able to gain military victories, which enabled the, to lead a more relaxed lifestyle)*

d) Freedom from disease *(as immune systems grew stronger, Natives found that it was easier to survive in one location)*

27) Long before the arrival of the Europeans, many Native Americans lived as hunter-gatherers. The hunter-gatherers lived a nomadic lifestyle that required constant movement from place to place: Why was this the case?

a) If one tribe of hunter-gatherers had already claimed an area, it was necessary for everyone to move in order to avoid competition

b) If all of the food supply was exhausted in one area, it was necessary to move somewhere else to find food

c) If cold or rainy weather came to one area, it was necessary to move to place where the weather was warm and sunny.

d) If another tribe of hunter-gatherers came to the area, it was necessary to move away to avoid a violent conflict.

28) All of the Native American tribes living in South Carolina during the 17th century are divided into four language groups *(Siouan, Iroquoian, Algonquian, and Muskogean)*. Which of the following best explains why language groups were used to distinguish Native American tribes?

    a) Native American tribes would not interact in any way with another tribe unless that tribe spoke the same language

    b) Studying the language of a certain tribe helps to determine how much that tribe interacted with the European settlers

    c) The language spoken by a certain tribe helps determine its origin, location, and history.

    d) "Language Group" does not actually refer to the way the Native Americans tribes spoke, but instead to the terminology that settlers used to describe them.

29) This illustration shows what some Native Americans may have looked like before the arrival of Europeans in North America.

The Native Americans in this illustration *most likely* lived in which area?

    a) The Eastern Woodlands

    b) The Great Plains

    c) The Pacific Northwest

    d) The Southwest

30) These images show housing used by Native Americans at the time Europeans arrived.

Based on these images, what can be drawn about people living in North America at

the time the Europeans arrived?

    a)   They were nomadic and moved from place to place.

    b)   They built permanent structures and had well-developed cultures.

    c)   They were unable to adapt to their environments.

    d)   They lacked the ability to make and use simple tools

ACTION RESEARCH PLAN

Problem Statement	• The identified Problem of Practice is at Pine Grove Middle School (pseudonym) in West Columbia, SC. • The teacher-researcher aims to make a difference in the academic achievement of students in the current South Carolina history curriculum taught in the eighth-grade at Pine Grove Middle School. • The teacher-researcher is seeking to conclude that by implementing student inquiry, the researcher can improve student achievement by making the content relevant to lived experiences.
Purpose of Study	• The purpose of the research is to increase the level of student academic achievement in an eighth-grade South Carolina History social studies class. • Students that will be targeted for the research will be those students that scored a level of "Not Met" on the state mandated assessment, SCPASS, and/or have a class average of a "D" or lower.

	• The study will seek to identify and describe the effects of student inquiry within the class and its correlation to academic performance.
Research Questions	How does the implementation of student inquiry impact academic achievement in a South Carolina history classroom?
Context	• The middle school of focus consists of grades sixth through eighth and is in West Columbia, South Carolina. • The total student population of Pine Grove Middle School is nearly 540 students with each grade level having an equal distribution of students. • The researcher teaches 96 eighth-grade social studies students. The educator teaches two general South Carolina history classes and two Advanced South Carolina history classes. The classes are divided based on student performance on South Carolina Palmetto Assessment of State Standards (SCPASS) test for social studies. • These classes meet every day for 60 minutes for the entire school year.

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Participants	• The teacher-researcher will use convenience sampling as the method to determine the research population. • The sample population for the proposed study will be my two general education classes.
Data to be collected	• The quantitative data that will be used for the current research study will be the data collected from the unit of study's pre- and post-test. • The quantitative data will be analyzed to determine if the application of student inquiry improves academic achievement.
Frequency duration of data collection	Twice; one collection from the unit of study's pretest and another from the unit of study's posttest. Additionally, a pilot study will be used to determine the reliability and validity of the assessments used prior to administration.
Location of data collection	The teacher-researcher's classroom
Who will collect data	The teacher-researcher
Data Analysis Procedures	• The researcher will use descriptive statistics.

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	• The teacher-researcher will use pre- and post-test results to collect quantitative data. • The teacher-researcher will use measures of central tendency to analyze the data collected from the descriptive statistics. • To account for variability in the measures of central tendency, the teacher-researcher will also determine the standard of deviation for the data collected.
Display of data findings	Data will be collected using Mastery Manager software and Excel software. All data collected will be free from identifying markers to keep confidentiality of subjects.

APPENDIX F

10-POINT GRADING SCALE

South Carolina Uniform Grading Scale Conversions				
Numerical Average	Letter Grade	College Prep Weighting	Honors Weighting	AP/IB/Dual Credit Weighting
100	A	5.000	5.500	6.000
99	A	4.900	5.400	5.900
98	A	4.800	5.300	5.800
97	A	4.700	5.200	5.700
96	A	4.600	5.100	5.600
95	A	4.500	5.000	5.500
94	A	4.400	4.900	5.400
93	A	4.300	4.800	5.300
92	A	4.200	4.700	5.200
91	A	4.100	4.600	5.100
90	A	4.000	4.500	5.000
89	B	3.900	4.400	4.900
88	B	3.800	4.300	4.800
87	B	3.700	4.200	4.700
86	B	3.600	4.100	4.600
85	B	3.500	4.000	4.500
84	B	3.400	3.900	4.400
83	B	3.300	3.800	4.300
82	B	3.200	3.700	4.200
81	B	3.100	3.600	4.100
80	B	3.000	3.500	4.000
79	C	2.900	3.400	3.900
78	C	2.800	3.300	3.800
77	C	2.700	3.200	3.700
76	C	2.600	3.100	3.600
75	C	2.500	3.000	3.500
74	C	2.400	2.900	3.400
73	C	2.300	2.800	3.300
72	C	2.200	2.700	3.200
71	C	2.100	2.600	3.100
70	C	2.000	2.500	3.000
69	D	1.900	2.400	2.900
68	D	1.800	2.300	2.800
67	D	1.700	2.200	2.700
66	D	1.600	2.100	2.600
65	D	1.500	2.000	2.500
64	D	1.400	1.900	2.400
63	D	1.300	1.800	2.300
62	D	1.200	1.700	2.200
61	D	1.100	1.600	2.100
60	D	1.000	1.500	2.000
59	F	0.900	1.400	1.900
58	F	0.800	1.300	1.800
57	F	0.700	1.200	1.700
56	F	0.600	1.100	1.600
55	F	0.500	1.000	1.500
54	F	0.400	0.900	1.400
53	F	0.300	0.800	1.300
52	F	0.200	0.700	1.200
51	F	0.100	0.600	1.100
0-50	F	0.000	0.000	0.000
WF	F	0.000	0.000	0.000
WP	–	0.000	0.000	0.000

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