HOW TO IMPROVE STUDENT TEST SCORES ON THE PRELIMINARY SCHOLASTIC APTITUDE TEST IN EVIDENCE-BASED READING AND WRITING

by

Lavinia Sonia Mikaela Callahan

Liberty University

A Dissertation Presented in Partial Fulfillment Of the Requirements for the Degree Doctor of Education

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APPROVED BY:

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ABSTRACT

The purpose of this applied research study is to determine how to improve test scores on the Preliminary Scholastic Aptitude Test (PSAT) in Evidence-Based Reading and Writing for high school students in a school in Hawaii and to formulate a solution to address the problem. The problem is that test scores revealed that only 63% of students were proficient for the 2017-2018 school year. The central research question for this study is “How can test scores be improved on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing at a school in Hawaii?” The theoretical framework for this study was the Measurement of Intelligence theory by Alfred Binet and Michael Halliday’s Academic English theory. This study explored factors used to improve student performance on the PSAT using a multi-method design. The data collection method was semi-structured interviews, documents, and a survey. A purposeful sampling of two high school English Language Arts teachers and three administrators were chosen to be interviewed. Survey participants included 12 teachers and three administrators who were also purposefully chosen. The qualitative data was transcribed and analyzed using categorical aggregation, development of naturalistic generalizations, and open coding used to identify patterns and themes. The quantitative data was collected using a survey and analyzed using figures to corroborate the qualitative data. The findings revealed that three main themes affected PSAT scores including teacher effectiveness and performance, relationship building, and socioeconomic factors.

Keywords: test scores, high school English, student achievement, professional development
Dedication

This research study is dedicated to my kids Michael, Jonathan, and Liberty. I decided to pursue my doctorate because I did not believe I could tell you to become whatever you dream of being if I was not willing to do the same. I hope by watching me, you now know that the only thing stopping you is yourself. I hope you will always remember that education is the true equalizer, the one thing no one can take away from you, and the thing that you can proudly accomplish if you have persistence, dedication, and the desire. Thank you for being my biggest cheerleaders. To my daughter Liberty, and my niece, Emma, I am the first woman in our family to reach this level of education, and I hope that because I have cleared the path, you can as well if that is your dream. To God be the Glory.
Acknowledgments

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List of Abbreviations

Common Core State Standards (CCSS)

English Language Learner (ELL)

Every Student Succeeds Act (ESSA)

Evidence-Based Reading and Writing (EBRW)

National Commission on Excellence in Education (NCEE)

No Child Left Behind Act (NCLB)

Preliminary Scholastic Aptitude Test (PSAT)

Scholastic Aptitude Test (SAT)

Social Emotional Learning (SEL)

Socioeconomic Status (SES)

Systematic Functional Linguistics (SFL)
CHAPTER ONE: INTRODUCTION

Overview

The purpose of this applied research study is to determine how to improve students’ test scores on the Preliminary Scholastic Aptitude Test (PSAT) in Evidence-Based Reading and Writing for high school students at a school in Hawaii and to formulate a solution to address the problem. Research shows that a variety of factors may affect test scores (Egalite, 2016; Konstantopoulos, 2014). Chapter One provides the background into the need for this research including the historical, social, and theoretical context of the study. The problem statement and the purpose statement are given, and the significance of the study is detailed. The central research question is: How can the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing be improved at a school in Hawaii? Sub-question one is: How would administrators in an interview solve the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing? Sub-questions two is: How would documents inform the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing? Sub-question three is: How would quantitative survey data inform the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing? Chapter One concludes with the definition of key terms and a summary of the chapter.

Background

Educators, politicians, and researchers have debated which school variables influence test scores more than any other topic in education (Ronfeldt, Loeb, & Wyckoff, 2013). As test scores are slipping nationwide, this question takes on new importance since school administrators base many of their decisions on the presumed relationship between the various education-related
factors and student learning outcomes (Ronfeldt et al., 2013). According to Ronfeldt et al. (2013), the assumption made by researchers and policy makers is often that only a single factor negatively impacts test scores, but other studies suggest that this may not be the case (Bayard, 2003; Bellei, 2013).

Research shows that teachers have a significant impact on their students’ test scores. This in turn affects their life-long success (Barrett & Bolt, 2010). According to Chetty, Friedman, and Rockoff (2014), “some characteristics of effective classroom environments include teachers’ organizational skills and teacher interactions with students (Chetty et al., 2014, p. 2335), which can have a significant influence on standardized tests scores.” Research shows that a variety of factors may affect student learning, including class size, ability level, teacher evaluation systems, educational reform, and quality of teachers and instruction (Egalite, 2016; Konstsantopoulos, 2014). For teachers, administrators, parents, and politicians, it is vital to understand the specific factors that impact student scores on the PSAT in Evidence-Based Reading and Writing in order to improve test scores.

**Historical Context**

Traditionally, pupils were examined publicly once a year as a way for schools to openly display brilliant students and give accolades to their teachers. Over time, this public display of academic achievement gave way to mockery, and out of this disparaging situation, the introduction of written exams, rather than public exams, was introduced (Kandel, 1936). Following this, Horace Mann introduced common schools when he proposed that schools become a vehicle for social advancement and education for all citizens. Mann convinced the Boston Public School Committee to allow him to administer written exams; thus, the concept of written assessments was born (Gallagher, 2003). Over time, written exams have changed
dramatically. Today, students are tested in numerous ways, and they are tested multiple times per year. Many critics say that students are over-tested (Lazarín, 2014; Pandya, 2011).

When the National Commission on Excellence in Education (NCEE) published *A Nation at Risk* (it created a springboard for educational reform (NCEE, 1983). It was the strong force behind several school improvement initiatives that were done throughout the United States (NCEE, 1983). The focus of the Education Reform Act of 1983 was on flaws in public education, specifically centering on “poor mathematics and science instruction, low expectations for students, and regulated and ineffective curriculum that led to low test scores” (NCEE, 1983, p. 5). Years after *A Nation at Risk*, the No Child Left Behind Act (NCLB, 2002) of 2001 was enacted, followed by the Every Student Succeeds Act (ESSA) of 2015. All these initiatives were enacted to set in place rigorous and comprehensive state-developed plans that were designed to close test score gaps, increase equity, improve the quality of instruction, and increase test scores for all students.

**A Nation at Risk.** *A Nation at Risk* urged educational leaders to immediately restructure the public education system (NCEE, 1983). Under President Ronald Reagan’s direction, *A Nation at Risk* (NCEE, 1983) generated a call for action for schools to create measurable goals that were more rigorous, included measurable educational standards, held stiffer graduation requirements, and offered more effective instruction. The publication *A Nation at Risk* (NCEE, 1983) specifically stated:

>Our nation is at risk. Our once unchallenging preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. This report is concerned with only one of the many causes and dimensions of the problem, but it is the one that under girds American prosperity, security, and civility. We
report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and as a people. What was unimaginable a generation ago has begun to occur – others are matching and surpassing our educational attainments (p. 5).

As a result of the Nation at Risk report, the stage was set for a new wave of reform such as NCLB (2002). Under the NCLB (2002), all students were expected to meet or exceed state standards in reading and math.

**No Child Left Behind Act of 2002.** On January 8, 2002, President George W. Bush signed the education reform policy NCLB act into law. The NCLB act of 2002 came about with the intent to provide a quality education for all students. “Then Secretary of Education, Rod Paige said to parents, ‘No one cares more about your child’s future than you do, and no one is better positioned to hold schools accountable for performance than you are’” (NCLB, 2002, p.7). The NCLB act held schools accountable for their performance.

The central purpose of NCLB (2002) was to improve instruction, increase student learning, and ensure that all students met proficiency on the state standardized test (NCLB, 2002). The three subgroups that were identified as the most at-risk were English Language Learners (ELL), special education students, and students receiving free and reduced lunch (Linn, Baker, & Betebenner, 2002). Abedi (2014) stated that the test scores gap on standardized tests between ELL and non-ELL students were the highest of all three sub-groups, citing a lower mean reading score of 17.7 points, and most prominent on the reading portion of the standardized tests. This gap in test scores is reflective of a need for further research to determine
factors to reduce this gap on standardized tests scores on the Evidence-Based Reading and Writing portion of standardized tests such as the PSAT.

The NCLB (2002) act required the individual state departments of education across the United States to implement state-mandated curriculum. NCLB (2002) also communicated that reading and math were the most important subjects in school, compared to their social science counterparts. The act was later revised by President Barak Obama to add an emphasis on an education for all students. His aim was to eliminate several of the measure's controversial mandates on public schools. It also added new mandates. Under Obama’s proposal, there would be yearly testing in reading and math. Other scores could be used to measure progress such as history and science. This addressed concerns of parents and teachers who said the law reduced exposure to other topics (NCLB, 2002). Since the implementation of the new initiatives under President Obama, history and science are being tested, but this assessment requirement may take away valuable teaching time for students seeking to become proficient in English. The priorities outlined on the blueprint for NCLB (2002) focused on making students college and career ready, creating increased rigor in the classroom, creating new assessments, and taking a holistic approach to teaching. School leaders were called to revise teacher recruitment and increase retention, change evaluative approaches, and increase standardized test scores. The focus remained on need areas of learning and improved professional development for teachers.

Another main point of NCLB (2002) was meeting the needs of a variety of students regardless of their socioeconomical background. The results of a study by the Center on Education Policy stated the following:

Five years after the implementation of NCLB, about 62 percent of school district administrators had increased instructional time for English or math, or both, in
elementary schools, and more than 20 percent reported increasing time for these subjects in middle school. To accommodate this increased time in English and math, 44 percent of districts reported cutting time from one or more other subjects or activities (social studies, science, art and music, physical education, and lunch or recess) at the elementary level (United States Department of Education, n.d., p. 39).

The goal to increase instructional time in reading and math was to improve test scores on standardized tests (NCLB, 2002). However, in many schools, when time was increased for other subjects such as science and social studies, it was decreased in other significant subjects such as ELA or math.

Social Context

Darling-Hammond (2015) stated that they previously evaluated policies that focused on the quality of teacher qualifications in the United States. Analysis of certain policies that states use are concerned with licensing, professional development, and teacher education. These make an important difference in the qualifications and capacities of teachers (Darling-Hammond, 2015). But there is other evidence that suggests that factors like class size (Bosworth, 2014), teacher qualifications (Fryer, 2016), and school size (Sadler, Sonnert, Coyle, Cook-Smith & Miller, 2013) may play an important role in what students learn and how they perform on standardized tests.

Both qualitative and quantitative studies reveal that teacher quality, efficacy, and attendance are related to improvements in student performance (Darling-Hammond, 2015; Hackett, 1980). Even with controlling socio-economic and language acquisition, studies show that teacher preparation and certification are the strongest correlates of test scores (Darling-Hammond, 2015). On the other hand, according to Ronfeldt et al. (2013), there is a difference in
test scores based on the degrees of teacher education and the amount of professional development available. Ronfeldt et al. (2013) also put an emphasis on teacher collaboration as having an impact on test scores. Their research showed that teacher performance improved at a greater rate when teachers worked in schools that had a more collaborative environment (Ronfeldt et al., 2013). Teachers and schools that engage in better quality collaboration have better test score gains in math and reading (Ronfeldt et al., 2013). There are many variables to consider when it comes to student achievement. Administrators need to be aware of the variables that affect test scores on the PSAT in Evidence-Based Reading and Writing so they can make decisions based on data. Some of the research contradicts Ronfeldt et al.’s (2013) study, therefore, it is important that more research be conducted on this topic.

How to improve test scores has conflicting research on the degree of influence schools have on a child’s test scores (Berliner, 2001; Betts, Reuben, & Danenberg, 2000; Tizard, Blatchford, Burke, Farquhar, & Plewis, 2017), while other researchers found that schools have a major influence on standardized test scores (Grissom, Kalogrides, & Loeb, 2015; Maxwell, 2016). Since schools are accountable for the academic achievement most oftentimes measured by standardized tests, it is critical for administrators to determine the factors that negatively impact test scores.

Some studies stated that children who come from a low-socioeconomic status background lack certain intellectually stimulating resources (Caldas & Bankston, 1997). As a result of limited intellectual resources, these students are more likely to be assigned to a class of comparably low-caliber students than their higher socio-economic peers who are immersed in an intellectually stimulating environment (Lam, 2014). For some students, the reason for the lack of intellectually stimulating resources is directly related to the parent’s ability to deal with stress
and their parenting style (Chiu & Khoo, 2005). As the students advance in grades, expectations perpetuate the vicious cycle among students of poor families. Lam (2014) claimed that the vicious educational poverty cycle is how the poor remain poor, claiming that the parents do not get properly educated; therefore, the kids are destined to repeat the cycle of limited education. The students who come from a low socioeconomic status (SES) home tend to achieve less because they are stuck in a system where they will continue to get low results. This then results in low academic achievement, which diminishes the likelihood of them graduating high school (Lam, 2014). The gap between low and high socio-economic students creates a gap in educational resources, and many of them have low-quality teachers (Lam, 2014). Of the studies that have been conducted, none have specifically addressed how to improve scores on the PSAT in Evidence-Based Reading and Writing, and none determine whether socioeconomic status is a factor on test scores at the school in this study.

**Theoretical Context**

One theory utilized in this study was the Academic English Theory by Halliday and Webster (2009), which originated out of the larger educational approach to linguistics called the Systematic Functional Linguistics (SFL). Webster and Halliday (2009) noted that SFL was introduced in 1964. SFL focuses on teaching syntax instead of formal structures of language. As part of the general SFL approach, Fang (2005) identified certain characteristics of the theory, such as language being open-ended and at the same time being an interlocking system of options. Using the language theory allows its users to ensure that there is a link between grammar and lexis, lexicogrammatical choices, that suit personal needs and that are appropriate for particular social contexts. Understanding the theoretical implication of the Academic English Theory will
help provide a level of understanding of the specific skills students need to demonstrate their knowledge on the PSAT in Evidence-Based Reading and Writing.

The second theory used for this study was Binet and Simon’s (1916) Measurement of Intelligence Theory and it is the premise for modern day intelligence tests. It was Binet and Simon’s (1916) belief that one single instrument could not be used to measure intelligence because intelligence was too broad of a concept which should only be used to compare peers from similar backgrounds. Binet created the Stanford-Binet intelligence test, which is the basis of most standardized tests in the United States. These theories are relevant to this study since today’s standardized tests are based on Binet and Simon’s (1916) intelligence theory, and this study seeks to improve scores on the PSAT, which is a standardized test. Halliday and Webster’s (2009) Academic Theory is also appropriate for this study since it seeks to improve assessment scores on the Evidence-Based Reading and Writing portion of the PSAT and is used in classrooms today. Conducting this study through the lens of these two theories should help to shed light on factors that impact scores on the PSAT in Evidence-Based Reading and Writing at a high school in Hawaii.

**Problem Statement**

The problem is that test scores need to be improved on the PSAT in Evidence-Based Reading and Writing at a school in Hawaii. The focus of the research is to find solutions for how to improve student test scores on the standardized test. The proposed research is needed because on last school year’s assessment only 63% of 10th grade students scored high enough to meet the proficiency rating (Hawaii Private Schools, n.d.). According to the literature, the most significant factors that impact test scores are teacher performance and effectiveness (also referred to as teacher efficacy), and ideals (Akram, Naseem, & Ahmad, 2017; Bird, 2017; Coe, Aloisi,
Higgins, & Major, 2014), teacher absenteeism (Aucejo & Romano, 2016), and socioeconomic status (Lam, 2014).

Over the years, educational researchers have investigated a variety of factors that affect student learning (Darling-Hammond, 2015), but not all researchers agree, which shows that the proposed research is empirically significant and relevant to the field. There is a problem with the test scores because only 63% of 10th grade students met proficiency in Evidence-Based Reading, and there is no data specifically related to PSAT scores in Evidence-Based Reading and Writing. The current research may be deficient because it is failing to address the specific assessment performance problems of students in Hawaii. Clearly, research is needed to devise a plan to improve test scores on the PSAT in Evidence-Based Reading and Writing for the school in this study.

**Purpose Statement**

The purpose of this applied research study is to determine how to improve test scores on the PSAT scores in Evidence-Based Reading and Writing for high school students in a school in Hawaii and to formulate a solution to address the problem. A multi-method design was used consisting of both qualitative and quantitative approaches. The first approach was semi-structured interviews. The second approach was documents. The third approach was a survey using a Likert scale.

**Significance of the Study**

This study is significant in that it sought to improve test scores on the PSAT scores in Evidence-Based Reading and Writing for high school students at a school in Hawaii and to formulate a solution to address the problem. The practical contribution to the organization being studied is that the high school will receive a plan on items that can help improve PSAT scores in
Evidence-Based Reading and Writing. The participating school may reap even greater benefits since they will have site-specific data from the semi-structured interviews, documents, and surveys. It is important to the organization because part of their yearly report card includes these scores and student learning is important. It is possible that this research may help students to achieve higher test scores on the PSAT scores in Evidence-Based Reading and Writing. The state scores on the PSAT scores in Evidence-Based Reading and Writing are deficient so this study may be used on a wider scale.

There is empirical significance to this study which is that current literature does not look at the specific factors of the study in previously conducted research and it does not provide educational leaders solutions on how to improve scores in Evidence-Based Reading and Writing on standardized tests (Parsons, Malloy, Parsons, & Burrowbridge, 2015) and, more specifically, scores on the PSAT. Additionally, last year’s scores at the school revealed that only 63% of students met proficiency.

**Research Questions**

**Central Question:** How can the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing be improved at a school in Hawaii?

**Sub-question One:** How would administrators in an interview solve the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

**Sub-question Two:** How would documents inform the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

**Sub-question Three:** How would quantitative survey data inform the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?
Definitions

Terms pertinent to the study are listed and defined below:

1. **Student Achievement** - Student achievement can be defined as the extent to which the student is reaching his or her goal (Heck, 2009). For the purposes of this study, proficient is defined as a student earning 540 points or higher on the PSAT scores in Evidence-Based Reading and Writing.

2. **Preliminary Scholastic Aptitude Test (PSAT)** - The PSAT is a standardized test that is designed to measure student’s mastery in English and math. The scores will support instruction and give teachers better information about their students’ progress (Tamayo, 2010).

3. **Educational Reform** – Changes that occur in education (McGuinn, 2016).


5. **Socio-economic status** - Accurate measures of family income (Berger, & Archer, 2016).

6. **Academic Achievement** - “The extent to which a learner is profiting from instruction in a given area of learning” (Bird, 2017, p. 7). For example, achievement is reflected by the extent to which skill or knowledge has been imparted to him (Bird, 2017).

Summary

Chapter One began with the information for the background of the research. The background of the research was followed by the problem statement which was that test scores on the PSAT scores in Evidence-Based Reading and Writing revealed that only 63% of students were proficient for the 2017-2018 school year at a high school in Hawaii. The purpose of the
research followed, which was to determine how to improve test scores on the PSAT scores in Evidence-Based Reading and Writing. The research questions, the significance of the study, and definitions were then presented. The chapter concluded with a summary of Chapter one, which served as an introduction to this applied research study.

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter brings into light the theoretical framework that the research was based on. The theories used to guide this study were the Academic English Theory by Halliday and Webster (2009), which focuses on learning as a linguistic process as it pertains to improving test scores on the PSAT scores in Evidence-Based Reading and Writing and the Measurement of Intelligence Theory by Binet and Simon (1916), who was the developer of the first commonly used assessment test. The chapter introduces an in-depth content of this theory and where it is from. In addition, how the theories apply to testing and in the study is included. A discussion of how the theory applies to this study is provided. Once the theoretical framework has been introduced, there will be a review of the literature related to this research. The research questions will then be presented. Specific aspects of the literature, which are described, include teacher performance factors, teacher salary, teacher effectiveness, teacher attendance, socioeconomic status and test scores, teacher attendance, and teacher ideals.

Theoretical Framework

It is important to have a solid theoretical basis while doing research. This is established in research by a theory that is put together from different sets of concepts that are related. In any research it is important to establishing a theoretical base because it grounds the research in literature (Yin, 2014). The theories upon which this study was based are the Academic English
Theory by Halliday and Webster (2009) and Measurement of Intelligence Theory by Binet and Simon (1916).

**Academic English Theory**

One theory utilized in this study was the Academic English Theory, which originated out of the larger educational approach in linguistics called the Systematic Functional Linguistics (SFL) (Halliday & Webster, 2009). Halliday and Webster (2009) introduced SFL in 1964. SFL focuses on teaching syntax instead of formal structures of language. As part of the general SFL approach, Halliday and Webster (2009) identified certain characteristics of the theory such as language being an open-ended and interlocking system of options. Using the Academic English Theory allows its users to be certain there is a logical connection between grammar and lexis. From there, users can decide what choices suit their personal needs and are appropriate for particular social contexts. The theoretical implication of this study for the field of education is that it provides a level of understanding of which specific skills students need to be able to demonstrate their knowledge of the PSAT.

**Measurement of Intelligence**

Binet and Simon’s (1916) Measurement of Intelligence Theory is the foundation for modern day intelligence tests and the second theory on which this study was built. It was Binet and Simon’s (1916) belief that a single instrument could not be used to measure intelligence because intelligence is too broad of a concept, which can only be compared with peers from similar backgrounds. They created the Stanford-Binet intelligence test, which is the basis of standardized tests in the United States (Fang, 2005). Today’s standardized tests are built on Binet and Simon’s (2016) Measure of Intelligence theory. This theory is an appropriate choice
for this study since it is the theory upon which modern day standardized tests, including the PSAT, are built.

**Related Literature**

To assess the current state of the field, and to identify a gap in research, Douglas, (2014) propose a study to address that gap and develop more insightful questions (Douglas, 2014; Yin 2014). Researchers have conducted studies on how to improve student achievement, and that research encompasses the reasons for teacher effectiveness and ideals, teacher absenteeism, and socio-economic status. All of these areas above are important when developing a foundation for research related to student achievement on the PSAT. The following review of literature details research on factors that impact test scores and overall student achievement. Though research has been conducted on student achievement, most of the research has been conducted in the mainland and not in Hawaii. Research conducted specifically in Hawaii is scarce, especially in comparison to student’s achievement in general. This literature review was conducted to include teacher performance and effectiveness, teacher absenteeism, socioeconomic status, and other factors that impact standardized test scores.

**Historical Overview**

Nearly four and a half decades have passed since A Nation at Risk (NCEE, 1983) was first published (Vinovskis, 2015). Today, American teachers are dealing with how to improve academic achievement when it has to be measure by standardized test scores. The Teaching Commission (2004) published a new report, Teaching at Risk, which stated that instructional strategies are important factors in terms of striving to improve the country’s competitiveness, and future (Castillo-Merino & Serradell-López, 2014). More research is needed to determine if there
is any correlation between teaching effectiveness and the nation’s ability to be competitive globally. One way this can be addressed is looking through the lens of teacher quality.

The goal of education is for students to learn; to ensure learning takes place, assessments are given to measure student learning. Students’ education can suffer significant impairment if testing dominates the learning environment because teaching towards the test shifts the focus away from developing a love of learning. According to Stellar and Lingard (2014), standardized testing can produce a negative outcome on curricula and pedagogy. Standardized testing creates the possibility of targeting communities with lower socio-economic status because schools with lower socio-economic factors consistently score lower than their higher-income counterparts and typically do not have the funds for new, updated curriculum. Piro, Dunlap, and Shutt (2014) stated that, although it is important to look at the data collected from standardized tests for accountability, standardized test scores cannot be the only source of data to measure teacher effectiveness. Teacher effectiveness including teacher attendance and socio-economic factors need to be taken into consideration when looking at test scores.

**Preliminary Scholastic Aptitude Test and its history.** In the past, students were given yearly exams so that schools could recognize accelerated students and give accolades to their teachers. This public display of academic achievement eventually gave way to mockery, and out of this disparaging situation, the introduction of written exams, rather than public displays of knowledge, were introduced (Kandell, 1936). Following this, Horace Mann introduced common schools when he proposed that schools become a vehicle for social advancement and education for all citizens. Mann convinced the Boston Public School Committee to allow him to administer written exams; thus, the concept of written assessments was born (Roe et al., 2014). Over time, written exams have changed dramatically. Today, students are tested in numerous
ways, and they are tested multiple times per year to the point where many critics say that students are over-tested (Lazarín, 2014; Pandya, 2011).

The Hawaii State Assessment that was previously given to schools to measure student’s readiness for the Scholastic Aptitude Test (SAT). The PSAT is an assessment that measures clear and consistent learning goals. It measures what students should have mastered as they progress through each grade level, so they can graduate high school prepared for life. In a joint effort with K-12 teachers and higher education faculty, Collegeboard built a digital library of over 20,000 assessment questions. The benefit of the PSAT system is that it allows teachers to administer interim assessments at set points throughout the year to be able to identify and address student needs (Cassidy, Roche, Colbert, Stewart, & Grey, 2016).

Evidence-Based Reading and Writing test score trends. The PSAT in Evidence-Based Reading and Writing test score trends for the school in this study indicate approximately 63% of tenth grade students meet proficiency. Meeting proficiency is reaching a scaled score of at least 540 on the PSAT in Evidence-Based Reading and Writing section and an 1180 composite score. Up until 2013-2014, students in Hawaii public schools were still taking the Hawaii State Assessment. In the fall of 2017 62.5% met proficiency in Evidence-Based Reading and Writing and in the fall of 2018 63.3% of students met proficiency in Evidence-Based Reading and Writing (Hawaii Private Schools, n.d.). The goal for proficiency on the PSAT in Evidence-Based Reading and Writing test is scoring at least a score of 540 on the Evidence-Based Reading and Writing sections, thus almost half of the students in this study are failing.

Government involvement and regulations. According to Ronfeldt et al. (2013), educators, politicians, and researchers have debated which school variables influence test scores more than any other topic in education (Ronfeldt et al., 2013). As test-scores are slipping
nationwide, the government is more involved and implementing more regulations (Ronfeldt et al., 2013). Some ways government became more involved included implementation of programs such as A Nation at Risk, No Child Left Behind, Every Student Succeeds Act, and the Common Core State Standards.

**A Nation at Risk.** When A Nation at Risk (NCEE, 1983) was published, it created a springboard for educational reform. It was the strong force behind a series of school improvement initiatives throughout the United States (NCEE, 1983). The focus of the education reform act of 1983 was on the flaws in public education, specifically centering around poor mathematics and science instruction, low expectations for students, and regulated and ineffective curriculum that led to low test scores (Vinovskis, 2015). Years after A Nation at Risk, the No Child Left Behind Act (NCLB, 2002) of 2001 was enacted, followed by Every Student Succeeds Act (ESSA) of 2015. All these acts were meant to improve educational outcomes, however, student scores on the PSAT in Evidence-Based Reading and Writing are unacceptable at a school in Hawaii indicating that more research needs to be conducted to improve test scores.

**No Child Left Behind (NCLB).** In January of 2002, President George W. Bush signed the education reform policy NCLB act into law. The NCLB act of 2002 came about with the intent to provide a quality education for all students. “Then Secretary of Education Rod Paige said, ‘No one cares more about your child's future than you do, and no one is better positioned to hold schools accountable for performance than you are’” (NCLB, 2002, p.7). The NCLB act was a program designed to hold schools accountable for the performance of their students.

The central purpose of NCLB (2002) was to improve instruction, increase student learning, and ensure that all students met proficiency on state standardized tests (NCLB, 2002). Three subgroups were identified as being the most at-risk, and those subgroups were English
language learners, special education students, and students receiving free and reduced lunch (Linn et al., 2002). Abedi (2014) stated that the test score gaps on standardized tests between ELL and non-ELL students were the highest of all three sub-groups, citing a lower mean reading score of 17.7 points and most prominent on the reading portion of the standardized tests. This gap in test scores is reflective of a need for further research designed to discover which factors may reduce the gap in scores on the PSAT in Evidence-Based Reading and Writing.

**Every Student Succeeds Act (ESSA).** On December 10, 2015, President Barak Obama signed the Every Student Succeeds Act (ESSA; P.L. 114-95) into law. According to Darrow (2016), the legislation “reauthorizes the Elementary and Secondary Education Act of 1965 and replaces the widely criticized No Child Left Behind Act” (p. 1). Several previous versions of the ESSA were rejected and then revised. Ultimately, “the ESSA passed both chambers of Congress with strong bipartisan support. ESSA gives significantly more power to states while continuing to require reports from schools about the capabilities of their students. The consensus from educators was that the act was a step in the right direction for all students” (p. 1), including those with disabilities (Darrow, 2016).

**Common Core State Standards (CCSS).** According to Zwiers (2014) the Common Core State Standards (CCSS) were established by U.S. President Barack Obama as part of the “Race to the Top” grants competition. CCSS was announced on July 24, 2009 by Secretary of Education Arne Duncan as an incentive to improve schools. The CCSS are shared sets of expectations and goals that, according to Wallender (2014), could help students be prepared to be successful in college and in their careers. The CCSS measure skills that are determined to be needed in English and mathematics at each grade level, so students can be prepared to succeed in college, career, and life (Cassidy, Roche, Colbert, Stewart, & Grey, 2016).
According to VanTassel-Baska (2015), however, there are both pros and cons with the CCSS in Evidence-Based Reading and Writing. The benefits of the CCSS include the idea that it is an international set of standards that also serves as benchmark so that states can more accurately compare standardized test scores. The higher rigor of the CCSS is forcing students to start learning earlier and developing higher-level thinking skills. According to VanTassel-Baska (2015), the CCSS need to be differentiated for gifted and special education students because the standards are vague and broad.

**Teacher Effectiveness and Performance**

Teacher performance in the classroom has a profound effect on student learning. Research shows that teacher effectiveness has a direct and significant impact on student learning (Darling-Hammond & Youngs, 2002), but the term “teacher effectiveness” can be broad and needs to be more precisely defined (Milanowski, 2004). For this study, teacher effectiveness is defined as the act of consistently producing higher student academic achievement gains (Johnson & Semmelroth, 2014). There are many specific factors that impact the effectiveness of teachers and how their performance might improve student test scores including having content knowledge in the subject area being taught (DeMonte, 2015), years of teaching experience (Tella, 2008), their own performance on the ACT or SAT (Egalite & Kisida, 2018), the number and type of degrees earned (Stronge, 2018), credentials secured (Darling-Hammond, 2015), and the effectiveness of their communication skills (Ehrenberg & Brewer, 1995). However, according to Darling-Hammond and Youngs (2002), teachers’ college degrees do not necessarily translate into effective instructional practices. Thus, not all researchers agree on what constitutes an effective teacher.
According to Belfield and Levin (2015), educators and researchers have debated which school variables influence test scores the most to find ways to improve test scores. Darling-Hammond et al. (2015) stated that internal school factors affect test scores more than general social context. In support of that idea, other evidence suggested that factors like the size of the class (Blatchford, Chan, Galton, Lai, & Lee, 2016), teacher’s qualifications (Tella, 2008), the overall size of the school (Blatchford et al., 2016), and other similar school variables, play an important role in test score outcomes. Fischer et al. (2018) offered the suggestion that high-quality professional development on effective instructional practices may improve student achievement on standardized tests. To increase test scores, leadership needs to be focused on academic success for all students and not only a select group. Schools must have a positive culture that is student-centered, and the administration and faculty need to be focused on improving instructional standards in order to increase test scores (Fischer et al., 2018).

School staff should focus on creating teacher-leaders and have a clear understanding of processes that foster school improvement. Additionally, because education is mandatory, Barrett and Bolt (2010) state that it is difficult to evaluate student academic test scores because of the sheer number of biases that exist. School administrators and teachers are naturally going to want to make their scores to be excellent. When an intervention, such as professional development or additional instructional time, is introduced and scores improve, it is difficult to know what the test scores would have been without the intervention since other unidentifiable factors may have caused the increase in scores (Good & Lavigne, 2017).

When using teaching effectiveness as a measure for improving test scores, other outlying factors need to be eliminated. Teacher effectiveness is defined as: to consistently produce stronger student achievement gains (Darling-Hammond, 2016), and for this study, teacher
effectiveness can be defined as the change of results on test scores that can be attributed to teachers. According to Darling-Hammond (2016), there are many variables that impact teacher effectiveness. An experienced teacher may be ineffective whereas a new teacher may be more effective than an experienced one. A teacher knowledgeable in their content might be an ineffective teacher if he or she is unable to transfer that knowledge to the student effectively (Darling-Hammond, 2016). According to a study conducted by Kim, Dar-Nimrod, and MacCann (2018), the strongest predictors of student achievement were teacher academic support and the personal support the teacher provided to the student, which enabled the teacher to be more effective.

Teacher effectiveness and its impact on standardized scores could be affected by a student’s feelings toward his or her teacher and how the teacher is perceived as meeting the students’ long-term learning goals. Teaching effectiveness could also be determined by the teacher’s response to a student’s need or lack of involvement in the classroom setting. Cusumano, Algozzine, and Algozzine (2014) stated that teacher effectiveness is an important factor to consider when trying to increase standardized test scores. An effective teacher should use systematic teaching procedures (Cusumano et al., 2014) and spend a significant amount of time working with small groups of students throughout the day (Taylor, Pearson, Clark, & Walpole, 1999). According to research conducted by Porter (2002), there was more of an impact on standardized test scores when instruction in the classroom was connected to the information found on the test. Thus, teachers who teach to the test may have students who perform better on the assessment but may be denied other important instruction or information as a result.

A study conducted by Akram et al., (2017) showed that students’ perceptions of teacher effectiveness, how effective they believe their teacher is, and student achievement on test scores
in English correlate. By identifying low-performing teachers, administrators may be able to replace them with more effective teachers with the intent of increasing student achievement as measured by standardized test scores (Adnot, Dee, Katz, & Wyckoff, 2017). According to Bird (2017) students performed better when assigned to teachers that scored higher on their evaluation. Also, students had a higher level of performance was evident for students assigned to English teachers with a master’s degree (Bird, 2017).

**Teacher training and qualifications.** According Heck and Hallinger (2014), the teaching effects on student learning are based on the environment students learn in. According to their findings, it indicated that the classroom instructional strategies directly influenced the measures of student English achievement. By creating conditions that lead to greater consistency in levels of effectiveness across teachers the results suggest that school leaders can enhance student outcomes (Heck & Hallinger, 2014). Since low PSAT scores are a critical component of this study and need improvement, research needs to be conducted to determine if teacher effectiveness is a factor impacting test scores at Leeward High School (pseudonym) in Hawaii.

**Teacher salary.** The relationship between teachers’ salaries and test scores is a complex issue to study because there is a huge variation in teacher salaries nationwide, and no clear link can be identified between teacher salaries and assessment outcomes. Salary can be defined and studied relatively easily since it is quantifiable data; teacher effectiveness, however, is more challenging to determine since the data is mostly qualitative in nature and somewhat subjective. Thus, connecting teacher salaries and assessment outcomes is even more elusive. Some research indicated that students taught by teachers with higher salaries were scored higher on tests than students of lower-paid teachers (Darling-Hammond et al., 2015). But that research did not
elaborate on outliers that may have impacted the scores. According to Darling-Hammond (2015), research showed that there is a correlation between teacher salary and students' test scores. Darling-Hammond (2015) also stipulated that more experienced teachers typically earn more money; therefore, higher test scores may come from teacher experience and not from salary.

**Teacher ideals.** Gibbs and Miller (2014) stated that efficacy beliefs have been found to be more influential regarding effort and persistence in terms of test scores in the classroom. They are also associated with protective factors such as resilience, personal well-being, and test scores. There have been few studies on teachers using positive psychology in schools and how it affects both teachers and test scores. Gibbs and Miller (2014) used a mixed methods approach in their small-scaled study to determine the effects at two elementary schools. The researchers used interviews and data from focus groups to create a questionnaire to gather both pre- and post-data. In one school, the staff was spoken to about positive psychology, and they participated in an intervention that was designed to encourage them to reflect on positive things, but that was not done at the other school that participated in the intervention. The findings of their research indicated that efficacy beliefs had affected test scores (Gibbs & Miller, 2014). In another study, Suldo (2016) conducted research on how a teachers’ beliefs and emotions affect how school teachers develop their assessments. The study investigated whether there was a correlation between primary school teachers’ beliefs and test scores. In that research, 42 teachers completed a survey related to their self-efficacy beliefs and irrational beliefs, and then student’s results were viewed. The findings indicated that there was a significant positive relationship between teachers’ beliefs and test scores (Suldo, 2016). This research may or may not corroborate the above findings.
Knoblauch and Chase (2015) conducted a study to determine if student-teacher beliefs influenced the ways teachers taught and how those beliefs affected test scores. This survey was conducted by administrating questionnaires to prospective teachers; the questionnaires asked about the prospective teachers’ beliefs. Prospective teachers’ entering and exiting perceptions and beliefs about teaching as a profession varied, but there were no indications of why they obtained the outcome and how the perceptions directly affect test scores. The finding suggested that field experiences during educator preparation training gave the prospective teachers the opportunity to change their beliefs about knowledge (Knoblauch & Chase, 2015).

Teacher Absenteeism

It is important to understand how teacher absenteeism impacts student performance in order to resolve the problem. Teacher absenteeism is a problem that costs a lot (Arulampalam, Naylor, & Smith, 2012; Darling-Hammond, 2015). Lessons were canceled because of teachers’ non-attendance, researchers have found (Okeke, Shumba, Rembe, & Sotuku, 2015). Excessive teacher absenteeism causes rapidly escalating school costs and additional expenditures on substitute teacher salaries. Absenteeism in the teaching workforce also carries other educational consequences (Ballou & Springer, 2015). For example, when teachers are absent, student learning is disrupted, and when it becomes a common occurrence, the students’ overall performance can be negatively impacted (Okeke et al., 2015). There is also research that shows that the months just prior to tests, teacher absences have a greater impact on the scores because substitutes, in most cases, failed to maintain the teachers’ consistency through either not teaching or not following the appropriate lesson plans (Okeke et al., 2015). Thus, teacher absenteeism may have a negative impact on the PSAT, which the research seeks to determine.
Current research does not adequately address the problem. In the article “A Nation at Risk,” Vinovskis (2015) pointed out that an American education is inadequate. He noted that one of America’s failures concerns the amount of money that is being spent on education in relation to the academic outcomes. Teacher absenteeism also contributes to additional spending in school districts since two teachers are typically paid for one day’s work. What these studies failed to address was the impact that is not financial, such as student achievement. Teachers who attend school regularly have students who perform better on standardized tests than the students of teachers who are frequently absent (Gershenson, 2016). The full implications of this simple statement are not yet fully understood. Student achievement is unpredictable and a challenge to measure when the qualified classroom teacher is absent. In two studies, schools received a lower rating when they had more teachers absent (Dana, 2014; Grissom et al., 2015). Following are discussions on how teacher attendance affects test scores (including subject-specific impact on test scores), what impact substitute teachers might have on performance, the work environment, and some potential ways to counter the negative impact that teacher absenteeism may have.

Decrease in test scores. Three researches set out to find out how teacher absenteeism affects student achievement in a large urban school district. According to Miller, Murnane, and Willett (2007) as few days, even as low as 10 days a teacher is absent during the school year can lead to a significant decrease in test scores. They added that 10 days is also the average number of days a teacher is absent each school year. According to Gershenson (2016), 10 additional days of absence reduced fourth graders’ math test scores by roughly 2-3% of a standard deviation. Other research suggested that there is a negative correlation between teacher absenteeism and test scores (Arulampalam et al., 2012; Aucejo & Romano,
When the regular teacher is gone for two weeks, that absence can set students back for the same amount of time—and even more” (Whelan, 2008, p. 8).

Historically, studies varied on whether there is a correlation between teacher absenteeism and test scores. In a study published on 700 New York schools by educational researchers Ehrenberg and Brewer (1995), they determined that “teacher absence was not largely associated with student test performance” (p. 392), but students still missed out on learning when the classroom teacher was not present. Other studies, however, noted the significance of the impact of teacher absenteeism (Aucejo & Romano, 2016; Pianta & Ansari, 2018), emphasizing the need for this research. “In another three-year study of 200 schools in South Carolina, there was only one year in which a statistically significant correlation was found between teacher attendance and school incentive award winner status” (Madden, 1991, p. 154), which indicates a connection between teacher attendance and student achievement. According to Gershenson (2016), teacher absenteeism affects math scores more than English scores because students are exposed to language arts outside of the classroom more than they are exposed to mathematics. Some studies indicated that teacher absenteeism has a significant impact on student achievement (Arulampalam et al., 2012; Aucejo & Romano, 2016; Pianta & Ansari, 2018), while other studies indicated a minimal impact (Ehrenberg & Brewer, 1995; Woods & Montagno, 1997), which further justifies the need for this study.

A study conducted by Broward County Public Schools (Gershenson, 2016) showed that teacher absenteeism beyond two days had a small negative effect on test scores, $p = .007$. It was also shown that the correlation between male teachers and teacher absenteeism had a small negative effect when a teacher is absent more than two days, $p = .02$ (Gershenson, 2016).
point of Gershenson’s (2016) research was to determine if students’ mathematics scores in middle and high school could be predicted by teacher absenteeism. Additional factors, such as teacher absenteeism, school schedule, and test scores were investigated to see if those factors influenced test scores individually and/or collectively. The researchers stated that further research is needed on the effect of absenteeism on test scores, the effect of absenteeism on other student outcomes, and the effect of teacher gender on test scores, which is consistent with other research (Gershenson, 2016; Maxwell, 2016).

Kirk (1998) examined absenteeism rates for elementary and middle school teachers for the 1996-97 school year to determine if a relationship exists between absenteeism and test scores, as measured by a standardized norm-referenced reading test. The study examined the attendance records of 727 fourth grade and 154 seventh grade teachers who taught a reading or language arts class to 18,802 students in those grades. The variables of teacher years of experience, student grade level, and student gender were added to the multiple regression model to ascertain whether teacher absences made a significant contribution to the prediction of student reading scores beyond that afforded by the variables. Results indicated that there was a weak, but statistically significant, relationship between teacher absenteeism and test scores when the unit of analysis was the student. In this model, teacher absenteeism accounted for less than 4% of the variation in test scores. When the unit of analysis was the teacher, results indicated that teacher absences for both fourth grade and seventh grades did not make a significant contribution to the prediction of student reading scores (Lee, 1998). Furthermore, Green (2014) stated that the reason there was no correlation in the past between having a substitute teacher and the effect on student grades was because teachers are not absent as much as today and substitute teachers
are held to a higher standard. This research plans to explore whether teacher absenteeism is a factor that negatively impacted the PSAT scores for a school in Hawaii.

**Substitute qualifications effect on test scores.** Depending on the background of the substitute teacher they may have less qualifications than the regular teacher. Classroom management issues, such as students listening and paying attention is does not occur as often when a substitute is present compared to their regular teacher (Engel & Finch, 2015; Ost & Schiman, 2017). Substitute teachers are often provided lesson plans that are less rigorous; thus, teacher absenteeism creates less learning. Students also tend to display more behavior problems for substitute teachers (Westrick, Le, Robins, Radunzel, & Schmidt, 2015). Therefore, less learning takes place in the classroom because of teacher absenteeism. What the studies cannot really demonstrate is just how much impact absenteeism has on student achievement (McKenzie et al., 2014).

Temporary employment of one or two days prevents the substitute teacher from getting to know each student’s learning needs and strengths. This lack of knowledge prevents the substitute teacher from meeting learning objectives that may help improve individual student’s test scores. Although being a substitute teacher can be very challenging, it is important not to hold the substitute teachers responsible for the information displayed in these studies.

Currently, North Dakota is the only state that requires substitutes to have the same credentials as full-time teachers. There are 20 states that do not require substitute teachers to have a bachelor’s degree, which brings into question a substitute’s ability to be effective in the classroom (Status of Substitute Teachers, 2019). The NCLB Act (2002) requires school districts to notify parents when the students do not have a highly qualified teacher, but this does not apply when a substitute comes into the school. Thus, when a non-qualified substitute teacher is hired,
the student’s education may be negatively impacted. In classrooms with the least effective substitutes, the results are even worse than the average.

**Work environment.** When considering the work environment, there are many factors to take into consideration including job stress, job design, organizational climate, leadership style, and organizational culture. Teachers at schools in urban areas are more likely to be absent more often than teachers at schools in suburban areas, and it is highly possible that it is because of job stress. Furthermore, greater feelings of job stress were found to cause higher rates of absenteeism among teachers (Brown, 2008; Ritter, 2014; Smith, 2001).

One thing to keep in mind regarding the work environment is that there are many variables related to the topic, thus one variable is not likely the sole explanation for teacher absenteeism or low student test scores. Some research showed that teachers who express higher levels of commitment to their school, students, and fellow faculty were voluntarily absent from school less often. A study by Gershenson (2016) revealed that how the teacher feels about the principal related to higher voluntary absences. The study shows that supportive principals have lower rates of teacher absenteeism. In other words, teacher absenteeism is directly related to the work environment; people who are happy at work are absent less often.

Other aspects that play a part in the school climate indicate that a more collaborative atmosphere between colleagues correlates to lower rates of absenteeism. This finding was reflected in studies cited by Gershenson (2016). A study regarding school culture concluded that school employees who have shared values related to acceptable reasons for absenteeism have lower rates of teacher absenteeism than school employees who do not share such values (Green, 2014). Consequently, two days of illegitimate absence are tacitly accepted as if they were legitimate and unavoidable (Gershenson, 2016). A favorable organizational climate was
negatively correlated with teacher absenteeism, and restrictive principal behavior and disengaged teacher behavior were positively correlated with teacher absenteeism. Another attribute discovered was that the culture of the school played a role in teacher absenteeism. Directive principal behavior, a school with a culture of absence, and negative collegial behavior showed more absenteeism (Gershenson, 2016). It is difficult to explain the overall impact of teacher absenteeism even though teacher absence does have a large impact on student performance (Dana, 2014) and test scores.

**Counteracting the impact.** An effective way of counteracting the effect of teacher absenteeism without penalizing the teacher would be to increase the standards for substitute teachers. In many states, there are no regulations on substitutes. Research results indicated that the combination of teacher absenteeism and the lack of skilled substitutes contribute to poor performance in certain school districts. One thing the school board can do, according to Dana (2014), is to determine if teacher contracts offer a fair number of days off for teachers. If there are only certain individuals who are taking advantage of the days off, that issue should be dealt with. To attract and retain qualified teachers, schools and school districts should offer a good compensation package. One option is to keep the compensation package competitive with, or comparable to, other nearby districts (Dana, 2014).

According to Dana (2014), offering incentives, such as paying for unused sick days (or other allowed missed days), is one effort school administrators might use to reduce teacher absenteeism. Another study suggested incentivizing teachers to attend class and noted the positive outcomes for student achievement (McKenzie, 2014). They surveyed a school in Indiana to see how much substitutes were costing the three different school districts used in the study. The results indicated that substitute teacher costs as much as 1% of a school’s budget at
some schools. “In this era of increased educational costs, dollars spent due to employee absences for salaries and fringe benefits needs closer examination” (McKenzie, 2014, p. 61).

According to Winter (2014), each district handles substitute cost differently this phenomenon has immense overall effect. The article also stated that the costs to pay substitutes of absent teachers costs $2 billion annually (Winters, 2014). McKenzie et al., (2014) stated that even slight improvements in teacher attendance could free up much-needed funds that districts could allocate for more productive uses. This relates to my study because there is a correlation between teacher pay and test scores on standardized tests.

McKenzie et al. (2014) reported that it is harder to quantify the impact that teacher absences have on test scores. Frequent teacher absenteeism can affect all grades. One study that viewed data on teachers who had the most amount of absences, also had the lowest ranking students, lowest standardized test scores and the scores for the entire school was down.

According to Clipa and Boghean (2015), there is a negative correlation with student outcomes teacher absenteeism. When teacher absenteeism increases the number, the test scores decrease. In a study conducted in the “Tucson (AZ) Unified School District, students attending classes with teachers who had high attendance rates scored an average of two to three norm curve equivalent points higher than students attending classes with teachers who had low attendance rates” (Dana, 2014, p. 23). Although, teachers who attended their job regularly had students who scored significantly higher in reading, language arts and in mathematics and in contrast teachers with poor attendance had students who did not score as high. The strength of the correlation was not high when using the Stanford 9 when looking at teacher attendance rate and student performance (Dana, 2014).
Winter (2014) “stated that students in a classroom eventually lost the desire to learn when the regular teacher is frequently absent, and the delivery of the instruction is done by an array of substitute teachers” (p.7). This statement does not directly imply that test scores are impacted, rather it reflects the effect on students’ desire to learn. Winter (2014) further stated that there are a variety of different methods available to reduce teacher absences. It is important to know that what may work in one district might not work in another one; that is where the school board, the superintendent, and the principal would need work together to figure out something that will work at their school. One thing that might work would be to “require teachers to report their absences to their supervisors. The most effective policy for reducing absenteeism was found to be requiring teachers to speak directly to their principals when they call in sick” (Winter, 2014, p. 8). Another method the district could implement is to track absenteeism data. A New York school district that reduced teacher absences by 55% asked principals to closely monitor the attendance patterns in their schools and to immediately discuss inconsistent attendance with individual teachers.

Winter (2014) said that healthy teachers are less likely to fall ill, and a wellness program can encourage good health. The Dallas Independent School District reduced teacher absenteeism after it offered its staff medical screening, fitness assessment, goal setting, exercise and nutrition prescriptions, health education, exercise classes, motivation, and feedback. Several incentive programs have been done, and most of them have had positive results (Kearney, 2016).

A district in New York provided year-end bonuses and remuneration for up to seven unused sick days. Regarding the latter, it appears that the district set aside a pool of money, and each unused sick day represented one share. At the end of the year, the
amount in the pool was divided by the total number of shares and distributed to the teachers accordingly (Winter, 2014, p. 11).

The result of the new program was that it reduced two days of absences per teacher for each school year. A school district in the south decided to provide both a financial and non-monetary incentive for not using sick days. Monetary awards included saving bonds and non-monetary incentives included a trophy at the end of the year and a plaque celebrating high achieving attendance. These incentives saved the district a significant amount by improving attendance 16% (Winter, 2014). Some incentives focus on building a positive climate to increase teacher attendance. One school in the south launched a ShoutOut board where parents, students, and co-workers could leave positive messages for each other (Jackson, 2018). This demonstrates that, like with students, it is important to build relationships among teachers; this can, according to Gilles (2017), be done by doing interactive activities and modeling deep listening.

**Socioeconomic Status (SES) and Test Scores**

Socioeconomic status also plays a role in terms of test scores. For example, students with highly educated parents are more likely to perform proficiently when compared with their peers who have parents who have limited education. Having more education, or a higher degree, is generally associated with a higher SES. Westrick et al. (2015) conducted research that revealed that there was a strong and positive indication that SES affects test scores. They stated that differences in test scores can be explained with socioeconomic status (Westrick et al., 2015).

**Factors related to the financial status of students and their families.** According to Westrick et al. (2015), it has been well-established in research that there is a relationship between students’ SES and their educational outcomes. Sirin (2005) stated that the
strongest indicator of test scores is the family’s SES. The results of other studies confirmed this and stated that higher SES students generally score higher on standardized tests, and they are more likely to finish high school and attend college compared to their classmates from lower SES backgrounds (Blossfeld & Shavit, 1993; White et al., 2016; Williams, 1999).

According to Berger and Archer (2016), SES is a key performance indicator when it comes to student achievement. “In recent years, motivational researchers have spent a considerable amount of time examining race and gender differences in academic and social achievement goals but not as much time examining the influence SES has on student achievement” (Berger & Archer, 201, p. 175). This information is surprising because SES has been shown to predict academic achievement on test scores. When school personnel were surveyed, the schools with students that had higher SES students achieved higher test scores than those who were of lower SES. The findings suggest that SES influences student achievement and test scores (Berger & Archer, 2016). However, the research did not reveal or devise a plan for increasing standardized test scores for students of low SES, which further indicates a need for this research. Even though some research has been conducted, current literature regarding research in terms of SES and test scores is lacking. The students whose test results were used in this study are from a school comprised of mostly low SES families, and a plan needs to be created to help them increase their scores on the PSAT in Evidence-Based Reading and Writing despite their financial status.

**Impact of school and district budgets.** The overall SES of the students and staff at a school level is also related to student outcomes. According to Freeman and Simonsen (2015), the aggregated mean of the school’s SES is also a factor in test scores. The aggregated mean is associated independently with individual test scores beyond that of individual
student backgrounds. A higher SES mean is equivalent to higher averages on standardized tests related to their student intake (Freeman, & Simonsen, 2015). According to Mirowsky (2017), SES affects one’s health, which also affects how students perform on standardized tests. Students from higher SES household perform higher on standardized test and feel better overall, which can be attributed to higher self-confidence and better nutrition or eating habits. Other studies indicated the opposite is true for students who come from families with lower SES (Blossfeld & Shavit, 1993; White et al., 2016). According to Karthigeyan and Nirmala (2012), SES is a key performance indicator upon which student achievement is based. Students’ performance on tests then becomes an index of students’ ability to be successful in a highly competitive world.

When lower SES students are grouped together, it creates a lower SES school, and thus, according to research, lower educational outcomes are achieved at the school (Blossfeld & Shavit, 1993; White et al., 2016). Group test scores can sometimes have a stronger impact than individual SES scores (Figlio, Freese, Karbownik, & Roth, 2017; Sirin, 2005). The SES score for the school is a stronger factor related to academic test scores than each student’s individual SES score (Sirin, 2005). According to Noël and de Broucker (2001) and Zhu and Gonzalez (2017), there seem to be multiple conditions that affect scores on standardized tests, such as parental influences, financial background, degree of involvement, and educational background; each of these influences how students will perform on state tests (Berger & Archer, 2016; Okpala, Okpala, & Smith, 2001).

In a study by Okpala et al. (2001), the researchers looked at the academic test scores of fourth grade students in mathematics in a low-income southern county. The researchers used the educational production framework to analyze the different factors that affected test
scores. The results indicated that the percentage of students in free and reduced-price lunch programs was negatively related to students’ test scores in mathematics.

There are many reasons why schools with larger populations and economically disadvantaged students tend to score lower on standardized tests. Some of these include fewer teaching resources, and fewer experienced teachers (Darling-Hammond, 2015). Having less money for instructional supplies, less expenditures per pupil, and parental volunteer hours did not make a statistical difference (Hao & Yeung, 2015). Research also showed that, for students of lower SES, there was more of an impact compared to their peers with higher SES (Freeman, & Simonsen, 2015). Furthermore, studies showed that there is an association between class size and test scores. This area needs more research because, according to Marks (2016), SES has only a small relationship with improving student achievement. According to the results of that study, other things such as class size and family demographic need to be taken into consideration (Marks, 2016). “This finding also supports the notion that economic circumstances that are correlated with academic test scores, instructional supplies expenditures per pupil, and parental volunteer hours were not statistically significant in explaining mathematics test scores” (Okpala et al., 2001, p. 177).

Chesters and Daley (2017) conducted research on the relationship between the overall SES of the entire school and test scores; their research indicated that schools in areas with low SES status performed lower on standardized tests than schools in more affluent areas. Conducting this research may reveal a school wide SES that may be a major contributing factor in the 68% proficiency rates on the PSAT, which makes this study imperative if test scores are to be improved.
Class size. Having a basic understanding of the implications of class size and SES grouping is imperative to provide the best education for students. By getting a better understanding of how the association of class size and SES works, educators can help improve academic attainment, which is important for policy makers and educational leaders who want to improve education for students. Another significant point made by Okpala et al. (2001) is that schools in areas with students of lower SES have higher teacher absences. Factors, such as smaller class size, indicated that students with lower SES benefit more from smaller class size compared to their higher SES counterparts.

Other Related Factors

In addition to teacher performance, teacher absence, and SES, there are other factors that can and do have an impact on school achievement and standardized test results. Two such examples include parental involvement (or non-involvement) and school location. Both of these potential factors are discussed separately in the following paragraphs.

Parental involvement. Parental involvement (or lack thereof) is one of the factors that can affect test scores. Other things such as class size and family demographics need to be taken into consideration (Froiland & Davison, 2014) as well. “This finding supports the notion that economic circumstances that are correlated with academic test scores, instructional supplies expenditures per pupil, and parental volunteer hours were not statistically significant in explaining mathematics test scores” (Okpala et al., 2001, p. 112). One school launched a program called ShoutOut that used a poster board where parents, students, and co-workers could leave positive messages for each other (Jackson N., 2018). As with students, it is important to build relationships among teachers; this can, according to Gilles (2017), be done by doing interactive activities and modeling deep listening. Additionally,
students with highly educated parents are more likely to perform proficiently when compared with their peers who have parents that do not have higher education and having more education, or a higher degree is generally associated with a higher SES. Research by Westrick et al. (2015) showed that parental involvement did play a part.

**Location (urban v. rural).** Urban teachers are more likely to be absent more often than suburban teachers, and it is highly possible that it is because of job stress. According to Springer, Swain, & Rodriguez (2016) the reason why teachers in urban school systems have higher rates of teacher absenteeism, compared to suburban and rural teachers, is because rural teachers often have lower salaries, have a higher teacher-to-student ratio, lack resources, and experience more bureaucratic constraints compared to their suburban and rural counterparts (Springer et al., 2016). Urban teachers are more likely to be absent more than suburban teachers and it is highly possible that it is because of job stress.

According to Gottfried (2014), supportive working conditions are also a reason why rural teachers have lower absenteeism rates. Knoster (2016) noted that suburban and rural schools have lower absenteeism rates because those schools tend to manage existing resources better. They also tend to involve teachers in decision-making at the school-level which helps with lowering teacher absenteeism. The “effectiveness of urban schools is largely dependent upon quality teachers, thus efforts to retain them should be a high priority” (Lee, Goodman, Dandapani, & Kekahio, 2015, p. 9) in order to improve student achievement and possibly standardized test scores.

**Summary**

This chapter introduced the theoretical framework upon which the research was based. The theories I used to guide this study were the Measurement of Intelligence theory by Binet and
Simon (1916), who was the developer of the first commonly-used assessment test, and the Academic English Theory by Halliday and Webster (2009), which focuses on learning itself as a linguistic process as it pertains to improving test scores on the PSAT in Evidence Based Reading and Writing test. This chapter discussed the above theories and how they originated. Additionally, Chapter Two gives a description on how the Measurement of Intelligence theory by Binet and Academic Theory by Halliday and Webster of how this theory applies to testing in general and to the study. After the theoretical framework was explained, I recorded the related literature for the literature review section that presented the literature and research questions. I described specific historical aspects of standardized testing and trends in teacher qualifications, teacher efficacy, socioeconomic backgrounds, and teacher absenteeism and how they related to standardized testing. According to Hao and Yeung (2015), the exact factors that influence test scores has not been directly established, which is why more research on the topic is needed.

**CHAPTER THREE: PROPOSED METHODS**

**Overview**

The purpose of this applied research study will be to determine how to improve student test scores on the PSAT in Evidence Based Reading and Writing for high school students at a school in Hawaii and to formulate a solution to address the problem. Details that will be included in this chapter will be as follows: a description of the research design, research questions, research setting, and participants. Other items discussed will include the role of the researcher in relation to the study, procedures, data collection methods and procedures, data analysis procedures, and ethical considerations directly related to the study. The results on the PSAT in Evidence Based Reading and Writing for the 2017-2018 school year at a school in
Hawaii indicate a 62.5% proficiency rate; therefore, it is important to conduct this research to determine how to improve these test scores.

**Design**

The applied research multi-method design is best suited for this study because the study seeks to solve a problem in practice (Bickman & Rog, 2009). According to Bickman and Rog (2009), the researcher must develop an understanding of the relevant problem or social issue. The problem in practice is that test scores on the PSAT in Evidence Based Reading and Writing revealed that only 62.5% of students were proficient for the 2017-2018 school year at a high school in Hawaii. In the applied research method, the researcher develops the potential research questions and then the researcher develops the research design and plan (Bickman & Rog, 2009). The flexibility in using applied research methods is that the study permits changes to be made and; therefore, the study design is continual which allows data collections to be adjusted according to information that is learned (Bickman & Rog, 2009).

A multi-method design will be used for this study to gather both qualitative and quantitative data using three approaches. The first data collection approach will be interviews, the second will be documents, and the third will be a survey. The rationale for using a multi-method design is to gather a variety of data that is interrelated. The quantitative and qualitative data collection is interrelated, and one informs the other. This is the most appropriate choice for this study because the goal is to gather data and to provide a solution to the problem of practice which required multiple methods of data collection (Bickman & Rog, 2009). The stakeholders for this study will be the teachers and administrators who are directly involved with the PSAT in Evidence Based Reading and Writing. The stakeholders will provide information in a natural
setting to help generate a detailed report of their views of factors that impact PSAT in Evidence Based Reading and Writing scores (Creswell & Poth, 2018).

**Research Questions**

**Central Question:** How can the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing be improved at a school in Hawaii?

**Sub-question One:** How would administrators in an interview solve the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

**Sub-question Two:** How would documents inform the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

**Sub-question Three:** How would quantitative survey data inform the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

**Setting**

The research setting will be purposefully chosen for this project by identifying regions in Hawaii that have the lowest PSAT in Evidence Based Reading and Writing test scores and that could directly benefit from this research study. The reason this specific high school will be chosen is because it had lower PSAT scores in Evidence Based Reading and Writing than other similar schools in the area. The research site for this study is located in Hawaii. The pseudonym for the high school is Leeward High School.

The leadership team for the setting consists of one headmaster, three principals, and three vice principals. The setting consists of 50 teachers and just over 500 students. The faculty and staff come from a wide diversity of educational and socio-economic backgrounds (Hawaii Private Schools, n.d.). The 2017-2018 PSAT in Evidence Based Reading and Writing scores rank the high school at a 62.5% literacy proficiency, which indicates a problem of practice that
needs to be solved (Hawaii Private Schools, n.d.). The rationale for using this location is because the school’s test scores are below the state average and; therefore, need improving.

Participants

In this applied research study, selection of participants will be done by purposeful sampling. In this case, the focus will be on factors that impacted PSAT in Evidence Based Reading and Writing test scores for students in a high school in Hawaii. Participants will be chosen by purposeful sampling. “Purposeful sampling is widely used in qualitative research” (Palinkas et al., 2015, p. 537) and will be useful in both the qualitative and quantitative portion of data collection. “Purposeful sampling is primarily used for the identification and selection of information-rich cases related to the phenomenon of interest (Palinkas et al., 2015). In this case, the phenomenon is PSAT in Evidence Based Reading and Writing test scores that were below state averages. “While there are several different purposeful sampling strategies, criterion sampling is used in research because it involves selecting cases that meet some predetermined criterion of importance” (Patton, 2002, p. 238). For this study, the participants will be chosen based on how they are directly related to the problem of practice. The sample pool of participants will be selected via an emailed survey (Creswell & Poth, 2018) based on their position at the school and their involvement with the PSAT in Evidence Based Reading and Writing. Respondents will be purposefully chosen based on their involvement with the PSAT in Evidence Based Reading and Writing. Choosing participants purposefully will assist with illuminating pertinent information concerning the research problem and phenomenon (Creswell & Poth, 2018). A total of three administrators and two teachers will be interviewed for this research to offer sufficient opportunity to gather ample information to develop and identify themes (Creswell & Poth, 2018).
For “purposeful sampling the size of the sample is determined by informational considerations. If the purpose is to maximize information, the sampling is terminated when no new information is forthcoming from new sampled units, thus redundancy is the primary criterion” (Guba & Lincoln, 1985, p. 202). It will be essential to identify key people (of the available respondents) to provide the best information concerning the case (Stake, 1995). For the quantitative portion of the study, the survey will be sent out to 15 total participants. Eight of the survey participants will be male and seven will be female. Four of the participants will be ninth grade teachers and five will be tenth grade teachers. The survey will be sent out to three administrators and 12 faculty members.

**The Researcher’s Role**

My motivation for conducting the study will be to improve PSAT scores in Evidence Based Reading and Writing at a suburban school in Hawaii. When conducting research, the most important person is the researcher. In an applied research study, the researcher is a human instrument and a tool (Merriam, 1998). One of the most important things that a researcher must do while working through a research study is to understand his or her own biases. According to Merriam (1998), it is assumed that a researcher understands all of his or her own limitations because it can impact the outcome of the research. Yin (2014) further contends that “…researchers are especially prone to [bias] because they must understand the issues beforehand, and this understanding may sway them toward supportive evidence and away from contrary evidence” (p. 76). For this research, I will not seek to pursue or advocate a position concerning my research, but I will willingly report the data, as it is revealed, without bias.

Prior to conducting this research, I believed that there were certain factors that impacted test scores such as teacher attendance, administrations feedback policies, and teacher practices.
To ensure ethical research, I will bracket out my biases in order to allow the evidence from the study to present itself (Creswell & Poth, 2018). Altheide and Johnson (1994), state that a researcher should be transparent about all of his or her biases that may influence the outcome of the study, which was a priority in my research.

Having a Christian worldview, I believe that wisdom is the true equalizer, which includes making efforts to understand how we can help students with improving their knowledge; my worldview will help ensure integrity and ethics while conducting the research. I will report the results in an honest way, including if there is data found that is contrary to my opinion on the topic when the evidence is are based on research findings.

I have been active on assessment committees for the last several years and because of the methods used in this study it is important to report any existing biases. Since my research will be conducted at a different school other than the one where I served as a member of an assessment committee, there will be no known bias, and I will not choose any participants that I have a relationship with prior to starting the research (Creswell & Poth, 2018; Yin, 2014).

As the researcher, I understand the phenomenon of the study and I will follow the Institutional Review Board (IRB) procedures and ensure that my own personal assumptions and biases will not interfere with the data analysis. This will be done by enumerating prior to starting the research. As I complete my work by using the multi-method design, I will work with integrity during the qualitative and quantitative data collection and data analysis procedures. Pseudonyms will be used to protect the participants’ and schools’ identity.

**Procedures**

Prior to collecting data, I will receive full Institutional Review Board (IRB) approval (see Appendix A). No data will be collected or accessed prior to obtaining all necessary permissions
and IRB approval (Creswell & Poth, 2018; Humphreys, Trafton, & Wagner, 2003; Yin, 2014). Once IRB approval is obtained, the process of data collection will begin. Written permission to conduct the study will be obtained from the principal of the participating school, who is the key gatekeeper at the site.

Next, consent forms (see Appendix B) will be e-mailed using the recruitment e-mail (see Appendix E). Purposeful sampling is widely used in qualitative research (Palinkas et al., 2015). Eliciting participants for this study will be done by criterion and purposeful sampling and set up over the phone. The sample pool will be five participants who will be selected based on their position at the school. Participants will first be contacted by the principal to see if they are willing and available to participate in the survey. If they are available, they will be sent the consent form prior to scheduling the interview. Once signed and returned, they will be contacted by phone to set up an interview date and time.

Once consent forms are confirmed, interviews will be conducted to gather three forms of data for this study. The first data collection method will be interviews. Kahn and Cannell (1957) describe the interviewing process as “a conversation conducted with a purpose” (p. 49). For this study, the purpose will be to help determine factors that impact PSAT scores in Evidence-Based Reading and Writing and to generate a solution. Recording procedures will be done by using two tape recorders in the event that one might fail. The second form of data collection will be documents. Documents will be collected to assist in finding factors to improve test scores. Archival data, which may be considered a document, is any data collected prior to the beginning of the research study (Mason, Mason, Winsborough, & Poole, 1973). The review of the documents will be focused on student data without any identifying markers and publicly available data sets, which will be collected after starting the research (Mason et al., 1973). The
quantitative data collection method for this study will be a survey using a Likert scale. The survey questions will be supported by the literature review. For this study, two qualitative data collection methods and one quantitative data collection method will be employed.

**Data Collection and Analysis**

Prior to data collection, IRB approval will be obtained from Liberty University. “Use of multiple methods to collect data about a phenomenon can enhance the validity of the study’s findings through a process called triangulation” (Gall, Gall, & Borg 2006, p. 557). The data collection process will include gathering information pertinent to the study (Bickman et al., 2009). In this study, data collection will be done in a variety of different ways in order to triangulate the data. The first approach will be qualitative, in the form of interviews. The second approach will be qualitative, in the form of documents. The third approach will be quantitative, in the form of a survey. According to Creswell and Poth (2019), data integration is a crucial element in multiple methods analysis and conceptualization; therefore, both qualitative and quantitative data analysis procedures will be utilized for this study.

**Interviews**

The first sub question for this study will explore the way that administrators will solve the problem of low-test scores on the PSAT in Evidence-Based Reading and Writing in an interview. A critical aspect of applied inquiry is an in-depth understanding or description of the problem. For applied research at Liberty University, interviews are a required data collection method. Interviews should follow the recommendations of established researchers in the field. Interviews will be conducted face-to-face, and all interviews will be transcribed for data analysis (Creswell & Poth, 2018; Yin, 2014). Marshall and Rossman (1989) stated that there are several important procedures a researcher will follow when conducting a research study including in-
depth interviewing. The researcher will interview the participants as well as record their non-verbal responses (Bickman & Rog, 2009). The interviews will last between thirty minutes to one hour each. Interview data will be analyzed and categorized into themes. To enhance reliability of this applied research study, the participants will complete an initial audio-taped interview, and then there will be a follow-up interview for clarification. According to Guba and Lincoln (1994), the interview will be conducted using face-to-face conversations with participants, all interviews for this study will be conducted utilizing either face-to-face interviews or a phone interview to accommodate the participants’ schedule. This research study will use semi-structured interview questions, and a general interview guide will be used in emergent design format. Five participants will be interviewed, and all five participants will be adults above the age of eighteen. Pseudonyms will be used to protect the participants’ identities.

Based on the preference of the interviewee, a face-to-face or a phone interview will be utilized. An interview protocol will also be used (Creswell & Poth, 2018). For the purposes of this study, the protocol will contain the interview questions with ample space to take notes. A consent form will be signed and collected, either electronically or on paper, before the interviews take place. Interview questions will each be grounded in the literature as detailed later in this section.

Interview protocol will consist of the following open-ended qualitative interview questions:

1. Please tell me a little about yourself and what made you decide to go into education?
2. What is your teaching experience in general including your highest level of education?
3. What experience have you had working with students who have taken the Preliminary Scholastic Aptitude Test (PSAT)?
4. What training have you had in preparing students for, and administering, the PSAT?
5. What further training would you recommend increasing PSAT scores?

6. What do you believe are the main factors that impact PSAT scores?

7. What strategies have you observed or implemented that have been the most effective for increasing PSAT scores, and why?

8. How are these strategies different from the strategies that are currently being practiced?

9. What do you think can be changed or improved to increase PSAT scores?

10. What instructional practices are the most important for increasing scores on the PSAT?

11. What barriers exist that prohibit an increase in PSAT scores?

12. What supports exist for principals and teachers at this school to increase PSAT scores?

13. What choices or opportunities do teachers have for offering input on improving PSAT scores?

14. What information would you like to share with an administrator or teacher to help improve student’s PSAT scores?

15. Are there any other comments, suggestions, or information that you think will be valuable to increase PSAT scores?

To accurately capture responses of the interviews, recordings and transcripts will be made. Interviews will be conducted at the interviewee’s convenience and will occur based on individual preference as noted previously. The estimated duration for each interview will be between 30 minutes and one hour. Interviews will be recorded via a video recorder, hand-held recording device, and an iPhone to ensure that recording takes place. Following the interviews, transcriptions will be made. Notes will be taken during the interviews as well which may become part of the data collection for documents.
The interview questions will be derived from the literature review in order to gain maximum detail concerning the test scores on the PSAT and possible factors that may impact the scores. The purpose of questions one, two, and three will be to find out more about the interviewee and to gain foundational information regarding student success. Eliciting this information may reveal background information, which will connect past and present experiences. The primary goal of questions four through 15 will be to collect the thick, rich data concerning the specific experiences between the administrator/teacher and the assessment (Creswell & Poth, 2018). Question six was designed to provide information specifically regarding factors that improve test scores. This test score information may reveal data regarding teacher and/or administrator efficacy (as perceived by the interviewee), which may have had a direct impact on learning (Armstrong, 2011; White, Ollendick, & Bray, 2011). Questions seven, eight, and nine will be included to investigate the main strategies that will affect the scores on the PSAT (Stewart & Collins, 2014) or lack of self-advocacy skills (Gelbar, Shefcyk, & Reichow, 2015). The remaining teacher and/or administrator questions will be included to gain an overall understanding of the interviewee’s experiences as they directly relate to the PSAT. The goal of asking these open-ended questions will be to “create a rich dialogue with the evidence” (Yin, 2014, p. 73) in order to gain an understanding of the factors that directly influenced PSAT scores in Evidence-Based Reading and Writing from the interviewee’s perspective.

According to Creswell and Poth (2018), an embedded analysis can be used to understand how certain factors affect test scores. Creswell and Poth (2018) suggested an open coding process where, according to Esterberg (2002), the researcher can work line by line, to look for themes and coding procedures suggested by Creswell and Poth (2018). In these situations, the multiple sources of evidence will help cover the different units of analysis (Bickman & Rog,
According to Mertens (2005) all the different data can be analyzed including interview notes and observation notes. Coding will also allow field notes, observation reflections, and student work to be analyzed.

One unique aspect of qualitative research is that data analysis and collection are simultaneous processes (Creswell & Poth, 2018). This will permit the researcher to make notes and organize data throughout the process and to incorporate the observations into future data collection methods (Merriam, 1998). For the purposes of this study, I will collect and code information into themes as they develop and are identified during the data collection and analysis processes. This will help to provide insight into the next data collection process.

For qualitative research, data collection procedures will include interviews and documents. All forms of participant data will remain categorized by participant during the data collection process (Creswell & Poth, 2018). This will be essential for accurate record keeping. Recordings for the interviews will be transcribed verbatim. Information will then be loaded into a database on the computer and manually analyzed and then organized into codes and themes (Yin, 2014) in light of the research questions. Merriam (1998) stated that coding is the process of assigning a shorthand name to data in order to categorize and group the information together. Themes come from the characteristics of the phenomenon being studied, professional definitions in literature reviews, common sense constructs, researcher’s values, theoretical orientations, and personal experiences (Ryan & Bernard, 2003). Data will be coded and categorized by themes revealed in the analysis process.

Yin (2014) stated the researcher needs to be aware of the analysis strategies before data collection to ensure that the data is analyzable. Four strategies include:

1. Rely on theoretical propositions
2. Work data from the ground up
3. Develop a case description
4. Examine rival explanations

Transcription will be used to analyze the interview data collected. The interview will be transcribed line by line and non-verbal cues will be included as well (Bailey, 2008). Since it is important to be aware of data analysis strategies before data collection, I will be analyzing this research on a theoretical proposition. Utilizing a theoretical proposition strategy will help keep me focused on the original theoretical propositions guiding this study; including the research questions and data collection strategies.

**Documents**

The second sub-question for this study will explore viewing documents to solve the problem of low-test scores on the PSAT in Evidence-Based Reading and Writing. One form of documentation will include viewing standardized test scores. Other documents may present themselves in the data collection process such as notes. The collection of documents will be done to assist in finding factors that may improve test scores. Documents that will be collected on student data will focus on information without any identifying markers and on publicly available data sets, which will be collected prior to starting the research (Mason et al., 1973).

Because of their overall value, documents play a clear role in any data collection process when conducting research (Yin, 2014). To gain a clear understanding of factors that improve student learning on the PSAT, documents will be examined, organized, and analyzed to provide insight into the problem. Specifically, documentation will seek to answer the central research question: How can the problem of low-test scores on the PSAT in Evidence-Based Reading and Writing be improved at a school in Hawaii?
Documentation will be collected from the Department of Education’s public website. These documents will allow me to examine information without having to observe or obtain assistance from individuals (Merriam, 1998). According to Yin (2014), documents “can take many forms and should be the object of explicit data collection plans” (p. 105). Documents will be determined to be useful based on need and will be chosen throughout the research process. Documents will also be viewed from professional development trainings that may show the impact of relationship building on test scores. Oftentimes, researchers are not able to realize what should be collected until they are in the field (Bowen, 2009). Document collection plans include: (a) prior year PSAT scores based on grade level (b) interview notes, (c) and documents from the Department of Education’s public website. Documents will be used to shed light on factors that improve PSAT scores and to triangulate the findings. Concerted effort will be made to incorporate primary, as opposed to secondary, sources.

Yin (2003) contends that the coding process allows the researcher to interpret and reflect on meaning derived from the data. The coding process may also be referred to as a categorical aggregation of the frequency of specifically identified patterns (Bickman & Rog, 2009; Creswell & Poth, 2018; Stake, 1995). Data will be collected and analyzed simultaneously, as it is beneficial to identify themes as they occurred successively (Merriam, 1998). Additionally, the categories that will be needed to be broadly analyzed in light of the research questions (i.e., inductively) to prevent the premature exclusion of relevant information. Following this process, the categories will be combined (i.e. deductively) to five or six (Creswell & Poth, 2018; Yin, 2014).
The third sub-question for this study will explore how quantitative survey data would inform the solution of improving test scores on the PSAT in Evidence-Based Reading and Writing. The quantitative data collection procedure will be a survey. After reviewing the literature, the researcher will develop a survey based on information revealed in the literature review. A survey consisting of demographic questions and Likert scale questions will be created and distributed. Surveys will be collected from 15 participants. Survey questions will aid in determining how test scores could be improved on the PSAT at a school in Hawaii. These questions may also help to determine which factors participants believe impact test scores on the PSAT in Evidence-Based Reading and Writing. The quantitative data will be collected using a Likert scale and will be analyzed using non-parametric statistics. This is an appropriate approach because it will give an accurate result of the survey (Barua, 2013). The survey will be emailed to 15 participants after the interviews are conducted. Three administrators will be given the survey as well as 12 faculty members. The survey that will be distributed to participants follows.

1. Which category best describes your age in years?
   ( ) 21-29  
   ( ) 30-39  
   ( ) 40-49  
   ( ) 50-59  
   ( ) 60 or older

2. What is your race?
   ( ) White  
   ( ) Black or African-American  
   ( ) Asian  
   ( ) Native Hawaiian/other Pacific Islander  
   ( ) From multiple race  
   ( ) Other race (please specify): ___________
3. What is your gender?
   ( ) Female
   ( ) Male

4. What is the highest educational degree you have received?
   ( ) Less than high school degree or equivalent
   ( ) High school degree or equivalent (e.g., GED)
   ( ) Associate degree
   ( ) Bachelor's degree
   ( ) Graduate degree
   ( ) Doctorate

5. What grades do you teach? (You may select more than one).
   ( ) Kindergarten
   ( ) 1st grade
   ( ) 2nd grade
   ( ) 3rd grade
   ( ) 4th grade
   ( ) 5th grade
   ( ) 6th grade
   ( ) 7th grade
   ( ) 8th grade
   ( ) 9th grade
   ( ) 10th grade
   ( ) 11th grade
   ( ) 12th grade
   ( ) I am not a classroom teacher

Content Research Questions
Instructions: Choose the answer that best describes your opinion.

1. Students with low PSAT scores are most likely to be members of what socioeconomic group?
   ( ) A high-income socioeconomic group
   ( ) A medium-income socioeconomic group
   ( ) A low-income socioeconomic group
   ( ) Socioeconomic group does not affect PSAT scores

2. Teacher retention impacts students’ PSAT TEST scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
( ) Strongly Disagree

3. Schools with low PSAT scores have _________________.
   ( ) High teacher absenteeism
   ( ) Average teacher absenteeism
   ( ) Low teacher absenteeism
   ( ) Teacher absenteeism does not affect PSAT scores.

4. Students with low PSAT scores have received _________________.
   ( ) High quality instruction
   ( ) Average quality instruction
   ( ) Low quality instruction
   ( ) Instruction quality has no impact on PSAT scores

5. Teacher pay impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
   ( ) Strongly Disagree

6. Instructional supports for teachers impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neutral
   ( ) Disagree
   ( ) Strongly Disagree

7. Teachers who successfully prepare their students for the PSAT receive a ________.
   ( ) High amount of professional development
   ( ) Average amount of professional development
   ( ) Low amount of professional development
   ( ) Professional development does not affect PSAT scores.

8. “New” English Language Arts curriculum will impact students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
   ( ) Strongly Disagree

9. Students’ English Language Arts instructional time impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
Neither Agree or Disagree

Disagree

Strongly Disagree

10. Students who receive parental support tend to score ________ on their PSAT?

( ) Higher

( ) Average

( ) Lower

( ) Parental support does not affect PSAT scores

Similar to the interview questions, survey questions will also be derived from the literature review in order to gain maximum detail concerning the factors which impact test scores on the PSAT in Evidence-Based Reading and Writing. The purpose of questions one through five of the demographic questions will be to find out more about each participant. Eliciting this information will reveal background information that could connect past and present experiences to help solve the problem in practice.

The first goal of questions six through 10 will be to collect data concerning the specific experiences between the administrator/teacher and what they believe affected the PSAT scores. A review of the literature revealed that, in many schools, socioeconomic status seemed to impact test scores (Armstrong, 2011; Von Stumm & Plomin, 2015), thus question six was developed to determine whether the participants believed that socioeconomic status was a factor in the PSAT scores. Because of NCLB’s (2002) desire to revise recruitment and increase teacher retention, question seven focuses primarily on teacher retention. Question eight references teacher absenteeism, as most of the research that has been done since the 1990s suggested that there is a negative correlation between teacher absenteeism and test scores (Miller et al., 2007). Question nine referenced the quality of instruction and according to Bird (2017), students performed “better when assigned to teachers with higher evaluation scores and a higher level of performance for students assigned to English teachers with at least a master’s degree” (p. 7).
Question 10 references teacher pay, because, as the research has shown, the effect on test scores may not come from salary, but from teacher experience (Darling-Hammond & Youngs, 2002). Question 11 references instructional supports and according to Kim et al. (2018), the strongest predictor of student achievement was teacher academic support, or in other words, the personal support the teacher provided. Question 12 references teaching practices, and according to Kemp and Hall (1992) teacher effectiveness has been characterized in terms of specific instructional strategies. An effective teacher should use systematic teaching procedures (Kemp & Hall, 1992) and spend a significant amount of time working with small groups of students throughout the day (Taylor et al., 1999) and other instructional practices. Although there are similarities between the Every Student Succeeds Act (ESSA) of 2015 and the No Child Left Behind Act of 2002, ESSA opens the door for schools to create a more balanced system of support and accountability. While some of the NCLB act requirements remain in place, the goal of ESSA is to educate young people, so they can become more productive global learners (Darling-Hammond et al., 2016). Question 13 references curriculum, McGuinn (2016) states that individual state departments of education across the United States have to implement state-mandated curriculum still under the ESSA. Question 14 referenced professional development and according to McGuinn (2016), ESSA’s focus remained on high-need areas of learning and improved professional development for teachers. Question 15 referenced instructional time and was drawn from the literature through the enactment of NCLB act (2002) since time was taken from teaching core subjects and distributed over the social sciences, and with ESSA, the restrictions are still in place (Darling-Hammond et al., 2016, McGuinn, 2016). Research revealed that teacher and/or administrator efficacy (as perceived by the participant), may have had a direct impact on learning (Armstrong, 2011; White et al., 2011). I will ask the remaining teacher
and/or administrator questions to gain an overall understanding of the participant’s experiences as it directly relates to the PSAT in Evidence-Based Reading and Writing. The goal of asking the survey questions will be to gain an understanding of the factors that directly influenced learning from the participant’s perspective and to determine a solution to the problem in practice of low test scores.

According to Bickman and Rog (2009), analysis of the same quantitative data with two methods involves data transforming from qualitative data into numerical form. Quantitating may include a frequency count of themes. The quantitative data collected using the Likert scale will be analyzed using non-parametric statistics. This is an appropriate approach because it may provide accurate results of the survey (Barua, 2013). The quantitative data will be collected using an online survey and will be analyzed using descriptive statistics.

Demographic information will be entered into a spreadsheet. The information will then be analyzed to obtain statistics on gender, ethnic background, and other biographical information that relates to demographics. According to Patton (2002) demographic data is used to ensure that there is a variation or heterogeneity of participants (Patton, 2002) when possible. Heterogeneity is relevant to avoid criticism that can be found in relation to homogeneity of participants (McCracken, 2014). According to Gall et al. (2006), descriptive statistics are appropriate because they summarize the data using frequency counts. An applied research method and multi-method design will be used for this study to gather both qualitative and quantitative data using three approaches. The first data collection approach will be interviews, the second will be document collection, and the third will be a survey. Data will be analyzed by using transcription, coding, developing themes, and non-parametric statistics.
Ethical Considerations

Before conducting any research, I will secure IRB approval. During the research process, I will treat all participants with respect and honesty. I will not deceive my participants, and I will disclose the reason for the study. Informed consent will be collected from the participants before data will be collected. The research study data collection process will be voluntary, and participants may withdraw from the study at any time (Patton & Cochran, 2002). As they are considered collaborators in the research (Creswell & Poth, 2018), participants will also be given the opportunity to review the transcribed data from the interviews to ensure accuracy of intended communication.

According to McLeod (2015), ethics refers to the rules that follow. To ensure confidentiality, I will use pseudonyms for participants and will have secured all information in a secure file cabinet with a lock. Audio files and transcripts will be on a password protected computer. The participant’s personal information will be concealed. After the interviews and before submission, per the guidelines of Creswell & Poth (2018), the subjects will view the reports and have had the opportunity to make any changes to the transcripts if the participants feel that the information did not represent their intended perspectives. This will be done to ensure no researcher bias is present in the material. Data will remain stored on a password-protected computer, and the computer will only be used for the purpose of this dissertation. The name of the research site will be kept confidential through the use of a pseudonym. The researcher will not go native by losing objectivity when immersing herself in the study (Creswell, 2013). Finally, the researcher will not have any influence over the participants and will ensure that all contact and communication will be professional. My applied research report
will be submitted to my dissertation chair and methodologist for final approval before publication.

**Summary**

Chapter Three described the proposed methods for this applied research study. The chapter began with an overview of the study including the purpose and contents of the chapter. The overview was followed by the research design, which is an applied research study using a multi-method design. The research design was followed by the research questions including the central question and the three sub-questions. A description of the proposed research setting, and participants were then included. The researchers’ role was then described followed by a detailed description of the procedures including the data collection and analysis. The chapter concluded with ethical considerations.

**CHAPTER FOUR: FINDINGS**

**Overview**

The purpose of this applied research study was to determine possible methods for improving scores on the Preliminary Scholastic Aptitude Test (PSAT) on the Evidence Based Reading and Writing sections for students at a high school in Hawaii and to formulate a solution that addresses the problem of low test scores. The problem is that recent PSAT scores revealed that only 62.5% of students were proficient on the Evidence Based Reading and Writing section for the 2017-2018 school year. This applied research method was chosen to focus on and identify factors specific to improving test scores on PSAT in Evidence Based Reading and Writing based on the perspectives of administrators and teachers in the study school. Detailed research methodology is provided in Chapter Three. In that chapter, I noted the fact that using three different data collection methods help more precisely determine answers to the research
questions. The three data collection methods I used in this study included interviews of select participants, a survey of participants, and an analysis of documents. This chapter begins with a description of the participants; the participants section is followed by a detailed description of the results of this research. The central and sub-questions are included, discussed, and answered and are followed by an explanation of the theme development, a discussion of themes, and summary of the chapter.

**Participants**

The participants in my study included those respondents who were most knowledgeable about factors that impact Evidence Based Reading and Writing scores on the PSAT for students in a high school in Hawaii. In this applied research study, I selected participants through purposeful sampling. Purposeful sampling is widely used to choose participants in research studies (Palinkas et al., 2015) and was useful in both the qualitative and quantitative portions of data collection for this study. Purposeful sampling is primarily used to identify and select participants to attain information-rich cases related to a phenomenon of interest (Palinkas et al., 2015). The phenomenon of interest for this research was test scores. I grouped participants into two groups: qualitative interview participants and quantitative survey participants. My participants included five qualitative interview participants that consisted of three administrators and two teachers. An additional 15 quantitative survey participants included three administrators and 12 teachers. Following is a description of each interview participant in the study so as to provide a portrait of each participant. Pseudonyms are used throughout, when necessary, to maintain confidentiality and protect the identities of my participants and the school district.
Interview Participants

The qualitative portion of this study consisted of interviews of five individuals, and these participants included three administrators and two teachers; the two teachers taught tenth grade. One administrator held a bachelor’s degree, and the remaining administrators and the teachers each held a master’s degree. Of these five participants, three were females and two were males. The ages ranged from 30 to 59 years old. Four interview participants identified as White and one identified as Asian. Table 1 delineates the demographic information of these participants. All participants met the criteria I established for participants: They had to be 18 years old or older, and they must have been currently employed full-time at the school where I conducted this research.

Table 1
Interview Participants Demographics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Degree</th>
<th>Age</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator one</td>
<td>Female</td>
<td>Bachelor’s</td>
<td>40-49</td>
<td>White</td>
</tr>
<tr>
<td>Administrator two</td>
<td>Male</td>
<td>Master’s</td>
<td>50-59</td>
<td>Asian</td>
</tr>
<tr>
<td>Administrator three</td>
<td>Male</td>
<td>Master’s</td>
<td>40-49</td>
<td>White</td>
</tr>
<tr>
<td>Teacher one</td>
<td>Female</td>
<td>Master’s</td>
<td>30-39</td>
<td>White</td>
</tr>
<tr>
<td>Teacher two</td>
<td>Female</td>
<td>Master’s</td>
<td>30-39</td>
<td>White</td>
</tr>
</tbody>
</table>

Administrator one. Administrator one is a soft-spoken 45-year-old Caucasian female; she was serving as the vice principal for the school in this study. Serving as the vice principal, she stated that she feels she can reach more students than she could when she was in the classroom or even when she was a department head for the science department. She feels she can do more for the struggling students now that she is an administrator. She has worked in the field of education for 13 years. Administrator one is pursuing on her master’s degree in
educational leadership and should complete those requirements and graduate in May 2020. She stated that she enjoys doing research in science, but she was not good at science during secondary school. She originally wanted to be a researcher but decided that teaching was more conducive to her other role as a mom in that her two young children who attend the study school.

**Administrator two.** Administrator two is the headmaster for the school in this study. He holds a master’s degree in teaching. His background is in both public schools and private schools. He has over 30 years of experience in education; he started out as an elementary school teacher. During his teaching career, he taught second, third, fourth, and fifth grades. He has never taught K-1st grade and has the utmost respect for those who do. He feels the toughest grade teaching is middle school because of all the changes the students go through during that time. The majority of his background is teaching in schools located in lower socio-economic regions. Working in the lower socio-economic shaped him as an educator and he appreciates the hardworking families from those areas. He feels that those are the areas where one can make the most impact. His passion for students can be heard in his voice.

**Administrator three.** Administrator three was one of the principals at the school in this study. He is a Caucasian male in his forties that speaks confidently. He holds a master’s degree in teaching and is working on his doctoral degree in educational administration. Prior to entering the field of education, administrator three had a job working for an international aid organization. While working at that organization, human rights and human development were the focus of many conversations, and that piqued his interest in the field of education. Thus, he decided to leave the international aid organization to pursue employment in education. Since then, he has amassed 17 years of teaching experience in both middle school and high school. After teaching, administrator three decided to go into administration, and he has served at both the middle and
secondary school levels the last six years. He indicated that he has a lot of experience working with the PSAT and students who take the test.

**Teacher one.** Teacher one is one of two teachers in this part of my study. She has a master’s degree and has been teaching English and social studies for nine years. She is in her thirties and has taught every grade from sixth through 12th grades. Teacher one taught remedial English, and she taught a SAT preparation class that included writing, reading, and arithmetic. She is currently training for the Honolulu marathon.

**Teacher two.** Teacher two is one of the teachers in the study. She has a master’s degree in teaching. She is in her thirties and has been teaching 10th-grade English for seven years. She has some experience with the PSAT. She is passionate about building relationships with students and believes that collaboration is key to building a health classroom culture. Teacher two sees each student as an ocean of opportunity. She likes to surf during her free time.

**Survey Participants**

For the quantitative portion of the study, the survey was sent to 15 total participants. Eight of the survey participants were male and seven were female. Eleven participants were white and four were from other ethnic backgrounds. Four of the participants were ninth grade teachers and five participants were tenth grade teachers. Three administrators and 12 teachers completed the survey. The average age of the participants was 37.5 years old. More specific information about the survey participants is in Table 2.

Table 2
Survey Participants Demographics

<table>
<thead>
<tr>
<th>Race</th>
<th>Position at school</th>
<th>Degree</th>
<th>Age</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Administrator</td>
<td>Bachelor’s</td>
<td>40-49</td>
<td>Female</td>
</tr>
<tr>
<td>White</td>
<td>Administrator</td>
<td>Master’s</td>
<td>40-49</td>
<td>Male</td>
</tr>
<tr>
<td>Asian</td>
<td>Administrator</td>
<td>Master’s</td>
<td>50-59</td>
<td>Male</td>
</tr>
<tr>
<td>Asian/White</td>
<td>Teacher</td>
<td>Master’s</td>
<td>21-29</td>
<td>Male</td>
</tr>
<tr>
<td>From multiple races</td>
<td>Teacher</td>
<td>Master’s</td>
<td>21-29</td>
<td>Female</td>
</tr>
<tr>
<td>White</td>
<td>Teacher</td>
<td>Bachelor’s</td>
<td>40-49</td>
<td>Male</td>
</tr>
<tr>
<td>From multiple races</td>
<td>Teacher</td>
<td>Master’s</td>
<td>21-29</td>
<td>Female</td>
</tr>
<tr>
<td>White</td>
<td>Teacher</td>
<td>Master’s</td>
<td>40-49</td>
<td>Male</td>
</tr>
<tr>
<td>White</td>
<td>Teacher</td>
<td>Master’s</td>
<td>30-39</td>
<td>Female</td>
</tr>
<tr>
<td>White</td>
<td>Teacher</td>
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<td>White</td>
<td>Teacher</td>
<td>Master’s</td>
<td>30-39</td>
<td>Female</td>
</tr>
</tbody>
</table>

Results

Semi-structured interviews were conducted with teachers and administrators from a high school in Hawaii to determine themes related to how to improve test scores on the PSAT. Several themes emerged during my qualitative analysis of the transcripts of these interviews. The qualitative analysis also led to my developing a questionnaire that quantitatively measured factors that improved test scores on the PSAT and was used to help support the themes; I used that questionnaire as my second data collection tool, and 15 participants completed the
questionnaire for this study. In this section, I provide a narrative answer for each of the research questions (one main research question and three sub-questions) that guided this study. The narrative is organized by research question and corresponding themes. The themes that emerged include: (a) factors based on teacher effectiveness, (b) factors based on relationship building, and (c) factors based on socioeconomic factors.

**Central Question**

How can the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing be improved at a school in Hawaii?

A critical aspect of applied inquiry is an in-depth understanding or description of the problem. For applied research at Liberty University, interviews are a required data collection approach. The quantitative data was collected using the Likert scale and was analyzed using non-parametric statistics. The findings of this applied research study showed that teacher effectiveness and performance, relationship building (parental involvement), and socioeconomic status were critical in improving test results on the PSAT in Evidence Based Reading and Writing.

**Teacher Effectiveness and Performance.** One of the themes identified was the impact teacher effectiveness and performance had on the Evidence-Based Reading and Writing sections on the PSAT. The strongest correlation that was corroborated from the study was that teacher effectiveness and performance are factors that may improve the PSAT scores. The data collected from both the interviews and surveys revealed teacher effectiveness and performance as main contributing factors of student performance on the PSAT. According to administrator two, the instruction lacking is teaching students how to cite textual evidence “providing evidence to support your claim is a common English goal in the classroom,” and more test taking strategies
are needed to be taught in the classroom (interview, April 22, 2019). Schools around the country are going to more authentic assessments which grade students on soft skills such as collaboration, creativity, communication and self-directed studies. Student are therefore not used to taking standardized tests. According to administrator two teachers could be more effective by having the students do practice exams and show them how to take more traditional exams. Administrator three stated that the students struggled with filling out basic information and bubbling the exam correctly. He said that he thinks students should take the practice exams at least four times before they take the actual PSAT in their junior year (interview, April 22, 2019).

Administrator two also stated:

They [teachers] could learn the strategies for taking a test, like lesson plans and approaches to help the kids’ kind of look at different strategies because, the teachers that do it, they don't mind doing it, but they struggle with it. (interview, April 16, 2019)

The school offers a before school (morning) SAT prep course that has been beneficial for the students. The class starts at 7:15 am, is 45 minutes long, and covers both math and reading. Teacher one said “I have received positive feedback from students who took the PSAT in Evidence-Based Reading and Writing a couple of weeks ago that their math, they really benefit from the math SAT prep, and the strategies that were taught” (interview, April 16, 2019).

Using instructional strategies that are engaging is critical when it comes to preparing for the PSAT in Evidence-Based Reading and Writing. According to teacher two, the math teacher has more success with test score improvement because he has more of a vibrant personality. She stated there are “always little cool things he’s doing with the math. The students like it because he teaches them small tricks on how to master the test” (interview, April 19, 2019). She stated:
You’re tricking the system by figuring out all these little things and English it’s a little more like you do have to read at some point and go. For some students it is hard to be engaged at 7:15 am in the morning, which makes it harder to get them as enthused.

(interview, April 19, 2019)

She continued by saying, “I don't think we perfected that one yet. It may be something where we just need to try to change it to like afterschool reading or before school for math” (interview, April 19, 2019).

Teacher two stated that she believes having an engaging teacher is the secret to effective teaching. She thinks that even the small cool things that are done in the classroom are important for relationship building and student success on the PSAT. The survey conducted indicated that instructional strategies were important in the class. Figure 1 depicted that, 53% of participants surveyed believed that students with low PSAT scores have received low quality instruction. According to administrator two, another effective instructional strategy is to expose them to new teaching situations. He stated that one way of improving test scores would be to:

Give them situations they haven’t seen [before] that they need to apply what they’ve learned to. So even in English, if you’ve taught them ways to identify the topic in reading, but you’re doing similar readings, we’ll give them a different kind of genre, but they have to read a different structure, a writer with a different structure so that they still have those skills. Let’s look how you need to apply it in this direction. It’s not always going to be in this place. Like give them those different situations so that they can learn to adapt that themselves. Because the worst thing is when they get to the test and only know one way, and the test is not written in this way. If the essay is structured in a
different way, it’s more formal versus informal or more designed like a written letter rather than a book. (interview, April 22, 2019)

According to administrator two, students would benefit from learning how to use skills they already possess but in a different situation or new learning experience. To further this point, administrator two stated that students shared with him their ideas for learning skills. One student stated to administrator two that she “didn’t learn it that way, so I can’t use these skills” (interview, April 22, 2019). Administrator two responded to the previous statement by saying, “I was like, no. Same skills, different texts, same skills, different looking math problem” (interview, April 22, 2019). He continued the interview by stating:

By giving them those opportunities within the class to actually struggle with that and figure it out. Even if they’re not successful the first few times, eventually they’ll make those connections. They’ll be able to apply the math of different unknown situations that they’ll be able to apply the skills in the reading section, to text they haven’t seen before. I would say that’s a key thing and the principal understands that too. Like when they come into a classroom and it seems like the kids don’t know how to solve this problem. The teacher says, I’ve taught him the skills, why aren't they being able to solve this and say, yeah, this was a problem that, um, they had, they hadn’t seen before, but they were trying to figure out how to apply their process, learn to an unknown situation. (interview, April 22, 2019)

Professional development specifically relates to the theme of teacher effectiveness and performance because research based professional development have shown to improve teacher effectiveness and performance. The literature review in Chapter Two, Fischer et al. (2018) offered the suggestion that high-quality professional development on effective instructional
practices may improve student achievement on standardized tests. Analysis of these policies and case study data suggest that policies that states adopt in terms of teacher qualifications make a difference in student achievement and on standardized tests (Darling-Hammond, 2015). During this study, teachers were asked if professional development for teachers improved PSAT test score. Results from the survey showed that about 27% of survey participants felt that teacher professional development did not affect the improvement of test scores.

Another unexpected code or theme that did not correlate with the literature review from Chapter Two was the effect that the classroom environment has on improving test scores on the PSAT in Evidence-Based Reading and Writing. Classroom environment was not identified as one of the main factors that effected the improvement of test scores. Another factor not found in the literature but came up during the research was that students do not have enough opportunities to practice taking assessments. Administrator three emphasized the stress that test taking can create on students and how that affects the results negatively “even if it doesn’t count as a grade, they’re nervous because it’s a standardized test” (interview, April 15, 2019). He stated that he believes that test taking causes anxiety amongst students because they are answering in a format that they are not accustomed to. The score on the standardized test does not account for their overall grade and administrator three believes that there are multiple ways of showing mastery. Additionally, he states that they are not used to taking sit down test, “they’re asked to sit for long periods of time and asked to answer things in a format they're not used to” (interview, April 15, 2019). At this school, administrator three states that “you're not graded a lot with tests and you're not doing multiple choice tests.” It is more common that students are “showing your knowledge of areas in different ways using different assessments” (interview, April 15, 2019).
Consequently, administrator three stated that when students take the test for the first time it is a shock. It causes the students to be stressed and unfocused. He says some students make mistakes such as marking the wrong bubbles. Because of these challenges, administrator three’s school offers the students the option to take the exam several times and then provides them with feedback. The feedback includes the specific areas where the students need improvement. “giving students an opportunity to practice taking standardized tests helps them feel more secure and less nervous when it is time to test” (interview, April 15, 2019).

Test taking strategies such as taking practice tests need to be included in the curriculum so that students will feel comfortable taking the test. Another criterion of an effective teacher is providing effective feedback, which has been true for the PSAT as well. Teacher one stated:

Good feedback is necessary in the general sense of which topics that they struggled with.
Do we cover those topics? If not, how can we, if we do, should we change our approach?
Can we show it in a different way? The students get results as early as eighth grade.
(interview, April 16, 2019)

In addition to feedback, there are also accesses to online resources that students can use to prepare for the Scholastic Aptitude Test (SAT). The online resources teacher one states:
According to teacher one there are several online access that can be helpful in improving test scores. Teacher one believes that students prefer online resources over the official prep book. The benefit according to teacher one is online “they will get immediate feedback. The majority of our sophomores already have accounts on Collegeboard and are using it for the SAT” (interview, April 16, 2019).

According to teacher one, by the time the students are juniors in high school the student starts feeling more confident taking the PSAT.
A lot of the sophomores when they came out of this Preliminary Scholastic Aptitude Test, they were like, oh, I think I did really well on that. Uh, which is a good sign cause I don't usually hear that confidence out. Could it be false confidence? Yeah. I get the score like, oh, I thought it was the better. Okay, well now you know, when you feel that good that this is your score. So yeah, now you feel even better than that, you know, oh, I got even higher score. (interview, April 16, 2019)

Even though there is anxiety in taking the test students know that getting a bad score is not an end all. The teachers promote a growth mindset, which make students feel like they have the opportunity improve. Teacher one states that they remind students’ that “you're not going score 1600 right away. That's okay. If you score a 980, you can practice and improve if they want to” (interview, April 16, 2019).

Teacher effectiveness plays a critical role in improving the PSAT because teachers are the ones who are teaching the content knowledge to the student. When using teaching effectiveness as a measure for improving test scores, other outlying factors need to be eliminated. The findings showed that in Evidence-Based Reading and Writing it is important to learn skills such as vocabulary and citing thorough textual evidence. Administrator two, who does not have a lot of experience with the PSAT, said that it is hard to get familiar with English vocabulary because there are multiple ways of wording answers. Administrator two’s solution to make students more familiar with the content is practicing “going over the wording on the questions is good because then they’ll know how to do it” (interview, April 22, 2019). Another key test taking strategy is providing students with enough practice. Even though students may know the content, they also need to learn how to understand the process to make it applicable to the test. According to administrator two, “it is important to make sure that they have enough practice in
certain problems, like word problems” (interview, April 22, 2019). The practice administrator two says helps them getting more used to it.

Like going through those and getting them comfortable with lengthy, wordy problems that might have a simple process, but they get lost along the way. Word problems are still our lowest performances areas. And I think it's just, we just need to keep at it. They are being practiced. It's just the disconnect. (interview, April 22, 2019)

According to teacher two, providing evidence to support your claim is a common goal in the English classroom. Sometimes students get the test and they do not understand why one answer is better than another one. The students will need additional help with understanding how to back up their claims. A frequent strategy teacher two uses in class is asking “where's your evidence to back that up?” (interview, April 19, 2019). Many times there is no evidence to back up the answer and she helps students distinguish between the students own answer and factual evidence. She states:

And then a similar thing with math, it's like, well why are they doing this, where's the evidence that shows that's the correct answer? Students are frequently asked to explain the steps to their answers. And they start showing, they go, oh, it's a different answer. (interview, April 19, 2019)

Teacher two stated that the key is to help students connect the skills they are using in the classroom to the questions on the PSAT (interview, April 16, 2019).

I think having the students understand that it's not anything new. It's not things that they haven't learned. They might not remember how to do it, but it's not anything where you're going into a trivia bowl, and then they're going to ask you questions on top of that you've ever heard before. (interview, April 19, 2019)
She encourages her students that if they find the questions they know and answer those first. Also she reminds them that they do not get penalized for answering incorrectly. In her view the PSAT is only one of many tools available to colleges to decide on admission. With the movement towards authentic assessments and problem-based learning, it is still important that teachers incorporate instructional and test taking strategies to help students be more successful on exams. Administrator two shared:

Even if teachers don't assess them the way that PSAT does, you know, if the knowledge is up in their brain, if the teacher is teaching it, instructing them on what's on the test, then I would suppose that would increase the PSAT scores. (interview, April 22, 2019)

According to Cusumano et al., (2014) teacher effectiveness and its impact on standardized scores could be affected based on how a student feels about his or her teacher and how the teacher is perceived as meeting the students’ long-term learning goals. Teaching effectiveness could also be determined based on student involvement or the teacher’s response to students’ needs. This leads us to the second theme of the findings.

**Relationship Building.** Relationship building is an essential element when it comes to improving test scores. Students who have a strong rapport with their teacher are more likely to learn more and thus perform better on standardized tests. Administrator two shared the following:

At the high school I used to be at, [the students] signed up for this certain class, Mr. Coy, he was a ceramics teacher. His classes would fill up, [even though] he had six lines of classes. And these are kids that had the drive to go, you know, to very good universities and colleges. They would take ceramics because of Mr. Coy and pass AP English and AP Math because of Mr. Coy. (interview, April 22, 2019)
This is seconded by administrator three who believes that test taking performance and classroom culture increased depended on the rapport that students had with the teacher. He stated:

With preparation for Preliminary Scholastic Aptitude Test scores and SAT, it really comes down to you've got to build that rapport even though you see you only have the kids a short period of time. We've got to build that rapport and then you, you kind of reel them in. Then they're excited about what you have to share with them. And then the end result will be that they will score well on a test. They don't know it, but they will score well on the test. (interview, April 15, 2019)

Even a student’s belief of how effective their teacher is affecting their relationship to them and their ability to learn. The relationship between the student and the teacher is critical in improving tests scores. Documents collected from the Department of Education show that students of teachers who have the ability to maintain a classroom of strong relationships, rigor and relevance are more successful on testing and have higher grades. The data collected from the survey showed that participants believe that teacher retention impact scores which ties in to relationship building.

**Socioeconomic Status.** Socioeconomic status also plays a role in influencing PSAT scores. This study was done to solve a problem in practice because the differences in levels of academic achievement are not a novelty in research and this research can lead to discovering the conditions that would improve scores on standardized tests. According to administrator two even the classes that are available come at a cost that not everyone can afford.

Even the stuff that's free online, that's assuming that a kid has a computer and has Internet access at home or can find a place that has Internet access. At most poorer schools they don't offer an SAT prep class as part of the scheduling option. Most of them will not be
able to take any kind of PSAT prep, even if they do have Internet access, they might not know where these resources are. (interview, April 22, 2019)

Administrator two believes it is up to the principal to decide on what resources the students will have access to. His school offers a prep class in both Math and English which parents have to pay extra for. The students whose test results were used in this study are from a school comprised of mostly low SES families, and a plan needs to be created to help them increase their scores on the PSAT despite their financial status.

Sub-question One

Sub-question one for this study was, “How would administrators in an interview solve the problem of low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?” Interviews were conducted with administrators from a high school in Hawaii in order to find themes related improving test scores at their school. The themes uncovered in the qualitative analysis were teacher effectiveness and performance, relationship building and socioeconomic status.

Teacher effectiveness and performance. One of the challenges of being an effective teacher is creating relevancy in the classroom. Creating relevancy was cited as a main contributing factor to improving test scores on the PSAT in Evidence-Based Reading and Writing. According to administrator two “The PSAT does have some challenges I think for some students not to the content so much as the more towards the relevancy of taking the PSAT” (interview, April 22, 2019). Building relevancy in the classroom is as important as teaching the content to students. When the relevancy is built through Problem-based or Project-based learning it can cause a rift when it is time for assessments. According to administrator two one
challenge is that the type of assessments they do in the classroom to build relevancy are not formatted the same as the PSAT in Evidence-Based Reading and Writing.

The school normally does not administer tests where students have to pick from multiple-choice options, rather they focus on more authentic assessments. Administrator two shared the similar concerns through his comment that many schools including his are shifting over to project-based learning. He said, “the movement may possibly impact some testing” (interview, April 22, 2019). The project-based learning is creating a greater intrinsic motivation to learn and if it is well designed they are still getting the information that they need to do all the tests. All the administrators felt it was valuable to integrate relevant learning experiences, because the key to student success is the intrinsic motivation for kids. They believe this will lead to increased retention and improvement of PSAT in Evidence-Based Reading and Writing scores. The key for it to be successful is that it has to be very engaging for the students otherwise they will not learn the curriculum. The administrators all agreed that PSAT in Evidence-Based Reading and Writing could be negatively affected by the school’s teaching style. The school does not normally have multiple choice question assessments, which can make it difficult when students try to convert their knowledge in a format that they have not practiced. According to administrator two “the key strategies to teacher effectiveness are creating relevancy, learning content and student engagement” (interview, April 22, 2019). The administrator continued by saying that “if you want to improve PSAT, look at student engagement” (interview, April 22, 2019). He believes that if students are engaged in the content being taught the scores will go up.

**Relationship Building.** A big part of building relevancy is contingent on the relationship between the student and the teacher which, according to this research, is why without relationship building scores are not likely to improve. According to teacher two, building
relevancy is a key component to increasing PSAT in Evidence-Based Reading and Writing scores. She states that there is no relevancy to the students to take the test. She believes test scores would go up if a teacher they trust explains to the students why they are taking the test thus creating relevancy (interview, April 19, 2019).

Other factors that have surfaced in the interviews that go along with educational trends are social emotional learning. It is a key component in the classroom that is focused on building relationships. Administrator two felt that social emotional learning is not something new to the educational field but has found new ground recently. He felt that assessments are important but that educators need to focus on the relationship as well. He stated, “as a teacher, even though you may just see them for a short period that relational component is going to be important” (interview, April 22, 2019).

Being able to relate to your students is important both in the classroom as teachers and administrators to ensure that they are learning the materials for the test. Administrator one stated that “I was not the best student, so I thought I could kind of make a difference in student’s lives. But so now I feel like I affect more of a change for those struggling students like I was” (interview, April 18, 2019). Relating to our students is an important part of improving test scores on the PSAT. Administrator one continues to emphasize the importance of building relationships by stating that she could relate to how they feel. Administrator one said, “most of them can’t believe that I used to struggle. Like, okay. They’re like, really? I’m like, yes. Let me tell you about, let me tell you about that” (interview, April 18, 2019). Building relationships is a key component to increasing test scores on the PSAT.

**Socioeconomic Status.** Socioeconomic status also plays a role in addressing sub questions one. A students’ socioeconomic status being cited as a factor in improving test scores
is not a novelty in research and can lend to discovering the conditions that would improve scores on standardized tests (Westrick et al., 2015). According to administrator one even the classes that are available come at a cost that not everyone can afford

at the schools I taught before this, the financial one is definitely a problem besides the SAT class that they could sign up for cost money. Most classes you have to pay for and even when accessing the free stuff online, that's assuming that the student has a computer and has Internet access at home or can find a place that has Internet access. (interview, April 18, 2019)

The students at the high school the study took place at came from a variety of different socioeconomic background. Some students struggle to make ends meet and do not have access to phones, laptops and apps while others do. This creates a divide because not everyone has access to the same educational opportunities. Schools that are extremely disadvantaged are not able to offer SAT prep class as part of the scheduling option. In addition to not have access to technology at home, according to administrators two students from lower socioeconomic background do not have the same amount of parental help available at home because parents may have to work multiple jobs to make ends meet (interview, April 22, 2019).

Sub-question Two

How would documents solve the problem of improving low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

Documents were collected from state and government websites to research how to solve the problem of how to improve test scores on the PSAT. Documents were reviewed and analyzed and then put into themes. These documents were used to collect qualitative data related to how to inform the problem of low-test scores on the PSAT in Evidence-Based Reading.
Teacher Effectiveness and Performance. The documentation collected from the Department of Education showed that the schools where students say that they feel positively about their teachers have higher PSAT in Evidence-Based Reading and Writing scores. After examining multiple documents, a positive correlation between standardized test scores and effective teaching were found by comparing school quality survey scores with test scores. The documents show that school’s that have more certified teachers have higher PSAT scores. Other school systems who only hire teachers that are certified consistently score higher on the PSAT compared to schools that hire non-certified teachers.

Relationship Building. According to this research, relationship building is an important part of improving test scores. One document from School Report Cards shows that a school with an overall reading proficiency of 75% has a positive attitude towards school of 79%. Other documents collected from a variety of schools across the country showed that schools that have high student safety and satisfaction scores overall score higher on standardized test. School quality surveys that focus on the relationship between the students and school employees score higher on standardized tests. The relationship between the student and the teacher is critical in improving tests scores. Documents collected from the Department of Education shows that students of teachers who have the ability to maintain a classroom of strong relationships, rigor and relevance are more successful on testing and have higher grades. Classrooms with lower amount of referrals for behavior tend to score higher on standardized tests. This is due to a better classroom environment.

Socioeconomic status. Based on documents collected from the department of education, schools with a lower percentage of students that are eligible for free/reduced-cost lunches at school have higher PSAT scores. A similar correlation was found by examining Scholastic
Aptitude Test scores from college applicants and socioeconomic background. The documents examined showed students from household with higher parental income had 21% variance in SAT scores (Westrick, 2015).

**Sub-question Three**

How would quantitative survey data inform the problem of improving low-test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing?

A survey was conducted with teachers from a high school in Hawaii in order to collect quantitative data related to how to inform the problem of low-test scores on the PSAT in Evidence-Based Reading. Respondents then took the online survey at https://drive.google.com/open?id=1waK6p3XgvLpJ1sSeEutaZS ghiMn-3nZzbvqDLRCn20I. Participants were chosen using purposeful sampling. The public directory of employees at a high school in Hawaii served to identify 15 faculty and administrative participants.

**Teacher Effectiveness and Performance.** The survey conducted found that instructional strategies were important in the class. According to Figure 2 below, 53% of participants surveyed believed that students with low PSAT scores have received low quality instruction.

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**Students with low PSAT scores have received instruction?**

- 2, 13% High quality instruction
- 4, 27% Average quality instruction
- 8, 53% Low quality instruction
- Instruction quality has no impact on PSAT scores
instruction. Thus, focusing on the importance of quality education in the classroom will help improve test scores.

*Figure 1. Impact of Quality of Instruction*

**Relationship Building.** Relationship building can be defined in a variety of ways. External factors such as teacher retention and teacher absenteeism are results of the relationship building that took place at their applicable school. The data collected from the survey showed that participants believe that teacher retention impact test scores.

It is important to understand how teacher absenteeism impacts student performance in order to resolve the problem. The findings in Figures 2 and 3 corroborate the importance of building relationships and how that effects test scores. The findings show that teachers that are happy at work are less likely to quit or to be absent. Thus, high teacher absenteeism and low teacher retention negatively effects PSAT Scores.

*Figure 2. Impact of Teacher Retention on PSAT Scores*
Figure 3. Impact of Teacher Absenteeism on PSAT Scores

**Socioeconomic Factors.** The results from the survey showed that students with low PSAT in Evidence-Based Reading and Writing scores are most likely to be members of a low-income socioeconomic group according to the study conducted. The survey below shows that 80% of participants believe that students from a low socioeconomic group will perform lower on the PSAT. This finding is supported in Figure 4.
Figure 4. Impact of Socioeconomic Factors on PSAT Scores

Students who have received parental support tend to score _______ on the Preliminary Scholastic Aptitude Test.

14, 93%

1, 7%

Higher
Average

Figure 5. Impact of Parental Support on PSAT Scores

According to Figure 5, students who have received parental support tend to score higher on the PSAT according to 93% of the respondents.

Based on the survey, teacher pay was found not to be a significant factor in terms of improving test scores.

Teacher pay impacts students' Preliminary Scholastic Aptitude Test

1, 7%
1, 7%
1, 7%

4, 27%

7, 46%

Strongly Agree
Agree
Neither Agree or Disagree
Disagree
Strongly Agree
Figure 6. Impact of Teacher Pay on PSAT Scores

Discussion

The purpose of this section is to discuss the study findings in relationship to the empirical and theoretical literature reviewed in Chapter Two. The major topics discussed in Chapter Two were teacher performance and effectiveness, teacher absenteeism and socio-economic impact on the PSAT in Evidence-Based Reading and Writing. This section will include a detailed examination of all major topics covered in Chapter Two.

Empirical

The findings in Chapter Four supported some of the empirical findings in Chapter Two. My findings confirm that there is a correlation between teacher effectiveness and performance, teacher absenteeism, socio-economic status and test scores on the PSAT. According to the literature, the most significant factors that impact test scores are teacher performance and effectiveness (also referred to as teacher efficacy) and ideals (Akram, Naseem, & Ahmad, 2017; Bird, 2017; Coe, Aloisi, Higgins, & Major, 2014), teacher absenteeism and socioeconomic status (Lam, 2014). The study added to the literature by finding that relationship building plays a role in how to improve test scores on the PSAT. There were also other factors in the literature that the study did not corroborate. The study diverges from the previous research by adding new information on factors that impact test scores on the PSAT. The study sheds light on solving the problem by reviewing the factors help improve the test scores on the PSAT.

Teacher Effectiveness and Performance. The strongest correlation that was corroborated from the study was that teacher effectiveness and performance are factors that may improve the PSAT. The data collected from the interviews, document collection, and surveys revealed teacher effectiveness and performance as a main contributing factor of PSAT scores.
According to Belfield and Levin (2015) educators and researchers have debated which factors influence student achievement to find ways to improve test scores. Darling-Hammond et al. (2015) stated that internal school factors affect test scores more than general social context. This research study confirms previous research; therefore, supporting the idea that factors like the size of the class (Blatchford, Chan, Galton, Lai, & Lee, 2016), teacher qualifications (Tella, 2008), the overall size of the school (Blatchford et al., 2016), and other similar school variables play an important role in test score outcomes.

The current base of literature, as reviewed in Chapter Two, addressed the topic of teacher effectiveness and performance. Both areas (effectiveness and performance) are important for understanding and developing a foundation for research related to student achievement on the PSAT in Evidence-Based Reading and Writing. There were two subthemes that emerged from teacher effectiveness and performance, which were instructional strategies and test taking strategies. Both instructional and test taking strategies were mentioned by multiple participants in an interview. Teacher performance in the classroom has a profound effect on student learning and research shows that teacher effectiveness has a direct and significant impact on student’s learning (Darling-Hammond & Youngs, 2002). Results from this study substantiate the empirical evidence demonstrated in the literature review, but the current study furthers the knowledge base to include specific areas that are lacking such as teaching test taking strategies and effective instructional practices.

Based on the research from Chapter Two, Fischer et al., (2018) offered the suggestion that high-quality professional development on effective instructional practices may improve student achievement on standardized tests. Analysis of these policies and case study data
suggests that policies that states adopt in terms of teacher qualifications make a difference in student achievement and on standardized tests (Darling-Hammond, 2015).

Teacher effectiveness can be defined as the ability to “consistently produce stronger student achievement gains” (Darling-Hammond, 2007, p. 1). Research shows that teacher effectiveness has a direct and significant impact on student learning (Darling-Hammond & Youngs, 2002), but the term “teacher effectiveness” can be broad and needs to be more precisely defined (Milanowski, 2004). For this study, teacher effectiveness can also be defined as the act of consistently producing higher student academic achievement gains (Johnson & Semmelroth, & 2014). There are many specific factors that impact the effectiveness of teachers and how their performance might improve student test scores including having content knowledge in the subject area being taught (DeMonte, 2015), years of teaching experience (Tella, 2008), their own performance on the ACT or SAT (Egalite & Kisida, 2018), the number and type of degrees earned (Stronge, 2018), credentials secured (Darling-Hammond, 2015), and the effectiveness of their communication skills (Ehrenberg & Brewer, 1995).

An experienced teacher may be ineffective whereas a new teacher may be more effective than an experienced one. A teacher with strong content knowledge could be considered an ineffective teacher if he or she is unable to transfer that knowledge to the student in a matter that they understand (Darling-Hammond, 2016). My research revealed that content knowledge was one of the factors that are part of teacher effectiveness and performance thus effecting test scores. According to a study conducted by Kim, Dar-Nimrod, and MacCann (2018), the strongest predictors of student achievement were teacher academic support and the personal support that the teacher provided to the student, which enabled the teacher to be more effective.
Cusumano et al., (2014) stated that teacher effectiveness is an important factor to consider when trying to increase standardized test scores and this was corroborated in the findings in Chapter Four through interviews, document collection, and the survey, which found that teacher effectiveness and performance was a key component in improving test scores on the PSAT. An effective teacher should use systematic teaching procedures (Cusumano et al., 2014) and spend a significant amount of time working with small groups of students throughout the day (Taylor, Pearson, Clark, & Walpole, 1999) along with other research-based effective instructional practices. According to research conducted by Porter (2002), there was more of an impact on standardized test scores when instruction in the classroom was connected to the information found on the test. Thus, teachers who teach to the test may have students who perform better on the assessment but may be denied other important instruction or information as a result.

Instructional strategies are as important as knowing test taking strategies and practicing taking a test. According to authors Holliday et al., (2015) classrooms nationwide are moving from traditional assessments to authentic assessments where students are demonstrating knowledge in a variety of different ways.

**Relationship Building.** Another factor, relationship building, that had not been part of the literature review in Chapter Two was shown to carry significant importance derived from the semi-structured interviews, the surveys and document collection. Relationship building, including student-teacher rapport and parental involvement, was a key factor derived from the interviewees. With this new information collected a solution may be proposed to solve the problem on how to improve test scores on the PSAT in Evidence-Based Reading and Writing.

This research study also diverges from previous research by clearly narrowing down
three main factors of improving PSAT scores. Triangulating the data; semi-structured interviews, survey and the documentation collection revealed that teacher effectiveness and performance, relationship building, and socioeconomic status were the main factor in improving the PSAT in Evidence-Based Reading and Writing.

Based on this research, it seems necessary to support students both academically and socially. Without the academic supports, learner success is negatively impacted. Additionally, this research revealed that social factors that impact learning may be just as powerful as academic supports. This research sheds lights on solving the problem because it opens the opportunity for improving test scores on the PSAT. From here researchers can now further research and look at the success criteria of what an effective teacher is, how to improve relationships in the classroom and strategies to improve parental involvement in families with low socio-economic backgrounds. No social supports are offered at this school currently. Perhaps the most important element of this research is that faculty and administrators see the students’ strong need and desire to be supported both academically and socially to improve test scores, yet no programs are in place to support students to improve the scores on the PSAT.

A study conducted by Akram et al. (2017) showed that students’ perceptions of teacher effectiveness, how effective they believe their teacher is, and student achievement on test scores in English correlate. This is an important piece of information because less effective teachers may be less effective due to their inability to build relationships with students, parents and colleagues. By identifying low-performing teachers, administrators may be able to replace them with more effective teachers and; therefore, increase student achievement (Adnot, Dee, Katz, & Wyckooff, 2017). One school in the south launched a ShoutOut board where parents, students, and co-workers could leave positive messages for each other (Jackson, 2018). The board helped
with building relationships among teachers; this can, according to Gilles (2017), be done by doing interactive activities and modeling deep listening.

Relationship building is an important factor of improving test scores. It is one of the influences that affect how students will perform on state tests (Berger & Archer, 2016; Okpala, Okpala, & Smith, 2001). Relationship building being a main factor in how to improve test scores is corroborated in the findings in Chapter Two. In the NCLB act, the priorities outlined on the blueprint for NCLB (2002) focused on making students’ college and career ready, creating increased rigor in the classroom, creating new assessments, and taking a holistic approach to teaching. School leaders were called to revise teacher recruitment and increase retention, change evaluative approaches, increase standardized test scores, and to prepare students for college and careers to increase student learning and standardized test scores. Other factors need to be taken into consideration, as well such as socioeconomic factors.

Socioeconomic Factors. The findings in the review of literature corroborated with what was discovered in my study on how socio economic factors effect test performance. Parental involvement is one of the factors that can affect test scores. Other things such as class size and family demographics need to be taken into consideration (Froiland & Davison, 2014). “This finding supports the notion that economic circumstances that are correlated with academic test scores, instructional supplies expenditures per pupil, and parental volunteer hours were not statistically significant in explaining test scores” (Okpala et al., 2001, p. 112). According to the research socio-economic factors play a role in how to improve test scores on standardized tests.

The findings corroborated with what was found in Chapter Two’s review of literature. For example, students with highly educated parents are more likely to perform proficiently when
compared with their peers who have parents who have limited education. Having more education, or a higher degree, is generally associated with a higher SES. Westrick et al. (2015) conducted research that revealed that there was a strong and positive indication that SES affects test scores. According to Westrick et al. (2015), it has been well-established in research that there is a relationship between students’ SES and their educational outcomes. Sirin (2005) stated that the strongest indicator of test scores is the family’s SES. The result of this study confirmed this through the survey, document collection and interviews. Higher SES students generally score higher on standardized tests, and that they are more likely to finish high school and attend college compared to their classmates from lower SES backgrounds (Blossfeld & Shavit, 1993; White et al., 2016; Williams, 1999). According to Berger and Archer (2016), SES is a key performance indicator when it comes to student achievement. “In recent years, motivational researchers have spent a considerable amount of time examining race and gender differences in academic and social achievement goals but not as much time examining the influence SES has on student achievement” (Berger & Archer, 2016, p. 175). This information is surprising because SES has been shown to predict academic achievement on test scores. When school personnel were surveyed, the schools with students that had higher SES students achieved higher test scores than those who were of lower SES. The findings from the interviews, document collection and surveys suggest that SES influences student achievement and test scores. This corroborated Berger & Archer, (2016) which also stated that SES influences standardized test scores. However, the research that Berger & Archer (2016) conducted did not reveal or devise a plan for increasing standardized test scores for students of low SES. Despite the fact that some research has been conducted, current literature regarding research in terms of SES and test scores is lacking. The students whose test results
were used in this study are from a school comprised of mostly low SES families, and a plan needs to be created to help them increase their scores on the PSAT despite their financial status.

The findings in Chapter Four corroborated with what was found in Chapter Two’s review of literature in terms of SES. For example, students with highly educated parents are more likely to perform proficiently when compared with their peers who have parents who have limited education. Having more education, or a higher degree, is generally associated with a higher SES. Westrick et al. (2015) conducted research that revealed that there was a strong and positive indication that SES affects test scores. They stated differences in test scores can be explained with socioeconomic status (Westrick et al., 2015).

The results from the survey showed that students with low PSAT scores in Evidence-Based Reading and Writing are most likely to be members of a low-income socioeconomic group. This is consistent with the research in Chapter Two. Some studies stated that children who come from a low-socioeconomic status backgrounds lack certain intellectually stimulating resources (Caldas, & Bankston, 1997). As a result of limited intellectual resources, these students are more likely to be assigned to a class of comparably lower-caliber students than their higher socio-economic peers who are immersed in an intellectually stimulating environment (Lam, 2014). For some students, the reason for the lack of intellectually stimulating resources is directly related to the parent’s ability to deal with stress and their parenting style (Chiu & Khoo, 2005).

As the students advance in grades, expectations among parents, students, and teachers help perpetuate the vicious cycle among students of poor families. Lam (2014) claimed that the vicious educational poverty cycle is how the poor remain poor, claiming that the parents do not
get properly educated; therefore, their children are destined to repeat the cycle of limited education.

Quality instruction, parental and instructional supports all played a role in positively improving standardized test scores. The findings in the review of literature were in line with what was discovered in the research. Parental involvement is one of the factors that can affect test scores. Other things such as class size and family demographics need to be taken into consideration (Froiland & Davison, 2014). “This finding supports the notion that economic circumstances that are correlated with academic test scores, instructional supplies expenditures per pupil, and parental volunteer hours were not statistically significant in explaining test scores” (Okpala et al., 2001, p. 112). The empirical findings lined up with the findings from the quantitative survey and from the information gathered from the semi-structured interviews.

**Other Factors.** Classroom environment was not found to be a factor in my research results. According to Chetty et al., (2014) teacher interactions with the students and the classroom environment influences standardized tests scores. Other research shows that a variety of factors may affect student learning, including class size, ability level, teacher evaluation systems, educational reform, and quality of teachers and instruction (Egalite, 2016; Konstsantopoulos, 2014).

Based on the survey, teacher pay was found not to be a significant factor in terms of improving test scores. This contradicts what was found in Chapter Two. According to the empirical findings the relationship between teachers’ salaries and test scores is a complex issue to study because there is a huge variation in teacher salaries nationwide, and no clear link can be identified between teacher salaries and assessment outcomes. Salary can be defined and studied
relatively easily since it is quantifiable data; teacher effectiveness, however, is more challenging to determine since the data is mostly qualitative in nature and somewhat subjective. Thus, connecting teacher salaries and assessment outcomes is even more elusive. Some research indicated that students taught by higher-paid teachers are more successful on tests than students of lower-paid teachers (Darling-Hammond et al., 2015). But according to the quantitative survey done in this research study there was no correlation between teacher pay and how to improve test scores. According to Darling-Hammond (2015), research showed that there is a correlation between teacher salary and students’ test scores. Darling-Hammond (2015) also stipulated that more experienced teachers typically earn more money; therefore, higher test scores may come from teacher experience and not from salary.

The literature in Chapter Two found that teacher absenteeism was a factor in impacting standardized test scores. It is important to understand how teacher absenteeism impacts student performance in order to resolve the problem. Additionally, to understand how teacher absenteeism impacts student performance in order to resolve the problem. Teacher absenteeism is a problem that costs a lot (Arulampalam, Naylor, & Smith, 2012; Darling-Hammond, 2015). Lessons were canceled because of teachers’ non-attendance, researchers have found (Okeke et al., 2015). Excessive teacher absenteeism causes rapidly escalating school costs and additional expenditures on substitute teacher salaries. Absenteeism in the teaching workforce also carries other educational consequences (Ballou & Springer, 2015). For example, when teachers are absent, student learning is disrupted, and when it becomes a common occurrence, the students’ overall performance can be negatively impacted (Okeke et al., 2015). This was corroborated in the quantitative survey, which showed that 46.7% of respondents believed that high teacher absenteeism negatively affected the PSAT in Evidence-Based Reading
and Writing.

**Theoretical**

The theoretical framework upon the research was based were the Measurement of Intelligence theory by Binet and Simon (1916), who was the developer of the first commonly-used assessment test, and the Academic English Theory by Halliday and Webster (2009), which focuses on learning itself as a linguistic process as it pertains to improving test scores on the PSAT in Evidence Based Reading and Writing test.

At first no specific items were found that correlated with any of the theories, however, there were specific factors that increased students’ achievements on the PSAT. The data collected showed that teacher effectiveness and performance, relationship building, and socioeconomic factors. Because teacher effectiveness and performance are so important, student would benefit from having teachers that have had training on how to close the gaps that were indicated by the data I collected.

One theory utilized in this study was the Academic English Theory by Michael Halliday and Webster (2009), which originated out of the larger educational approach to linguistics called the Systematic Functional Linguistics (SFL). The professional development that the teachers would receive at the school would focus on teaching syntax as developed by Webster and Halliday. SFL focuses on teaching syntax instead of formal structures of language. As part of the general SFL approach, Fang (2005) identified certain characteristics of the theory, such as language being open-ended and at the same time being an interlocking system of options. This could help on the Evidence-Based Reading and Writing portion of the PSAT.

The language theory allows its users to ensure that there is a link between grammar and lexis, lexicogrammatical choices, that suit personal needs and that are appropriate for particular
social contexts. The theoretical implication of this study for the field of education is that it would provide a level of understanding of the specific skills students need to demonstrate their knowledge on the PSAT in Evidence-Based Reading and Writing.

The second theory used for this study is Binet and Simon’s (1916) Measurement of Intelligence Theory and is the premise for modern day intelligence tests. It was Binet and Simon’s (1916) belief that one single instrument could not be used to measure intelligence because intelligence is too broad of a concept which should only be used to compare peers from similar backgrounds. He created the Stanford-Binet intelligence test, which is the basis of most standardized tests in the United States.

These theories are relevant to the success of the PSAT because today’s standardized tests, such as the PSAT are based on Binet and Simon’s (1916) intelligence theory, and this study seeks to improve scores on the PSAT, which is a standardized test. Halliday and Webster’s (2009) Academic Theory is also appropriate for this study since it seeks to improve assessment scores on the Evidence-Based Reading and Writing portion of the PSAT and is used in classrooms today.

The professional development could lead to students who are taking the PSAT to improve their test scores. The professional development could help everyone involved in the training to have a better understanding on how to improve teacher effectiveness and performance, which could result in greater improvements in test scores.

**Summary**

The purpose of chapter four was to show display the results of the data collected. The overview restated the purpose of the study and described the chapter contents. Data was collected from participants including faculty and administrators. Semi-structured interviews and
a survey generated lengthy discussions which provided rich, thick narrative text that was used to identify factors that impacted test scores on the PSAT in Evidence-Based Reading and Writing at a school in Hawaii. Documentation was used to further validate themes and trends revealed in the interview, and online survey. The participants were individually presented and given pseudonym demographics were used to describe the participants.

Chapter Four revealed the findings of the data analysis conducted through coding and identifying emerging themes from the individual interviews (including field notes), survey results, and documents. Data analysis was sequential and iterative and took place over a two-month period and the findings of the study informed three themes related to specific factors that impacted test scores on the PSAT in Evidence-Based Reading and Writing. The three themes were teacher effectiveness and performance, relationship building, and socio-economic factors.

**CHAPTER FIVE: CONCLUSION**

**Overview**

For this study, the problem was that test scores needed to be improved on the PSAT in Evidence-Based Reading and Writing at a school in Hawaii. Chapter Five contains an overview, restatement of the problem, proposed solution, resources and funds needed, roles and responsibilities, timeline, solution implications, evaluation plan, and summary. This research focused on finding solutions for the improvement of standardized test scores. The proposed solution recommends a professional development program to improve test scores on the PSAT. The resources and funds needed are minimal since the roles and responsibilities will be internal. The implications of the solution will be increased PSAT in Evidence-Based Reading and Writing scores.
**Restatement of the Problem**

For this study, the problem was that test scores need to be improved on the PSAT in Evidence-Based Reading and Writing at a school in Hawaii. The focus of the research was to find solutions for how to improve student test scores on the standardized test. The research was needed because on the assessment taken during the school year prior to this study, only 63.3% of the 10th grade students scored high enough to meet proficiency rating (Hawaii Private Schools, n.d.).

**Proposed Solution**

The proposed solution to the problem in practice is to create a professional development for teachers to improve teacher effectiveness and performance. The goal is to bridge the gaps in instruction that were found from prior years tests by creating a two-day administrator led professional development. Base on the results of my study, there was no one conclusive solution to the problem of improving PSAT scores in a Hawaii school. The interviews, documents, and surveys used in my study did not present a signal solution but instead showed that there were multiple opinions on how to solve the problem. However, the survey used in my study showed that about 33% of survey participants felt that teacher professional development is a strong factor in improve students’ PSAT scores. Finally, the most reliable information to solve the problem was obtained through the literature review and through the interviews, which centered around improving teacher effectiveness. As a result, I recommend that professional development be implemented and I focus on giving teachers instructional strategies that they could use inside the classroom. The professional development would focus on equipping educators with strategies that would specifically help students with citing textual evidence, test taking strategies and building strong vocabulary. To improve the teacher effectiveness and performance, relationship
building and socioeconomic factors the professional development will focus on improving instructional and relationship building skills. Factors that help reduce the impact of socioeconomic factors will be discussed at the professional development and strategies will be given to help improve parental involvement in the classroom. The literature from Chapter Two suggested professional development as a solution to solve the problem of low test scores.

Data was collected from participants including faculty and administrators of where students are struggling. Semi-structured interviews and a survey generated lengthy discussions which provided rich, thick narrative text that was used to identify factors that impacted test scores on the PSAT in Evidence-Based Reading and Writing. Documentation was used to further validate themes and trends revealed in the interview, and online survey.

The findings of the study informed three themes related to specific factors that impact test scores on the PSAT in Evidence-Based Reading and Writing. The three main factors found to affect the PSAT in Evidence-Based Reading and Writing were teacher effectiveness and performance, student relationships with teachers and parents and socioeconomic factors.

Goals

The goal of the proposed solution is to increase the PSAT pass rate to 75% by the end of school year 2019-2020. To do this the problem of teacher effectiveness and performance needs to be solved. Administrators would first have a meeting to gather input on what type of professional development teachers feel would be the best for increasing their knowledge on test taking strategies that they could then transfer to students. In Chapter Two, Fischer et al., (2018) offered the suggestion that high-quality professional development on effective instructional practices may improve student achievement on standardized tests.
The second goal of the solution is to bridge the gaps in instruction that were found from prior years tests. The data from the most recent PSAT shows that students struggle when it comes to citing textual evidence but are proficient in vocabulary, the goal of the professional development would be to show teachers how to help students with citing textual evidence. To improve the teacher effectiveness and performance, relationship building and socioeconomic factors the professional development will focus on building improving teaching skills as well as relationship building skills. Socioeconomic factors will be discussed at the professional development as well.

**Scholarly Rationale**

The scholarly rationale of how the problem will be addressed through the solution is by providing professional development on how to teach students and assess student work in a way that helps students feel more confident on the PSAT in Evidence-Based Reading and Writing and also provide instruction to teachers on relationship building and other components of Social Emotional Learning (SEL).

Part of the professional development should incorporate the teachers taking the PSAT in Evidence-Based Reading and Writing. This will help them understand how to better prepare the students. Other programs like Advance Placement instructor training have the teachers take the Advance Placement exam as part of their training. This would help teachers in the classroom be aware of how their assessments align with the important standardized test.

**Chapter Two Considerations**

The solution is created to increase test scores. According to the literature review in chapter two, leadership needs to be focused on academic success for all students and not only a select group. The school must have a positive culture that is student-centered, and
the administration and faculty need to be focused on improving instructional standards in order to increase test scores (Fischer et al., 2018). This will in turn help the schools’ PSAT in Evidence-Based Reading and Writing scores.

The administrators currently offer a traditional program to prepare students for the PSAT in Evidence-Based Reading and Writing. This program runs similar to other SAT preparatory courses; students come in at about seven in the morning, sit down and go over the manual. The key factor to improve the scores from that class is to create relevancy.

In the current setting, the school is following the traditional approach of preparing for the PSAT in Evidence-Based Reading and Writing. The administrators all agree that they are doing the PSAT prep at the wrong time of day and part of the solution would be to move at least the English prep class to after school or during the extended day time to increase participation and motivation. Another suggestion that aligns with the research from Chapter Two in terms of adding additional instructional time would be to implement the preparatory class into the school day since high school students learn the best between 10am to 1pm.

Resources Needed

The needed resources are professional development sessions. The school has an in-house curriculum expert who would be able to create the professional development needed to address both instructional strategies and relationship building. The school also has a full-time college and career counselor and secondary counselor that are all subject area experts. They would be able to put together a series of professional development sessions to address the identified gaps as well as modeling SEL activities and instructional strategies.
Funds Needed

No additional funds should be needed to attain the solutions proposed. The employees responsible for running the program are already full-time employees. The school has the option to give stipends or compensatory time if the faculty training is after contract hours.

Roles and Responsibility

The secondary principal and vice principal will collaborate with the college and career counselor and curriculum coordinator to facilitate the two professional development program days. The headmaster will oversee the process. The college and career counselors will get the data from prior PSAT and together with administration they will look for areas that need improvement. The curriculum coordinator will consult with administration on what instructional strategies can be used to improve the classroom instruction.

In order to help with improving test scores on the PSAT in Evidence-Based Reading and Writing at a high school in Hawaii, it is recommended that the administrator, curriculum coordinator, college and career coordinator, and secondary counselor work together to address the issue of instruction. Their primary function would be to put together a two-day “Preliminary Scholastic Aptitude Test Summer Institute.”

The role of the administrator is to ensure that quality professional development is taking place and that the training is conducted per the guidelines. During the professional development the curriculum coordinator will present the materials along with the college and career counselor. The college and career counselor are responsible for gathering the data of prior PSAT results.

On the first day of the professional development the administrator will do a welcome speech and share with the faculty what the PSAT scores are and his goals for where he wants them to be and by when. He will explain the importance of the PSAT so that the teachers
understand why they are at the training. The curriculum coordinator will use the data from the career counselor to decide on which areas to focus on during the professional development.

Teachers will be a part of the training by practicing active listening and participating in the coursework. The teachers will be divided into groups where the teachers examine different parts of the PSAT and discuss what instructional strategies, they can implement to bridge the identified gaps. The teachers will then share their suggestions with the rest of the group and ask for group feedback. The curriculum coordinator and the career counselor will facilitate the training and guide students to the right answer.

**Personnel Implications**

If the training is conducted on a non-contracted day teachers will be paid a stipend. If training is conducted on a teacher-work day no compensation will be paid. Under the current timeline the training will be done on already accounted for administration days.

**Timeline**

The timeline will start at the end of year school year as the most recent test scores have been received. The administrators and college and career counselor will review the data and decide what the target areas for improvement are. Once the data has been analyzed, and gaps have been identified then the college and career counselor can start putting together the two-day professional development event.

- April 1st-30th Faculty meeting, after spring testing. Show the data to create the “why.”
- May 1st-14th Analyze the data and identify the gaps.
- May 15th-30th Create a two-day professional development training.
- July 29th-30th The middle two days of teacher work days have the PSAT in
Evidence-Based Reading and Writing Summer Institute.

**Solution Implications**

The purpose of this section is to provide a clear explanation of both positive and negative implications of the solution. With any research it is important to set clear expectations on how events may occur. This solution plan can be implemented in every school nationwide to help with improving test scores on the PSAT.

**Positive Implications**

The positive implications of this research plan are that teachers will learn research-based strategies to help improve test scores. The benefits will be that teachers will get more familiar with the PSAT in Evidence-Based Reading and Writing so that they are better able to prepare their students.

**Negative Implications**

The negative implications are that teachers are already overwhelmed with other responsibilities, so it would be one more thing for them to focus on. Another concern is that many teachers refrain from wanting to teach to the test.

**Benefits**

The benefits for students are that they will have teachers that are better equipped with effective instructional strategies to bridge gaps in instruction. The school system will benefit from having a solution in place that can complement their strategic plan. They will also receive on strategies that will help students retain more knowledge.

Parents will benefit because their students would be more prepared for the PSAT, which prepares them for the SAT. The SAT used for college entrance.
Pitfalls

There is a possibility that teachers may become overwhelmed and feel that it is one more thing they have to focus on in addition to everything else they have to do. The training may make the teachers feel that they have less autonomy. The teachers need to be on-board with the proposed training.

Recommendations

The recommendation is that the training is put in place and then teacher-feedback is gathered as well as the results evaluated. The training should focus on “teaching the teacher” so that teachers can model the strategies learned in the classroom. Further research should be done on the components on measurable outcomes of teaching effectiveness and performance.

Evaluation Plan

The evaluation plan to see if the solution to the problem was effective would be measured by the increase of scores. The evaluation would be done a year later after the new PSAT in Evidence-Based Reading and Writings have been taken to assess the effectiveness of the solution to the problem. Test scores are based on outcomes therefore this would be the best approach. The principal will be responsible for the assessment and it would be considered mastered when the schools achieves 75% and above meeting the pass rate.

Detailed Evaluation Plan

The evaluation would be outcome-based so administrators can see what the outcome of the exam is to see if the scores improved. The college and career counselor are responsible for the assessment to be conducted as they have been in the past.
Delimitations

A boundary of research is according to Hancock & Algozzine, 2011, delimitations of the research conducted. Although they are not considered weaknesses it is important to understand the rationale and why they were used in the study. The primary delimitation was that data was only collected at one school. I chose this so that I could get a rich sample and go in deep rather than less rich data from a multiple of schools. By interviewing several people at one school it gave me a rich sample of how teacher and administrators work together to improve standardized test scores.

Limitations

Some factors that were beyond the control for me as a researcher were a small sample size. Most of the samples came from educators with advanced degrees. For future research my recommendation is to get a larger sample from both public and private schools to help solve the problem across the state.

Future Research Recommendations

The recommendation is that the training is put in place and then teacher-feedback is gathered as well as the results evaluated. The training should focus on “teaching the teacher” so that teachers can model the strategies learned in the classroom. Further research should be done on the components on measurable outcomes of teaching effectiveness and performance is. The recommendation for the further study is to partner with a university in Scandinavia to see what teaching strategies they implement in the classroom and how they can be used universally.

Summary

In the classroom, they are moving away from using standardized testing for assessments and toward a more holistic approach of evaluating the student. Today’s classroom focuses on the
critical thinker out there in the world. The world now is much different from the past, and it is changing so quickly that the skills that the SAT requires are only needed in a narrow margin of jobs. There are new models that colleges and universities are looking at such as the Mastery Transcript Model which is much more conducive to evaluating the student as a whole.

The two most important concepts from the results of the research is that administration needs to get or train more qualified teachers. This includes test taking strategies, instructional strategies and relationships building through development of social-emotional skills. Student engagement, creating relevancy, and building strong rapport with students is the key to increasing the PSAT in Evidence-Based Reading and Writing.

For this study, the problem was that test scores needed to be improved on the PSAT in Evidence-Based Reading and Writing at a school in Hawaii. Chapter Five included an overview, restatement of the problem, proposed solution, resources and funds needed, roles and responsibilities, timeline, solution implications, evaluation plan, and summary. PSAT in Evidence-Based Reading and Writing test scores need to be improved on the PSAT in Evidence-Based Reading and Writing at a school in Hawaii. The focus of the research is to find solutions for how to improve student test scores on the standardized test. The proposed solution recommends a professional development program to bridge the gaps. The resources and funds needed are minimal since the roles and responsibilities will be internal. The implications of the solution will be increased PSAT in Evidence-Based Reading and Writing scores. Success will be measured through the evaluation plan.
REFERENCES

doi:10.3102/0013189X033001004

doi:10.3102/0162373716663646


doi:10.1016/j.econedurev.2016.08.007


doi:10.3102/0013189X16639597


doi:10.1177/1048371316658327


Marks, G. N. (2016). The relative effects of socio-economic, demographic, non-cognitive and cognitive influences on student achievement in Australia. *Learning and Individual Differences, 49*(1), 1-10. doi:10.1016/j.lindif.2016.05.012


doi:10.1002/trtr.1378


doi:10.3102/0013189X18785632


March 20, 2019

Dr. Bunnie Claxton
IRB Approval 3649.032019: How to Improve Test Scores on the Preliminary Scholastic Aptitude Test

Dear Dr. Bunnie Claxton,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

[Signature]

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APPENDIX B: Consent Form

CONSENT FORM

How to Improve Test Scores on the Preliminary Scholastic Aptitude Test (PSAT)
Lavinia Sonia Mikaela Callahan
Liberty University
School of Education

You are invited to participate in a research study on factors to improve student achievement on the Preliminary Scholastic Aptitude Test (PSAT). You were selected as a possible participant because you are directly involved in the education of students who take the PSAT. Please read this form and ask any questions you may have before agreeing to be in the study.

Lavinia S. Mikaela Callahan, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this applied research study is to determine how to improve test scores on the Preliminary Scholastic Aptitude Test (PSAT) in Evidence Based Reading and Writing for high school students in a school in Hawaii.

Procedures: If you agree to be in this study, I would ask you to do the following things:
1. Participate in a private interview to answer questions related to factors that impact learning for students in high school on the PSAT in ELA and allow the interview to be recorded. The interview should last approximately 60-minutes, and follow-up interviews may be needed.
2. Transcription review will take approximately 30 minutes.
3. Answer a brief quantitative survey regarding factors that impact test scores on the PSAT which includes a demographics survey. The survey should take approximately 10-30 minutes.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life. The primary risk is possible discomfort in discussing personal information regarding teaching processes and test outcomes. Although the risk is minimal, it is important that you be made aware of this potential risk.

Benefits: There are no direct benefits from participating in this study. The expected benefit to society is that administration may receive information on how to improve test scores.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records. All interviews will be transcribed, and pseudonyms will be assigned to all participants prior to the transcription process, transcripts are reviewed by an independent checker, and data is analyzed. I may share the data I collect from you for use in future research studies or with other
researchers; if I share data that I collected about you, I will remove any information that could identify you before I share it.

- I will use pseudonyms (not your name) for all participants. All documents will include the pseudonym, and your real name will be removed. I will be the only person that could identify you before I share it.
- I will store all electronic data on a removable storage device. That storage device, along with all other documents (audio/video recordings, transcripts, test scores, etc.) will be stored in a locked file cabinet.
- Recording will be maintained in a locked file cabinet; I will be the only person to have access to the key to and contents of the file cabinet. The recordings will be transcribed, and the recordings will be erased after you verify the transcripts for accuracy.
- Other than erasing recordings, all files will be maintained by me for a period of three years after the results of the study are published in my dissertation. After three years, paper documents will be shredded in a cross-cut shredder and/or burned. Electronic data (information on a removable storage device) will be degaussed.

**Voluntary Nature of the Study:** Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

**How to Withdraw from the Study:** If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

**Contacts and Questions:** The researcher conducting this study is Lavinia Callahan. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at lcallahan8@liberty.edu. You may also contact the researcher’s faculty chair, Dr. Bunnie Claxton, at bclaxton@liberty.edu

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

*Please notify the researcher if you would like a copy of this information for your records.*

**Statement of Consent:** I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio-record me as part of my participation in this study.
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APPENDIX C: Interview Protocol

Interview protocol consisted of the following Open-Ended Qualitative Interview Questions:

1. Please tell me a little about yourself and what made you decide to go into education?
2. What is your teaching experience in general and your highest level of education?
3. What experience have you had working with students who have taken the Preliminary Scholastic Aptitude Test (PSAT)?
4. What training have you had in preparing student for, and administering, the Preliminary Scholastic Aptitude Test (PSAT)?
5. What further training would you recommend increasing Preliminary Scholastic Aptitude Test (PSAT) scores?
6. What do you believe are the main factors that impact Preliminary Scholastic Aptitude (PSAT) scores?
7. What strategies have you observed or implemented that have been the most effective for increasing Preliminary Scholastic Aptitude Test scores, and why?
8. How are these strategies different from the strategies that are currently being practiced?
9. What do you think can be changed or improved to increase Preliminary Scholastic Aptitude Test scores?
10. What instructional practices are the most important for increasing scores on the Preliminary Scholastic Aptitude Test (PSAT) scores?
11. What barriers exist that prohibit an increase in Preliminary Scholastic Aptitude Test scores?
12. What supports exist for principals and teachers at this school to increase Preliminary Scholastic Aptitude Test scores?

13. What choices or opportunities do teachers have for offering input on improving Preliminary Scholastic Aptitude Test scores?

14. What information would you like to share with an administrator or teacher to help improve student’s Preliminary Scholastic Aptitude Test scores?

15. Are there any other comments, suggestions, or information that you think will be valuable to increase Preliminary Scholastic Aptitude Test?
APPENDIX D: Survey Protocol

Which category best describes your age in years?

( ) 21-29
( ) 30-39
( ) 40-49
( ) 50-59
( ) 60 or older

2. What is your race?

( ) White
( ) Black or African-American
( ) Asian
( ) Native Hawaiian/other Pacific Islander
( ) From multiple race
( ) Other race (please specify): __________

3. What is your gender?

( ) Female
( ) Male

4. What is the highest educational degree you have received?

( ) Less than high school degree or equivalent
( ) High school degree or equivalent (e.g., GED)
( ) Associate degree
( ) Bachelor's degree
( ) Graduate degree
( ) Doctorate

5. What grades do you teach? (You may select more than one).

( ) Kindergarten
( ) 1st grade
( ) 2nd grade
( ) 3rd grade
( ) 4th grade
( ) 5th grade
( ) 6th grade
( ) 7th grade
( ) 8th grade
( ) 9th grade
( ) 10th grade
( ) 11th grade
Content Research Questions

Instructions: Choose the answer that best describes your opinion.

1. Students with low PSAT scores are most likely to be members of what socioeconomic group?
   ( ) A high-income socioeconomic group
   ( ) A medium-income socioeconomic group
   ( ) A low-income socioeconomic group
   ( ) Socioeconomic group does not affect PSAT test scores

2. Teacher retention impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
   ( ) Strongly Disagree

3. Schools with low PSAT scores have ____________________.
   ( ) High teacher absenteeism
   ( ) Average teacher absenteeism
   ( ) Low teacher absenteeism
   ( ) Teacher absenteeism does not affect PSAT scores

4. Students with low PSAT scores have received ____________.
   ( ) High quality instruction
   ( ) Average quality instruction
   ( ) Low quality instruction
   ( ) Instruction quality has no impact on PSAT scores

5. Teacher pay impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
   ( ) Strongly Disagree

6. Instructional supports for teachers impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neutral
   ( ) Disagree
7. Teachers who successfully prepare their students for the PSAT receive a __________.
   ( ) High amount of professional development
   ( ) Average amount of professional development
   ( ) Low amount of professional development
   ( ) Professional development does not affect PSAT scores.

8. “New” English Language Arts curriculum will impact students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
   ( ) Strongly Disagree

9. Students English Language Arts instructional time impacts students’ PSAT scores.
   ( ) Strongly Agree
   ( ) Agree
   ( ) Neither Agree or Disagree
   ( ) Disagree
   ( ) Strongly Disagree

10. Students who receive parental support tend to score on their PSAT?
    ( ) Higher
    ( ) Average
    ( ) Lower
    ( ) Parental support does not affect PSAT test scores
APPENDIX E: Recruitment E-mail

[Insert Date]

[Recipient]
[Title]
[Company]
[Address 1]
[Address 2]
[Address 3]

Dear [Recipient]:

As a doctoral student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctorate in Education degree. The purpose of my research is to identify the factors that improve student test scores on the Preliminary Scholastic Aptitude Test in Evidence-Based Reading and Writing, and I am writing to invite you to participate in my study.

If you are 18 years of age or older and are willing, you will be asked to participate in an interview and follow-up survey. It should take approximately 60 minutes to complete the interview and approximately 10 minutes to complete the survey. The interview will be transcribed, and you will be given the opportunity to review the transcript of your interview for accuracy. The total time for this research should take approximately 2 hours. Your name and other identifying information will be requested as part of your participation, but the information will remain confidential and pseudonyms will be used.

To participate in this study, please complete and return the attached Consent Form to the researcher at lcallahan8@liberty.edu. After receiving the consent letter, I will contact you to schedule an interview.

Sincerely,

Lavinia S. Mikaela Callahan
Doctoral Candidate