School Improvement Grant Funded Academic Programs

A Quantitative Correlational Analysis Study

by

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Abstract

In 2009 President Barack Obama signed into law the American Recovery and Reinvestment Act (Dragoset, et al., 2017). The Recovery Act served as the financial umbrella which helped to allocate $3 billion to fund School Improvement Grants to support states and school districts in championing original, innovative programs as well as to hire staff to narrow the academic achievement gap (Dragoset et al., 2017). The problem was the limited research on the extent to which math and reading intervention programs funded by the School Improvement Grant have impacted academic achievement. The purpose of this quantitative correlational analysis study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. State.

Dedication

In loving memory I would like to dedicate my doctoral journey to my careing and nurturing mother, Henrietta Tiller. She gave me the tenacity, encouragement, and motivation throughout my entire spiritual, physical, professional, and academic life to complete my journey. Also, in loving memory I dedicate my dissertation completion to my father Claude Tiller Sr. who made me go through verb tenses of many words weekly for me to get my allowance.

To my smart and beautiful daughter, Bria Malaika Tiller, affectionately called Mooney, who has taught me when life knocks you down if you keep a smile on your face and laughter in your soul you will always be able to get back up, brush yourself off and say “is that all you got!” Daddy loves you with all his soul, heart, and spirit. To my soulmate, Holly Tiller, it could have taken many lifetimes to find such a calming and loving wife, but I was blessed to have found you in my life to be with me during my doctoral journey. You truly created a fortress of solitude for me to be a superman, and I will always be a dedicated and loving husband to you. Finally, I would like to dedicate my dissertation to my fraternity brother, friend, and doctoral journey mentor, Dr. Jessie Kilgore Jr; man, you came back in my life at the right time, place, and season, GOMAB.

Acknowledgments

My dissertation committee members included my chair Dr. Matthew Smalley and Dr. Laura Maloney who served as my committee member. Your patience, guidance, quick responses, and unrelenting encouragement has been vital to my success along the pathway to becoming an initiate into the academic society of doctoral leadership. I thank you for supporting me in rising to the apex of my educational degree journey.

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Chapter 1: Introduction

The American Recovery and Reinvestment Act (Recovery Act) was signed into law in February 2009 (Dragoset et al., 2017). President Barack Obama signed the bill in response to the 2007 recession. The Recovery Act was funded at an estimated $831 billion. A $3.5 billion financial investment was allocated to turn around nearly 1,250 of the lowest academically performing public schools in the nation (Ginsburg & Smith, 2018). Schools and states across the country, which were classified as schools that were the lowest-performing in the state, received funding in the form of a School Improvement Grant (Dragoset et al., 2017). The School Improvement Grant was one of President Barack Obama's signature programs and one of his most significant investments in education -(Dragoset et al., 2017).

The increased focus of turning around many of the lowest academically achieving schools in the nation was the primary focus of the Recovery Act. The funding of the School Improvement Grant was intended to provide states and school districts revenue to hire teachers and advocates for innovation in academics to decrease the achievement gap in public schools on standardized national testing, such as the high school Scholastic Assessment Test (Mette & Stanoch, 2016). The School Improvement Grant was awarded to the Departments of Education in every state through a competitive grant proposal procedure with guidelines from the United States Department of Education. The rules which govern the School Improvement Grant require replacing underperforming staff members, family and community involvement, and operational flexibility needed to implement a diversity of school improvement activities (Scott & Ostler, 2016). Adopting these comprehensive reform strategies would support the School Improvement Grant evaluation from the federal and state governments. The policies were designed to assess the effectiveness of student academic outcomes in reducing the academic achievement gap

(Dragoset et al., 2017). The study was expected to contribute to the significant body of research in government grant funding decisions and provide research information at the state and school level to help make future financial decisions on math and reading government grant-funded programs.

Background of the Problem

The School Improvement Grant was created through the American Recovery and Reinvestment Act of 2009. Through formula-based grants to states, the School Improvement Grant was focused on turning around the nation's persistently lowest-achieving schools. The grants awarded to public high schools were geared towards implementing interventions to close the achievement gap and improve Scholastic Assessment Test Scores for high school juniors, which for many students can determine postsecondary admissions (Higdem, Kostal, Beatty, & Kiger, 2016). The background of the problem was in one northern U.S. state, only 14 persistently lowest-achieving schools were designated as cohort V (schools who have received the School Improvement Grant for five years). The focus of the study included four of the 14 schools, which each received state allocations of $750,000 annually from 2016-2020 (McVicar, 2016).

A majority of the interventions implemented by the cohort V schools focused on math and reading support as a means to improve academic achievement, close the achievement gap, and increase Scholastic Assessment Test scores (Player & Katz, 2016). There has been a dearth of research which has longitudinally tracked the extent to which interventions selected by schools using the School Improvement Grant funds lead to academic improvement (Sun, Penner, & Loeb, 2017). If the School Improvement Grant funded academic interventions were deemed ineffective, the schools would be at risk of funding not being extended. There is limited literature on the financing of specific intervention programs through the School Improvement Grant

(Ginsburg & Smith, 2018).

The quantitative correlational analysis study was conducted to discover if a correlation exists between School Improvement Grant funded academic programs (independent variable) and Scholastic Assessment Test scores (dependent variable) for juniors at four large urban high schools in a northern U.S. state. The School Improvement Grant award has four required intervention models: transformation, turnaround, restart, and closure of the school, which was sanctioned in 2001 under Title I Section 1003 (g) (Herrmann, Dragoset, & James-Burdumy, 2014). The examination of how standardized high-stakes testing has been used in determining the educational achievement of high school juniors has been researched. The theoretical framework of Lev Vygotsky's Sociocultural Theory of Learning provided the foundation of the research by explaining the various levels of external support a learner needs to achieve mastery of an academic task. If these levels are missed a problem can occur with a student achieving mastery of a particular skill.

Statement of the Problem

The inclusion of the School Improvement Grant subsidized programs, and the effectiveness of the interventions are crucial in order for the schools to continue to receive funding through grants. The problem is the limited research on the extent to which math and reading intervention programs funded by the School Improvement Grant have impacted academic achievement. A review of the literature, detailed in Chapter 2, showed a need for more research that longitudinally tracks reforms in school districts. The research highlighted a narrowing of the achievement gap because of School Improvement Grant funded reforms (Sun et al., 2017). Studies examining academic programs subsidized by School Improvement Grants in the literature are inconclusive to the effectiveness of these courses and have produced repeated

suggestions for additional education (Dragoset et al., 2015). There was a gap in the literature with studies that narrowly focused on school districts, which used School Improvement Grant funding for Scholastic Assessment Test preparation programs (Toldson & McGee, 2014).

Limited research exists on the impact of School Improvement Grant funded academic programs as measured by standardized test scores in math and reading. There were various authors and studies that reported an ongoing need for further research on whether School Improvement Grant funded academic programs helped in closing the academic achievement gap, specifically in math and reading (Dragoset et al., 2015; Mette & Stanoch, 2016). The research highlighted how the educational pressure to close the achievement gap was forcing students to spend the majority of the day learning test-taking skills in only the scholastic core subject areas of math and reading (Gonzalez, Peters, Orange, & Grigsby, 2017). Since the U.S. Department of Education has invested billions of dollars in School Improvement Grants with hopes of narrowing the educational achievement gap through funded programs, more data on the effectiveness of these programs is needed via additional research.

Purpose of the Study

The purpose of the quantitative correlational analysis study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. state. The study focused on if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading. A correlational design was suitable to address the research questions and hypotheses because the chosen design provided an opportunity to determine if a correlation exists between the inclusion of the dichotomous (School Improvement Grant funded academic

programs, or no School Improvement Grant Funded academic programs) variable of School Improvement Grant funded academic program and Scholastic Assessment Test scores for math and reading (Creswell, 2014).

The research questions focused on the correlation between the various math and reading courses the high schools implemented through the inclusion of School Improvement Grant funds and the associationed effect on the Scholastic Assessment Test scores for math and reading in a northern U.S. state between 2017-2019. The study helped to address issues of academic achievement using School Improvement Grant funded courses and if future funding of these courses is an efficient allocation of School Improvement Grant support to continue for the duration of the grant. A correlational study was a suitable method to conduct a study at the four high schools chosen for the research. The School Improvement Grant funded academic programs used during the research originating during the 2017 school year and terminated at the close of the 2019 school year. Larger sample size would increase the accuracy of the statistical test, but because of the courses' culmination, time prohibited conducting a complete study (Bujang & Baharum, 2016). The research does not involve any experimental investigation; no interventions were present during the survey.

Significance of the Study

The study was designed to be directly applicable to the federal, state, school districts, and schools awarded the School Improvement Grant. President Barack Obama's determination to narrow the achievement gap was influential during his presidency, as proven by allocating $3.5 billion to turn around nearly 1,250 of the lowest scholastically performing public schools in the nation (Ginsburg & Smith, 2018). The results of the research of the inclusion of the School Improvement Grant funded academic programs at improving Scholastic Assessment Test scores

can have an impact on the future funding of standardized test preparation programs. The research results can help improve the body of knowledge around the correlation between the School Improvement Grant funded interventions and the achievement gap in the core areas of math and reading.

The federal, state and local educational agencies can gain awareness of the School Improvement Grants' effectiveness in subsidized academic programs. The research findings could contribute to future decisions on not just School Improvement Grants' initiatives, but other federally financed educational grants. The results of the study could help in providing additional information and more narrowly focused data relating to the standardized Scholastic Assessment Test scores for high school juniors in the core academic areas of math and reading.

Research Questions

The investigation questions in the study are essential to address concerns of academic achievement using School Improvement Grant funded academic programs. The research questions supported the groundwork for the research study. To achieve the purpose of the study, the research questions for the quantitative correlational analysis study included:

Research Question One: What is the correlation between the inclusion of School Improvement Grant-funded programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state?

Research Question Two: What is the correlation between the inclusion of School Improvement Grant-funded programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state?

Research Hypotheses

The following hypotheses explained the predictions in the study, which were based on specific statements to address what problem or issue the study seeks to answer. The hypothesis statements helped to provide directionality, which explained the predictions in the research. The accompanying hypotheses statements to the research questions were:

$H1_0$: No correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state.

$H1_A$: A correlation exists between the inclusion of School Improvement Grant-funded programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state.

$H2_0$: No correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state.

$H2_A$: A correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state.

Theoretical Framework

The Sociocultural Theory of Learning, which was developed by Lev Vygotsky, provided the theoretical foundation for the quantitative correlational analysis study. The Scholastic

Assessment Test is a standardized exam serving as a prerequisite for college admission across the nation for high school juniors. The benchmark score of 480 in reading and writing, and 530 in math is considered college and career ready (The College Board, 2019). The principles of Sociocultural Theory of Learning state academic development such as thought, language, and reasoning processes are developed through social relationships and interactions which are influenced by culture interactions with other people to support learner transitioning from dependence to independence (Walshaw, 2017).

The research questions and hypotheses in the study are based on a theoretical framework in which high assessment results are achieved when students take part as active learners interacting daily with the environment to create complex intellectual structures to resolve tasks. (Mette & Stanoch, 2016). A further explanation in Chapter 2 details how sociocultural theory explains how high school juniors acquire the knowledge and skills to complete tasks independently, such as the Scholastic Assessment Test. Chapter 2 summarized additional research existing within the same theoretical framework.

Definitions of Terms

Definitions were provided for the independent and dependent variables in the study. A list of further essential terms related to the School Improvement Grant is included. Additional terms used in the study with multiple or ambiguous meanings are included.

Achievement gap. The achievement gap is defined and occurs when one faction of students (such as students grouped by race, ethnicity, or gender) surpasses another faction. The disparity in average scores for the two factions is statistically meaningful (more significant than the margin of error) (National Assessment of Educational Progress [NAEP], 2019).

American Recovery and Reinvestment Act of 2009. Nicknamed the Recovery Act, was a stimulus package enacted by the 111th U.S. Congress and signed into law by President Barack Obama in February 2009 (Dragoset et al., 2015)

Math Scholastic Assessment Test scores. Dependent variable. Math scores derived from the Scholastic Assessment Test help to measure a student's skills in algebra, problem-solving, data analysis, manipulation of complex equations, geometry, and trigonometry (The College Board, 2019).

Reading Scholastic Assessment Test scores. Dependent variable. Reading scores resulting from the Scholastic Assessment Test which is used to measure a student's skills in understanding, and cognitive skills with a focus on the close reading of passages in an extensive collection of subject areas (The College Board, 2019).

School Improvement Grant. A federal grant providing finance for the academically lowest accomplishing schools in the nation (Mette & Stanoch, 2016)

School Improvement Grant funded academic programs. Independent variable. A school program funded with School Improvement Grant funds (Player & Katz, 2016).

Assumptions

Math and reading Scholastic Assessment Test scores from a full academic year of high school juniors during the 2017-2019 school years were used in the study. All students who took the Scholastic Assessment Test were classified as full academic year high school juniors during the 2017-2019 academic years. The study assumend all teachers and administrators involved in the School Improvement Grant funded intervention programs were willing participants. The Board of Education, superintendent, administrators, teachers, and students were assumed to be

active in the intervention programs funded through the School Improvement Grant to see students academically achieving higher scores on the Scholastic Assessment Test.

Scope and Delimitations

The study focused on juniors at four large urban high schools in a northern U.S. state. The test scores from the Scholastic Assessment Test of these juniors who have completed a full academic year, between 2017-2019 school years, were used. A more extended period was not selected because of the time limitations associated with the School Improvement Grant. The sample size of the full academic year high school juniors was approximately 895 students. Convenience is the sampling method chosen for the research, which includes populations who happen to be most accessible (Creswell, 2014). One of the goals of the study was to add knowledge to grant funding research by showing findings on whether a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test score in math and reading of high school juniors in a large urban school district in a northern U.S. state. The generalizability of the research results was limited to eleventh-grade students.

Limitations

Every student has been previously coded with an eight-digit Scholastic Assessment Test registration number; only the individual scholar, administrators, and family have access. The coding method aligns with the Scholastic Assessment Test procedures and policies for testing students (The College Board, 2018). The limitations included developing a second coding system to further protect the students' identity before imputing data into the Statistical Package for Social Science (SPSS) software. Testing limitations were a factor when the participants become

familiar with the outcome measures and remember the responses for later testing (Creswell, 2014).

To minimize the testing limitation, only the most recent Scholastic Assessment Test scores were used. The imputing of incorrect data into the SPSS software could become a limitation of the study. To lessen the recording of inaccurate data into the SPSS software, the precise keying in the statistics was important.

Chapter Summary

An introduction and overview of the research were addressed in Chapter 1. The purpose of the quantitative correlational analysis study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. state. The study was focused on whether these programs are effective at improving Scholastic Assessment Test scores in math and reading. A correlational design was valid to address the research questions and hypotheses because the chosen design provided an opportunity to determine if a correlation exists between the inclusion of the dichotomous (School Improvement Grant funded academic programs, or no School Improvement Grant Funded academic programs) variable of School Improvement Grant funded academic programs and Scholastic Assessment Test scores for math and reading (Creswell, 2014).

The analysis was accomplished using the secondary Scholastic Assessment Test data, which has been previously grouped by The College Board for three years (2017-2019). The problem was the inclusion of the School Improvement Grant subsidized programs, and the effectiveness of these programs and results on the Scholastic Assessment Test was crucial to juniors at four large urban high schools in a northern U.S. state to receive continued School

Improvement Grant funding. An introduction to the investigation questions and hypotheses, the theoretical framework which supported the questions and hypotheses, and the methodology used to address the questions and hypotheses was provided in Chapter 1.

A summary of the definition, assumptions, scope, delimitations, and limitations in the research was provided in Chapter 1. The significance of the study was recapitulated, including how the study contributes to the larger body of knowledge relating to federal grant-funded programs. A thorough literature review related to the history of the School Improvement Grant and the theoretical framework of the Sociocultural Theory of Learning is presented in Chapter 2

An analysis of the data collection measures used in the study is presented in Chapter 4. The impact of the inclusion of School Improvement Grant funded academic programs were analyzed. The chapter synopsized the outcomes of the statistical analyses described in Chapter 3.

Chapter 2: Literature Review

In response to the existence of a continued academic achievement gap, President Barack Obama signed into law the American Recovery and Reinvestment Act of 2009 [Recovery Act] (Dragoset et al., 2017). President Barack Obama's determination to narrow the achievement gap included several significant investments in U.S. education programs through federal investments. Such federal investments included the Race to the Top, Investing in Innovation, State Educational Technology Grants, and the School Improvement Grant, among many others. Under the educational venture of the Recovery Act, states and school districts received over $100 billion to hire teachers and champion innovation in schools, which included $3 billion for School Improvement Grants (Dragoset et al., 2017).

The effectiveness of School Improvement Grant-funded programs at improving Scholastic Assessment Test scores has not been established by research. The background of the problem is in one northern U.S. state, only 14 persistently lowest-achieving schools were designated as cohort V (schools who have received the School Improvement Grant for five years). The focus of the study was on four of the 14 schools, each of which received a state allocation of $750,000 annually from 2016-2020 (McVicar, 2016). The intervention programs selected by the schools in the areas of math and reading might show academic improvement for eleventh-grade students. If not, the programs would be deemed ineffective, and the schools would be at risk of funding not being extended. Little literature is available examining the School Improvement Grant funding of specific intervention programs (Ginsburg & Smith, 2018).

The purpose of the quantitative correlational analysis study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school

district in a northern U.S. state. The study is focused on if these programs are effective at improving Scholastic Assessment Test scores in math and reading. A correlational design was valid to address the research questions and hypotheses because the chosen design provided an opportunity to determine if a correlation exists between the inclusion of the dichotomous (School Improvement Grant funded academic programs, or no School Improvement Grant Funded academic programs) variable of School Improvement Grant funded academic programs and Scholastic Assessment Test scores for math and reading (Creswell, 2014).

The literature review chapter examines the history of the Recovery Act signed into law by President Barack Obama in 2009 (Dragoset et al., 2017). The chapter outlines the basis for receiving a School Improvement Grant award along with the four required intervention models: transformation, turnaround, restart, and closure of the school, which was sanctioned in 2001 under Title I Section 1003 (g) (Herrmann et al., 2014). The chapter examines how standardized high-stakes testing has been utilized in determining the educational achievement of high school juniors. The theoretical framework is explained in the literature review to further guide the quantitative correlational analysis study.

Literature Search Strategy

The search was conducted using the electronic university library databases from the American College of Education. Full-text electronic copies of peer-reviewed studies from the years 2013 to 2019 were retrieved from the Google Scholar database. The titles of the articles were then copied and pasted into the American College of Education electronic university library databases to confirm the articles were peer-reviewed. The following keywords and phrases were used in the text search: *American Recovery and Reinvestment Act of 2009, Common Core State Standards, stimulus package, standardized test, Scholastic Assessment Tests, high stakes test,*

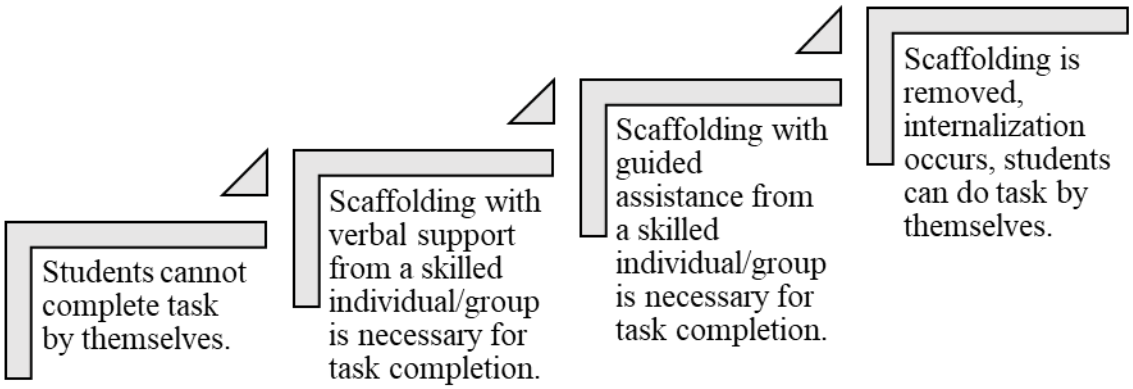
federal grants, school improvement, school turnaround, School Improvement Grant implementation, School Improvement Grant effectiveness, Race To The Top, high school students and high stakes testing, high school juniors, and standardized testing, math standardized testing, reading standardized testing, high school juniors and math high stakes tests, high school juniors Title I, Tier, Intervention models, and reading high stakes test.

Theoretical Framework

Lev Vygotsky's Sociocultural Theory of Learning provides the theoretical foundation for the quantitative correlational analysis study. Vygotsky's theory considers intellectual development, such as thought, language, and reasoning process, to be developed through social relationships and interactions and influenced by culture and interactions with other people. Vygotsky used the term *scaffolding* to explain the levels of external support a learner needs to achieve mastery of a task (Zaretskii, 2016). A pictorial illustration of the main components of the Sociocultural Theory of Learning is displayed in Figure 1.

Figure 1

Four Key Components of Vygotsky's Sociocultural Theory



The Scholastic Assessment Test is required by high school juniors across the United States for college admissions, with an evidence-based benchmark score of 480 for reading and writing and 530 for math tests to be considered college and career-ready (The College Board, 2019). To achieve high assessment scores, students should be engaged as active learners interacting daily with the environment to create complex intellectual structures to solve challenges (Mette & Stanoch, 2016). Vygotsky's theory helps explain how students acquire the knowledge and skills assessed by the Scholastic Assessment Test in their junior year. Students' progress through the steps of not completing a task independently, needing verbal support, needing guided assistance, and being able to complete the task self-sufficiently (Vinogradova, 2016). These four fundamental factors lead to internalization and independent thinking through cultural interactions along a student's educational journey (Vinogradova, 2016).

The ideologies of the Sociocultural Theory of Learning support high school juniors' need for meaningful adult contact. The emotional component of the Sociocultural Theory of Learning is critical. It helps the students in feeling protected, supported, and accepted by a skilled adult who encourages learners to transition from guided assistance to independent learning (Zaretskii, 2016). The Sociocultural Theory of Learning explains how general education forms an integrated system of universal awareness, abilities, skills, and student occurrences (Vinogradova, 2016). The four components of the Sociocultural Theory of Learning support independent learning activities, in which students need to take personal responsibility for problem-solving during these independent learning activities. Vygotsky understood cognitive development to follow the dialectical method, whereby the student learns through problem-solving experiences shared with someone else, such as parents, teachers, siblings, and peers (Vinogradova, 2016).

Vygotsky's Sociocultural Theory of Learning further points out how students become good independent assessment takers through social interaction stimulus, response to mediation, and artifacts in everyday life. Through the accentuating of artifacts in the student's social relations (Kim Anh & Marginson, 2013). Vygotsky's theory situates individual human subjects through social relations and historical time. The core of the theory is a dialectic relationship between the subject and society. Vygotsky created two fundamental notions for investigating mental and cultural development: mediational artifacts and the genetic method (Kim Anh & Marginson, 2013). Vygotsky believed created artifacts in learning development were essential to evolving learners into independent thinkers (Kim Anh & Marginson, 2013).

Created artifacts become both physical and psychological requirements affecting the environment and aid in the process of transformation and mastery for the rest of the students' lives (Kim Anh & Marginson, 2013). Placing a string around a finger to remember a task is an example of the mediation of artifacts component of the Sociocultural Theory of Learning. The string becomes the mediating tool. The analogy speaks to how students can be taught by teachers to become better assessment takers. A classroom analogy would be a teacher using the mnemonic device of HOMES[1] To help students remember the Great Lakes. The use of such mnemonic devices is a method for high school students to quickly learn and retain vast amounts of information (Putnam, 2015).

One of Vygotsky's main concepts for understanding behavior is signs (Kim Anh & Marginson, 2013). The Sociocultural Theory of Learning supports the fundamental characteristic of how all social behavior is influenced using symbols. Signs transfer

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HOMES is an acronym for the names of the Great Lakes, a group of lakes which lie along the border between the United States and Canada. They are lakes Huron, Ontario, Michigan, Erie, and Superior.

psychological functions to a qualitatively higher level and permit individuals, through the aid of extrinsic stimuli, to control behavior using stimuli from the outside world (Kim Anh & Marginson, 2013). High school teachers posting materials in classrooms related to the Scholastic Assessment Test math and reading subject areas would be an example of using extrinsic stimuli to aid learners. For high school students to maximize mathematical development on the Scholastic Assessment Test, Vygotsky's Sociocultural Theory of Learning may be a process involving communication, involvement, comprehensiveness, relationships, and cooperation (Walshaw, 2017). The all-inclusive approach to growth and thinking advocated by Vygotsky has been emphasized throughout the years by many psychological and anthropological adult-child studies (Walshaw, 2017). These studies accentuate Vygotsky's ideology on how in the progression of everyday interactions between a skilled adult and a student, scaffolding is provided to assist in the continued independent educational development of the student. The Scholastic Assessment Test requires a student to produce 13 separate responses, and the reading section necessitates five independent student responses, which would support Vygotsky's Sociocultural Theory of Learning component of having students become independent thinkers (SAT description, 2019).

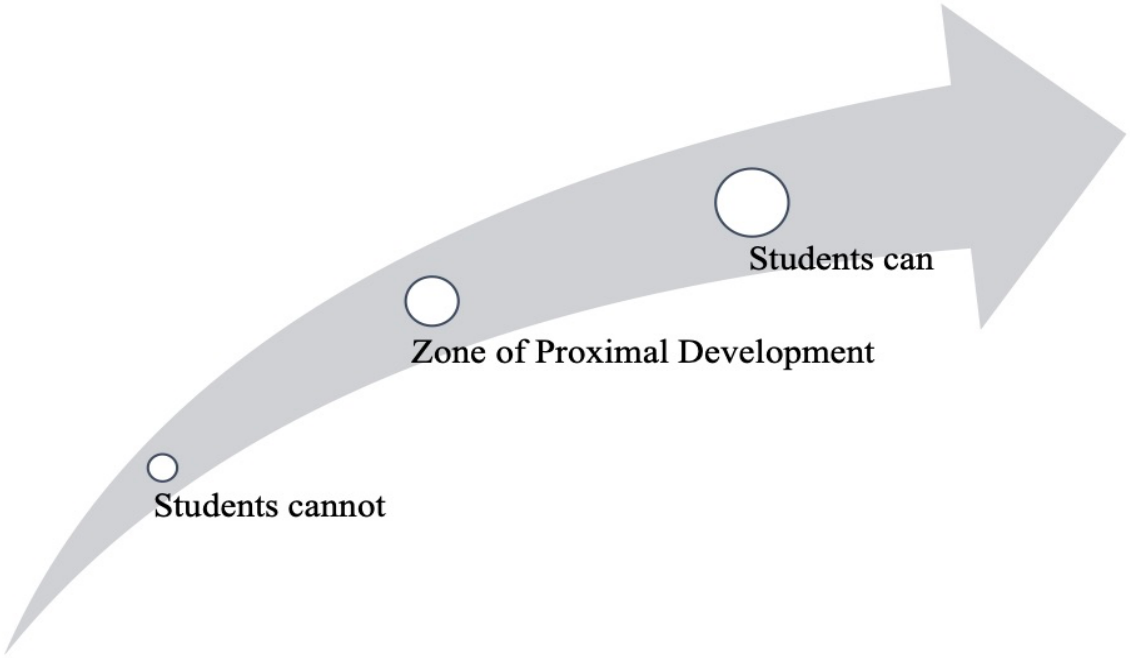
Zone of Proximal Development

Vygotsky considered the Zone of Proximal Development a fundamental concept of Sociocultural Theory of Learning. The Zone of Proximal Development is defined as the gap between the evolving level of understanding as determined by the autonomous student resolving problems and the level of latent development as determined through problem-solving under adult support or in cooperation with more proficient learners (Dastpak, Behjat, & Taghinezhad, 2017). Figure 2 offers a graphical representation of how the principles of the Zone of Proximal

Development relate to learners transitioning from dependent learning with adult encouragement to more independent education as high school juniors preparing for college readiness through academic programs. Teachers may promote a student's development by encouraging the student's capabilities (Guseva & Solomonovich, 2017). The teacher can anticipate the future development of the learner through formative and summative testing if a teacher is to be useful in a student's learning development.

Figure 2

The Zone of Proximal Development Student Learning Progression



Vygotsky believed that when educators study what a learner can do independently without outside cultural influence, educators become committed to learning only the student's past development. Studying a pupil's capability during cooperative learning allows the educator to investigate the future of the learner's development (Guseva & Solomonovich, 2017). The

Zone of Proximal Development emphasizes dialogue and social scaffolding for students, leading to independent test taking skills from proficient adults in a student's cultural environment (Guitart, 2018). To support the Zone of Proximal Development, teachers could encourage collaborative play in the early years, recess in the middle years, and lunch in the high school years. Collaborative play during a student's educational development is crucial because play starts to occur as a current educational, social understanding, and thought process because collaborative play integrates social roles, conservative rules, rational forms of conduct, and problem resolving (Guitart, 2018). These social understandings and thought processes are the platforms which may develop learners into independent individuals and proficient adults.

Researchers have viewed the Zone of Proximal Development as the key construct of the Sociocultural Theory of Learning (Carr & Weinmann, 2018). Teacher-to-student interaction and the educational development between the contact is the primary outcome of the Zone of Proximal Development. To have high school juniors collaboratively engaging with an expert on math and reading skills creates an educational, developmental difference and a path to independent learning on assessments such as The College Board's Scholastic Assessment Test (Carr & Weinmann, 2018). The ideology of the individual-centered concept can be embraced for the Zone of Proximal Development to be effective (Karimi-Aghdam, 2017). The individual-centered idea emerged from the unique activities and lived experiences of a person, mainly facilitated by sociohistorically-created accomplishments and semiotic artifacts. The Zone of Proximal Development concept could address why high school students from varying backgrounds tend to have high and low Scholastic Assessment Test scores.

The Zone of Proximal Development suggests the more high school students are exposed to activities through guided lived experience, the more they can have enriched knowledge to

recall. The recall of enriched knowledge could prepare them for college-readiness testing such as the Scholastic Assessment Test (Guitart, 2018). In the classroom and through project-based learning, educators have used scaffolded knowledge to increase teacher and student dialogue, with the primary objective of improving and moving students' learning progression from dependent to independent learners (Guitart, 2018). Scaffolded learning can be further assisted by a skilled adult or group of qualified peers supporting student learning development by helping during assessments, which falls within a learner's Zone of Proximal Development (Regalla & Peker, 2017). Interactionist methodology embedded in the Zone of Proximal Development also utilizes skilled individuals to start the scaffolding progression as implied support and through the student's learning developmental path transitions into overt assistance when required by the student (Regalla & Peker, 2017)

Dynamic Assessment

Dynamic Assessment is rooted in Vygotsky's concept of the Zone of Proximal Development, which accounts for a learner's development process. The principles of Dynamic Assessment support how high school juniors can benefit from mediated interaction with skilled adults in the Zone of Proximal Development to investigate a student's leraning strategies and ways in which theses strategies may be extended or enhanced (Shabani, 2016). Dynamic Assessment is the process incorporating evaluation and education into an integrated initiative aimed at simultaneously understanding and supporting learners' abilities through the Zone of Proximal Development (Shabani, 2016). The cycle of Dynamic Assessment is a collaborative test-intervention, and the retest procedure becomes a mental and psycho-educational evaluation model, which has been a standard practice for psychologists and astute educators (Khanahmadi & Sarkhosh, 2018).

Figure 3

The Cycle of Dynamic Assessment

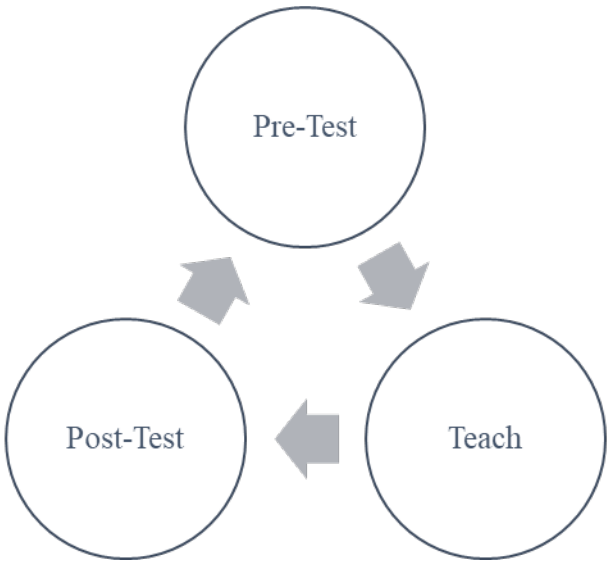


Figure 3 above represents a visual of how high school teachers would employ Dynamic Assessment to students taking a standardized test such as the Scholastic Assessment Test.

Dynamic Assessment occurs in academic activities supported by a proficient adult who understands the student's Zone of Proximal Development (Agheshteh, 2015). The student's Dynamic Assessment is useful in short-term learning. The assessments can be translated into long-term educational changes in mental development for high school students being assessed through the Scholastic Assessment Test (Agheshteh, 2015), Dynamic Assessment has been employed as an instrument for educating students on how to take multiple-choice exams, fill-in-the-blank, or open-ended essays (Daneshfar & Moharami, 2018). Dynamic Assessment is a specific kind of mediated assistance targeted at students' cognitive progress and used by competent individuals to lead the learners beyond their present level of development (Daneshfar & Moharami, 2018).

Mediated assistance is the academic root of Dynamic Assessment in Vygotsky's Sociocultural Theory of Learning and the Zone of Proximal Development. The mediation of parents, teachers, siblings, or high school peers is seen as the necessary foundation for the development of cognitive skills, which are all culturally mediated through life interactions (Nazari & Mansouri, 2014). The mediation would be comparable to high school students receiving tutoring from a skilled peer, teacher, or sibling in preparing for a standardized exam like the college Scholastic Assessment Test. The mediator serves as a scaffolder to help students acquire fundamental ideologies and strategies of task resolution. Learners internalize the strategies and solutions to become independent thinkers (Shabani, 2016). Dynamic Assessment creates a zone of internalization among students whereby abilities orginally residing in an indididual's social interactions become internalized and reemerge as new cognitive skills. (Shabani, 2016). Dynamic Assessment is a methodology for supporting distinctive differences and inferences for education, which embeds intervention within the assessment procedure (Nazari & Mansouri, 2014).

History of the Recovery Act of 2009

The history of the School Improvement Grant is embedded in the history of the Recovery Act. The worst post-World War II employment loss recorded in the United States was between 2007-2009 (Carley, 2016). International trade was suffering and had fallen to 20% during the first nine months of the 2007 economic recession (Carley, 2016). The world was being affected by the recession, and countries started to respond to financial stagnation by providing fiscal stimulus packages. The Recovery Act was the most significant budgetary stimulus package ever designed in American history, resulting in a contribution of over $800 billion to the economic stimulus package (Klein & Staal, 2017). The Senate passed the Recovery Act, and the House of

Representatives on February 13, 2009, signed the Recovey Act into law. On February 17, 2009, the Act became Public Law 111-5 (James-Burdumy & Wei, 2015).

The stimulus package under President Barack Obama's administration was created from a multi-purpose perspective. The purposes were to preserve and generate new employment opportunities for the nation; provide temporary relief to people who had been negatively affected by the decline of economics in America; and to invest in schooling, healthiness, the infrastructure of the nation, and renewable energy (James-Burdumy & Wei, 2015). Education received $100 billion, which included President Barack Obama's signature educational grant initiatives: Race to the Top and the School Improvement Grant (James-Burdumy & Wei, 2015). The research focuses on the School Improvement Grant, which funded academic programs. The Recovery Act provided unprecedented funding to Kindergarten through twelfth-grade education with the creation of the School Improvement Grant, which was a way to promote educational enhancement.

Public Law 111-5 highlights how the Recovery Act developed criteria for states to receive School Improvement Grant funds, which were based on advancing four definite instruction improvement priorities. States had to make sure local education agencies had been making growth towards demanding college and career-ready standards and high-quality evaluations which are useful and reliable for all learners. States had to guarantee local education agencies receiving the grant had or were creating pre-kindergarten to college and career information systems to provide a pathway for advancement and supporting continuous development for students. States had to ensure local education agencies had a structure whereby teacher efficiency and the equitable dissemination of qualified teachers for all pupils were being monitored and tracked. States, along with local education agencies, had to provide professional

development and educational services and program opportunities to faculty to provide rigorous support and successful interventions to the lowest-performing schools (Troppe et al., 2015). The purpose of these four academic priorities was to use the the Recovery Act's funds that was allocated to the School Improvement Grant to create academic programs for schools among the lowest-performing in the state.

These schools would be expected to raise academic performance from the lowest-performing to show progressive growth by becoming some of the top-performing schools in the state (Troppe et al., 2015). Given the sizable investment by the Recovery Act and the School Improvement Grant, an established policy was created by the U.S. Department of Education to know whether states and schools which received the School Improvement Grant were implementing the four guidelines and practices defined by the Recovery Act (King, 2017). The states and schools had to make the U.S. Department of Education aware of any policies and practices different from those of the states and schools not receiving the School Improvement Grant (Troppe et al., 2015). The last system of interest from the U.S. Department of Education was a report on whether the School Improvement Grant affected student achievement (Troppe et al., 2015).

This research emphasizes the unintended consequences of the Recovery Act. While the Act was intended to advance reforms such as challenging college and career-ready standards and creating high-quality evaluations, the changes ultimately created deregulation and privatization in the educational sector (Stern, 2013). States which followed the guidelines of the U.S. Department of Education for the two major grants—Race to the Top and the School Improvement Grant —received money. In contrast, those states which did not support the reforms did not received any financial support from the U.S. Department of Education (Stern,

2013). Receiving money from grants such as the School Improvement Grant was defined as a "single-shot game," whereby a grant is allocated in a short period and has no long-term implications once the grant cycle is completed (Carley, 2016). Receiving a School Improvement Grant was interpreted as a negative shock to the schools receiving the grant, because of the swift infusion of funds and the potential disturbance fast-paced and immense funding could create within a district and school (Carley, 2016).

The mission of the U.S. Department of Education is to stimulate educational merit and support all students regardless of race, faith, revenue level, gender, ability status, or any other demographic dynamics, ensuring learners have equal access to scholastic opportunities (King, 2017). When President Barack Obama was elected to office in 2009, key strategies and ventures were initiated, beginning with the Recovery Act stimulus. Since President Franklin Roosevelt's New Deal, the fiscal stimulus package from the Recovery Act was the first in the United States, which injected approximately $840 billion into the economy to target recession relief in 1933 (Carley, 2016). The Recovery Act enabled ambitious educational reform to hold students, teachers, parents, staff, and stakeholders accountable for setting high educational standards. Financial encouragement from contributions such as the School Improvement Grant and the academic programs funded through the Recovery Act stimulus package was an incentive for schools to apply. The School Improvement Grant provided much-needed support for ambitious educational reform in schools.

School Improvement Grant, Award, and Intervention Models

Evaluations of $3 billion School Improvement Grant showed varied results on the grant effectiveness in meeting the objectives of school districts and the U.S. Department of Education (Dragoset et al., 2015) Some studies indicate a strong correlation between receiving the School

Improvement Grant award and teacher-perceived positive changes (Le Floch et al., 2014). A survey of school turnaround and rural reform on a reservation that received the School Improvement Grant discovered the grant did not promote sustainable change among minority groups (Mette & Stanoch, 2016). Recent research found a wide range of results using multiple dependent variables related to the School Improvement Grant's effectiveness and various reforms implemented by the local education agencies, such as funded academic programs (Scott & Ostler, 2016).

A longitudinal study based on nearly a decade of data from a large urban school district implemented reforms funded by School Improvement Grants showed a distinctive pattern of results (Sun et al., 2017). For the first two years, schools showed gradual, modest improvement, followed by significant positive developments in the third year. The three-year pattern is consistent with the view that time is needed for widespread school turnaround with positive results to occur in schools (Sun et al., 2017). Mette (2014) underscored the need to understand not just what school improvement transformation efforts worked or did not work, but how a school system using School Improvement Grant-subsidized instructional programs.

Award

The passage of the Recovery Act created the School Improvement Grant, which underwent various changes. The first modification to the grant was a substantial boost to 6.5 times the original 2009 funding through Title I of the Elementary and Secondary Education Act (Le Floch et al., 2016). The second change was the targeting of Recovery Act financial support to only the lowest-performing schools, which were schools identified in the bottom five percent in the state in academic achievement over two years and beyond (Le Floch et al., 2016). The third and final modification to the School Improvement Grant required schools to put into effect

one of the four prescribed intervention models the U.S. Department of Education considered to be more scholastically assertive and extensive than those adopted under prior policies (Le Floch et al., 2016). The School Improvement Grant amount was awarded to schools categorized in one of three tiers.

Tier I included Title I elementary or secondary schools classified in the lowest five percent academically in the state or high schools with graduation rates of less than 60% for two subsequent years (Herrmann et al., 2014). Tier II eligible schools included secondary schools that did not receive Title I allocations but were classified in the lowest five percent in the state according to their assessment scores (Herrmann et al., 2014). Tier III funded elementary or secondary schools in the lowest five percent in academics and did not fall into the Tier I category (Herrmann et al., 2014). Districts and schools categorized in one of the three tiers had to complete a competitive application to the state education agency (Le Floch et al., 2014).

Intervention Models

A distinction was created between schools that received the School Improvement Grant award as being labeled as school turnaround models and not school improvement models (Player & Katz, 2016). School turnaround was defined as a process of transformation focused on rapidly improving schools, which have persistently been in the state's persistently low academic achievement category. School improvement was depicted by a slow, incremental set of modifications over time with a chosen school intervention model (Player & Katz, 2016). As part of the School Improvement Grant incentive, schools were required to select one of four intervention models: turnaround, restart, school closure, or transformation (Le Floch et al., 2014). One study discovered that nearly 93% of schools chose the intervention models of

transformation or turnaround to implement School Improvement Grant subsidized academic programs (Mette & Stanoch, 2016).

A turnaround model is defined as an intervention where the local education agency can replace the principal, grant the new principal flexibility to implement far-reaching approaches to improve student academic outcomes, raise high school graduation rates, use locally accepted proficiencies to gauge staff efficiency to meet the needs of the learners, create community-oriented schools, or replace 50% of the school staff (Deke & Dragoset, 2015). The transformation model is described as having local education agencies replace the principal, implement an educator and principal assessment system which would account for pupil success growth as an essential factor, embrace a new governance arrangement, institute all-inclusive instructional improvements, escalate learning time, and construct community-oriented schools (Dragoset et al., 2017). The restart intervention model is defined as requiring the schools to choose the pathway to close and reopen under an entirely new administrative governance of either a charter or educational management organization (Sun et al., 2017). The last intervention model required by the U.S. Department of Education is simply school closure, whereby the district closes the school and moves learners to higher-achieving schools (Sun et al., 2017). A study of intervention models selected based on population density found 313 urban schools out of 815 surveyed chose the transformation model (Mette & Stanoch, 2016). The transformation intervention model was the model of choice for all the high schools which participated in the research.

Standardized Testing and the Scholastic Assessment Test

The No Child Left Behind Act was signed into law in 2001. It was driven by a bipartisan concern about standardized test scores in the United States and discontent with the gaps of

achievement between the U.S. high school students and students across the world (Rubin, 2018). The passing of the No Child Left Behind Act of 2001 resulted in the improvement and use of standardized performance measures to address the gaps between U.S. and international learners through assessments such as the Scholastic Assessment Test (Brockmeier, Green, Pate, Tsemunhu, & Bochenko, 2014). The Scholastic Assessment Test is a standardized test composed of defining attributes including reliability in test supplies, detailed and dependable scoring rules, and the use of exact administration procedures (Betz, Eickhoff, & Sullivan, 2013).

Horace Mann designed and administered the first standardized test for the Boston public school system in 1845, and an average of 35.5% of the questions was answered correctly by the students (Maranto, 2015). The modest outcome raised inquiries around the rote memorization of facts and concerns about learners not acquiring an understanding of specifics, which contributed to resistance to standardized tests (Maranto, 2015). The argument against standardized testing rests primarily on what may be termed as established convergent learning (Tanner, 2013). The term convergent learning is defined as learning measured by a student's ability to make entirely foreseeable choices of answers (Tanner, 2013). In October, 2015, President Barack Obama, , conceded the emphasis on high stakes standardized testing in schools across the nation had gone to the extreme (Parfitt & Shane, 2016).

The curriculum delivered in public schools was reviewed and was found to be focused on academic programs from the adopted Common Core State Standards (Butterfield & Kindle, 2017). The schools' previous curriculum was realigned to the Common Core State Standards, which would have the potential to help every child in the United States be equipped for college and careers in the future (Butterfield & Kindle, 2017). The Common Core State Standards in the areas of English language arts and mathematics are the two primary academic areas scored and

evaluated for scholastic effectiveness on the Scholastic Assessment Test for college acceptance and career readiness. Standardized tests such as the Scholastic Assessment Test are based on Common Core State Standards, which stressed developing critical thinking, writing, speaking, and listening skills in the core high school subject areas of reading, math, science, and social studies (Pellegrino, 2014). One study, involving interviews with 75 teachers in 58 different public-school districts, found the classroom context of standardized testing should be a daily and verbal sequence of instruction from the teachers to have students be efficient on assessments like the Scholastic Assessment Test (Pellegrino, 2014).

In December 2015, the U.S. Department of Education identified 13 states as having missed the mark of the 95% participation rate during the state standardized assessment test (Bennett, 2016). As the U.S. Department of Education further examined the warning letters sent to states, accessible documentation and news coverage suggest the nonparticipation rate across the country was on the rise for students not taking a standardized test (Bennett, 2016). The long-held maxim in which no single test result should be used to make decisions about an individual is supported by research. Academic success should be based on multiple factors and requires hypothetical thinking from students (Tanner, 2013). The School Improvement Grant academic programs, coupled with the No Child Left Behind Act of 2001, have been broadly condemned for compelling educators to devote the bulk of educational time to Scholastic Assessment Test and American College Test preparation (Diskke-Hondzel, 2014). Educators hand out “drill and kill” assignments rather than teaching genuine assessment and learning to meet the needs of standardized testing pressure (Diskke-Hondzel, 2014). By contrast, Ontario’s province-wide tests are standards-based, which means students are linked to an anticipated standard of achievement constructed on course standards and benchmarks. The results are not related to school finance or

educators' evaluations (Diskke-Hondzel, 2014). School districts use standardized tests, such as the high school Scholastic Assessment Test and the American College Test, because the exams determine educational status in America and have a crucial gatekeeper position with the college admissions process (Park & Becks, 2015).

Scholastic Assessment Tests

High school plays a dominant role in a learner's scholastic experience, and the experience is all a part of a more extensive network, including families, community, neighborhood, and additional educational resources such as the Scholastic Assessment Test preparation (Park & Becks, 2015). The Scholastic Assessment Test is used to influence college and university admissions and placement, but inequities exist regarding race, socioeconomic status, and high school Scholastic Assessment Test preparation. The Scholastic Assessment Test preparation supplies can cost at least $25, and test-preparation courses and tuition can cost up to $6,600 (Toldson & McGee, 2014). Scholastic Assessment Test training programs focus on the meaning of words, aptitude to understand how sentences fit together logically, and the ability to comprehend, investigate, assess, and draw interpretations from reading passages of varying lengths (Chubbuck, Curley, & King, 2016). The Scholastic Assessment Test preparation course cost can be subsidized through the School Improvement Grant for all students. More prosperous families spend money to tutor their children to better prepare them to take the Scholastic Assessment Test, which often encompasses skills and knowledge students should have gained in high school (Toldson & McGee, 2014).

Teenagers of White, wealthy, college-educated parents were reported as benefitting from the Scholastic Assessment Test and American College Test preparation (Klos, 2019). With states receiving $68.8 billion in funding from School Improvement Grants for the lowest-performing

schools and students, test preparation courses for the Scholastic Assessment Test and the American College Test should not be a financial challenge to public high school students (Troppe et al., 2015). College admission tests such as the Scholastic Assessment Test were found to have a robust analytical influence after the variable of socioeconomic status had been controlled for in predicting academic performance in college (Higdem et al., 2016). The Scholastic Assessment Test characteristically gives unconnected questions concerning which minority students have almost no prior knowledge to answer correctly (Gilmore, 2016).

High-Stakes Tests

Educators across the United States have long felt the pressure and anxiety in preparing high school students for high-stakes exams such as the Scholastic Assessment Test and the American College Test. New generations of reading and math examinations not only can be used to assess student proficiency levels in meeting Common Core State Standards but are a significant consideration in high school students entering a college of choice (Dougherty, Stahl, & Schweid, 2013). High-stakes assessment is part of a policy created and used for accountability measures among states with significant consequences based on failure to meet answerability measures as defined by exams such as the Scholastic Assessment Test (Gonzalez et al., 2017). Understanding the role of high-stakes tests is crucial since these exams have become a standard reference for authorities to make critical decisions about schools, teachers, and students, such as college admission, recruitment, and promotion (Hartono, 2019). Most studies of the pressure and anxiety brought about by high-stakes assessments have focused on only one curriculum area such as reading or math (Hartono, 2019).

The No Child Left Behind Act of 2001 was the first U.S. law with consequences for the nation's schools based on students' standardized test scores (Whitney & Candelaria, 2017). The

Every Student Succeeds Act succeeded the No Child Left Behind Act, which ended in December 2015 (Whitney & Candelaria, 2017). Studies have found high-stakes evaluations under the Every Student Succeeds Act have increased the number of multiple-choice questions, which has led to a deficiency of application, investigation, synthesis, and evaluation types of questions on standardized assessments (Block, 2015).

Research results are inconsistent on the effects of high stakes assessments on teachers and students. Advocates have positively stated high-stakes exams help improve performance and scores on standardized testing and raise expectations in schools, which places the burden for change on educators and learners (Mueller & Cooley, 2015). Most of the research on the effects of high-stakes testing has focused on teachers and students, with less attention to the perceptions, reactions, and responses of administrators such as principals. Principals' leadership practices have been identified as one of the critical components to the school's success in high-stake testing environments, along with educators and the students (Vang, 2015).

High-Stakes Test Cheating

The overemphasis on high-stakes exams such as the Scholastic Assessment Test has created an educational philosophy among teachers to focus on the scores these assessments produce rather than the achievement levels the students have attained (Gonzalez et al., 2017). The high-stakes educational environment has caused teachers to emphasize drilling and memorization, which reduces learning depth (Morgan, 2016). Unfortunately, in a high-stakes testing environment, corruption and cheating are sometimes used to avoid the consequences of failing (Morgan, 2016). High stakes cheating has been classified in two ways: planned cheating and panic cheating (Daffin & Jones, 2018).

Planned cheating is premediated and encompasses aids to support the attitude of deception, such as cheat sheets or copying homework (Daffin & Jones, 2018). The second form of cheating from the pressure of high- stakes exams is panic cheating, whereby the students or teachers realize what is at stake for the test. and eyes start to look around the room as students look for answers from their peers' tests, or the teacher gives students subtle hints to the answers (Daffin & Jones, 2018). If a teacher knows the content of a high-stakes exam and reveals the content to the students, the teacher undermines the exam as an objective measure; a practice deemed high-stakes cheating and teaching to the test (Phelps, 2016). A relevant question is whether teaching to the test should be considered cheating. Teaching to the test has been a catchphrase or mantra in high schools across the country for over three decades; the phrase is used to distract attention from the pervasive challenge for educators to maintain the integrity of high-stakes evaluations utilized to assess performance (Phelps, 2016).

A school level study collected data from eight sections of students enrolled in an international business course. Online surveys were was administered (N = 178) to students, asking whether retaking a high-stakes test to earn a higher result would create a better feeling of doing better rather than cheating (Sullivan, 2016). Eighty-three percent of the students surveyed agreed the option to retake a high-stakes exam influenced the students to perform better rather than trying to cheat (Sullivan, 2016). The research results make a case for high school students taking the Scholastic Assessment Test to be able to take the exam multiple times, with the highest score being recorded for college entrance. Although high-stakes cheating is considered a victimless crime, the penalties for others involved can obstruct the accurate assessment of students' scholastic aptitude (Miller, Murdock, & Grotewiel, 2017). Many issues affect the use

of instructor-generated exams for evaluating learners, especially the variability in content and scoring from teacher to teacher in the same subject area (Stotsky, 2016).

The early part of the 1990s introduced consequences for inadequate academic assessment performance from students under federal guidelines in the name of accountability, which fell more upon teachers than students (Stotsky, 2016). The fear of negative repercussions brought about the practice by teachers of teaching to the test, which is a pedagogical approach achieved prominence as a response to the efforts of President George Bush and President Barack Obama's administration, which initiated public school accountability through assessment testing (Stotsky, 2016). Teaching to the test has been criticized as a form of high stakes cheating because the practice takes away the instructor's focus from regular scholastic instruction during class time. The instructional focus becomes receiving a high test score on high stakes standardized tests such as the Scholastic Assessment Test for high school juniors. (Stotsky, 2016).

High-Stakes Testing in Reading

In the United States, there has been an increasing demand for learners to demonstrate literacy aptitude through high-stakes tests. A standardized test of reading is designed to measure proficiency in reading comprehension, which requires students to have the ability to decode and make inferences (Wood, Hart, Little, & Phillips, 2016) To prepare high school students for a high-stakes exam like the Scholastic Assessment Test, elementary schools often select a standardized assessment for students attending third grade and above which assesses reading comprehension proficiencies (Grapin, Kranzler, Joyce-Beaulieu, & Algina, 2017).

Response to intervention is a data-driven model using academic programs to encourage struggling learners in core areas such as reading and math. These research-authenticated interventions are progress monitored by teachers (Anselmo, Yarbrough, & Kovaleski, 2017).

Such curriculum-based measurement has been used for over 35 years along with formative assessment, which is a critical element of the Response to Intervention system for developing fluency-based assessments in reading (Anselmo et al., 2017). Fluency in reading is a prerequisite for a high school student to be successful on standardized tests like the Scholastic Assessment Test. Reading fluency is challenging to accomplish without higher-order thinking skills (Afflerbach, Cho, & Kim, 2015). Higher-order thinking skills in reading are described as goal-directed, responsive, and self-regulated (Afflerbach et al., 2015). The reading section of the Scholastic Assessment Test is one of two critical categories scrutinized by the U.S. Department of Education, state departments of education, school districts, and colleges for admission and is the foremost priority in high schools across the nation, because of the demand of classes relying on students acquiring knowledge in all subjects through the reading and understanding of the text (Wood et al., 2016)

Policy on standardized high-stakes assessment at the national, state, and local levels can be counterproductive to regular day-to-day teaching for local school administration, teachers, students, and staff, when policy forces teaching staff to focus exclusively on high-stakes testing measures of students' reading aptitudes (Zoch, 2017). The counter-productivity can be reversed into productivity in programs where fluency and reading comprehension are interwoven throughout the instructional day, which results in fluent readers who can decode words and passages accurately and quickly (Jefferson, Grant, & Sander, 2017). Goal-directed reading is accomplished when students use strategies to identify, select, apply, revise, and evaluate passages and text (Afflerbach et al., 2015). Goal-directed reading is just one of the chief strategies employed by schools. The rigor involved in tactics like goal-directed reading in preparing high school students for high-stakes tests can be difficult for struggling students.

Teachers still see the value in implementing the tenets of reading rigor, demanding assessments, and scaffolding instruction to prepare high school students for high stakes reading examinations (Mueller & Cooley, 2015).

High-Stakes Testing in Math

High stakes testing in math has been intensely emphasized since the 1970s when the federal government started to decree and demand accountability for standardized exams for high schools (Gonzalez et al., 2017). One of the major complaints about why high stakes testing in math should be minimized in schools is the limitation and narrowing of the curriculum. The concern is only the necessary skills found in the standardized exam materials are being emphasized. (Arroyo-Romano, 2016).

The study of gender differences in high stakes math testing was researched in Poland (Zawistowska, 2017). The results revealed factors other than narrow content-based instruction affect high-stakes math assessment, including self-confidence, predisposition to risk, risk antipathy, score nervousness, and the cognitive abilities of the learner (Zawistowska, 2017). Sixty-one percent of ninth-grade New Zealand female students taking math classes, math test prep, or high-stakes math assessments reported fearing getting poor scores (Zawistowska, 2017). Fifty-nine percent of ninth graders were concerned about future difficultly in math courses, 31% were uneasy doing math computations, and 30% have a feeling of ineffectiveness when doing math sums (Mann & Walshaw, 2019). The findings of Mann and Walshaw (2019) and those of Zawistowska (2017) suggest a need for academic programs, including School Improvement Grant-funded programs, to help students with math exam anxieties. Mathematics anxiety should be addressed so high school students become comfortable taking high-stakes assessments like the Scholastic Assessment Test.

Results of the National Assessment of Educational Progress show the need for School Improvement Grant-funded academic programs for high school students, which support reading and math focused learning (Starr & Spellings, 2014). The National Assessment of Educational Progress has identified U.S. students are falling short in math and reading, with scores showing only 34% of the nation's eighth-graders are skilled in reading, and only 43% are competent in math (Starr & Spellings, 2014). The academic ability of the nation's eighth-grade students, if not addressed, may have a direct impact on high school students when in a high-stakes testing environment for math and reading. Classroom instructors should entice learners' attention to the value placed on educational qualifications and specific prerequisites such as math, by businesses and postsecondary mechanical, vocational, and academic education (Putwain & Symes, 2014).

Due to the high-stakes value placed on math scores from standardized exams including the Scholastic Assessment Test in high schools, teachers have to reduce educational time in other core subject areas such as social studies and the sciences (Gonzalez et al., 2017). Reduced time has affected the curriculum standards by having teachers focus on content objectives that are relevant to high-stakes assessments (Gonzalez et al., 2017). Focusing attention on math and reading while minimizing other core subjects could lead to students being more motivated to study math, which has been correlated to higher scores on high-stakes math examinations (Guy, Cornick, & Beckford, 2015). The U.S. Department of Education has invested billions of dollars per year on math and reading testing, along with the other core subjects with little or mixed research supporting the department's efforts (Breiner, 2015).

Chapter Summary

The literature search strategy and the theoretical framework guiding the quantitative correlational analysis study were detailed in Chapter 2. A literature-based history of the

American Recovery and Reinvestment Act of 2009, School Improvement Grant, how the School Improvement Grant was awarded, and the various School Improvement Grant intervention models were addressed in the chapter. The literature reviewed included investigations of standardized testing, the Scholastic Assessment Test, high-stakes tests, high-stakes test cheating, math high-stakes tests, and reading high-stakes tests. The literature revealed a severe gap in studies of the effectiveness of School Improvement Grant-funded academic programs. The few studies found were not peer-reviewed or not in the period applicable to the research.

Findings are inconclusive on whether the various types of academic programs funded by School Improvement Grants improved student outcomes (Dragoset et al., 2015). No studies were found to connect the gap between theory and practice between School Improvement Grant funded academic programs and school improvement (Mette & Stanoch, 2016). Few studies longitudinally tracked reforms in school districts, which reported a narrowing of the achievement gap due to School Improvement Grant funded reforms (Sun et al., 2017). A noteworthy gap was revealed among school districts using School Improvement Grant funding for test-prep programs (Toldson & McGee, 2014). The comprehensive search found no studies between the years 2013-2019 on whether School Improvement Grant funded academic programs at the high school level were effective in improving student learning outcomes as measured by standardized test scores in reading and mathematics. Many authors reported a continuing need for additional research on whether the School Improvement Grant funded academic programs improve students' academic achievement**.**

The U.S. Department of Education granted sizeable amounts of financial support to improve the nation's math and reading standardized high-stakes assessment scores. The research addressed how the demand has led to focused educational time in only math and reading

(Gonzalez et al., 2017). The purpose of the quantitative correlational analysis study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. state. The quantitative correlational analysis study can help fill the gap in determining if a correlation exists between School Improvemnet Grant funded academic programs and Scholastic Assessment Test scores in math and reading.

The methodology for the quantitative correlational analysis study was introduced in Chapter 3. The quantitative correlational analysis study seeks to determine whether a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading for juniors at four large urban high schools in a northern U.S. state. A correlational design was applied to address the investigative questions and hypotheses and provides an opportunity to determine if a correlation exists between the inclusion of the dichotomous (School Improvement Grant funded academic programs, no School Improvement Grant Funded academic programs) variable of School Improvement Grant funded academic programs and Scholastic Assessment Test scores for math and reading (Creswell, 2014). The research questions focus on the correlation between the various math and reading programs the high schools have implemented with the support of School Improvement Grant funding.

The research questions address the concerns of the academic achievement of students at schools with School Improvement Grant subsidized programs and whether funding of these programs was a cogent allocation of School Improvement Grant aid. The School Improvement Grant financed programs included in the scope of the quantitative correlational analysis study were launched during the 2017 school year and culminated in the 2019 school year. The study

does not involve any experimental investigation; no interventions were existent during the research.

Chapter 3: Methodology

In response to the existence of a continued national academic achievement gap President Barack Obama in 2007 signed into law the American Recovery and Reinvestment Act of 2009 (Dragoset et al., 2017). President Barack Obama's determination to narrow the achievement gap included several significant investments in education through federal investments such as the race to the Top, Investing in Innovation, State Educational Technology Grants, and the School Improvement Grant, among many others. Highlighting the educational investment of the American Recovery and Reinvestment Act of 2009, states and school districts received over $100 billion to hire teachers and champion innovation in schools, which included $3 billion for the School Improvement Grants (Dragoset et al., 2017).

The purpose of the quantitative correlational analysis study was to determine if a correlation exists between the inclusion of the dichotomous variable of School Improvement Grant funded academic programs (independent variable), no School Improvement Grant funded educational programs (independent variable), Scholastic Assessment Test scores in math (dependent variable), and reading (dependent variable) in a large urban school district in a northern U.S. state. Dependent variable A is the Scholastic Assessment Test Math scores, and dependent variable B is the Scholastic Assessment Tests Reading scores. Correlational research can provide an opportunity to calculate and describe the correlation between two or more sets of scores (Creswell, 2014). The variables cannot be controlled or manipulated in the study, but the variables may be statistically tested to determine if a correlation exists.

Research Design and Rationale

The research methodology of quantitative research is applicable for the study because the research problem is based on the need to determine if there exists a correlation between the

inclusion of the dichotomous variable of School Improvement Grant funded academic programs (independent variable), no School Improvement Grant funded educational programs (independent variable) and Scholastic Assessment Test scores in math (dependent variable) and reading (dependent variable) in a large urban school district in a northern U.S. state. The research problem may require an explanation of how one variable is correlated with another variable. A correlational design was suitable to address the research questions and hypotheses because the chosen design could help to determine if a correlation exists between the inclusion of the dichotomous variable of School Improvement Grant funded academic programs or no School Improvement Grant Funded academic programs and Scholastic Assessment Test scores in math and reading (Creswell, 2014).

Correlation between the dichotomous variable of School Improvement Grant funded academic programs, and no School Improvement Grant funded academic programs variable were analyzed using a point-biserial correlation (r_{pb}); the technique is an application of Pearson product-moment correlation (LeBlanc & Cox, 2017). The focus of the research questions was the correlation between the inclusion of the dichotomous (School Improvement Grant funded academic programs, or no School Improvement Grant Funded academic programs) variable of School Improvement Grant funded academic programs and various math and reading courses the high schools have implemented, with support of School Improvement Grant funds on Scholastic Assessment Test scores in Math and Reading in a large urban school district in a northern U.S. state.

The research questions focused on the need to address academic achievement issues using School Improvement Grant funded educational programs and if future funding of these programs is an efficient allocation of School Improvement Grant funding. A correlational study

method was used to research four high schools during the three years of 2017-2019. The School Improvement Grant funded academic programs utilized for the research data collection commenced during the 2017 school year and ended during the 2019 school year. Larger sample size would increase the accuracy of the statistical test, but due to the ending of the program, time was prohibitive in conducting a comprehensive study (Bujang & Baharum, 2016).

Point-biserial correlation r_{pb} was applied to the study because the statistical test was used to determine if a correlation exists between the inclusion of the dichotomous variable of School Improvement Grant funded academic programs (independent variable), no School Improvement Grant funded academic programs (independent variable) and Scholastic Assessment Test scores in math (dependent variable) and reading (dependent variable) in a large urban school district in a northern U.S. state. A numerical value of 1 was assigned to school with no School Improvement Grant funded academic programs, and a numerical value of 2, was assigned to schools who implemented School Improvement Grant funded academic programs (Creswell, 2014). The study did not involve any experimental research, and no interventions were present during the investigation.

Research Procedures

Two high schools have used School Improvement Grant funding for Scholastic Assessment Test programs for eleventh-grade classes, and two have not used School Improvement Grant funding for Scholastic Assessment Test examination courses for eleventh-grade students. The two variables of math and reading Scholastic Assessment Test scores were assessed for a statistical correlation between School Improvement Grant funded school programs and no School Improvement Grant funded school programs. Standardized testing results did provide the data needed to determine if a correlation exists between the inclusion of School

Improvement Grant funded academic programs and Scholastic Assessment Test scores for juniors at four large urban high schools in a northern U.S. state. Standardized Scholastic Assessment Test scores were used as a valid measure of academic achievement for math and reading because the test was governed and scored in an identical method across all students (Betz et al., 2013).

Population and Sample Selection

The research examined the Scholastic Assessment Test results of high school juniors who have completed a full academic year between 2017-2019. The sample size was 895 students from four schools in a large urban district in a northern U.S. state. The research sample size has implications for the power associated with a statistical test (Boyle, Whittaker, Eyal, & McCarthy, 2017). The term power is expressed as the ability to detect a correlation if one exists (Boyle et al., 2017). The larger the sample size, the less possible values and outliers that skew the data can be minimized (Zamboni, 2018). Convenience is the sampling method chosen for the research, which includes populations who happen to be most accessible (Creswell, 2014). The population from which the data were convenience sampled was juniors from four urban high schools in a northern U.S. state. The research used secondary data accessed and used from the Bureau of Assessment and Accountability secured website for the Scholastic Assessment Test scores for all high school juniors who were administered the Scholastic Assessment Test exam during the three years between 2017-2019.

Inclusion criteria were data from high school juniors who completed a full academic year between the three years of 2017-2019. Data from students who did not complete a full academic year in the time frame were not included. A letter of consent to access student Scholastic

Assessment Test scores from the School Improvement Grant building pincipals of the four schools in the research was included (See Appendix A).

Student data is protected under the Family Educational Rights and Privacy Act, which was enacted in 1974 (Schrameyer, Graves, Hua, & Brandt, 2016). Every student was initially coded with an eight-digit Scholastic Assessment Test registration number, which only the individual student and family would know. This provides privacy for students and is in alignment with the Scholastic Assessment Test guidelines and regulations for testing students (The College Board, 2018). The code protects the participation and confidentiality of all students who have taken the state Scholastic Assessment Test. A second coding system is used to protect identity further using SPSS software.

Instrumentation

The research examined secondary archival longitudinal data from The College Board's Scholastic Assessment Test examination for the study period between 2017-2019. Data collection came from the Bureau of Assessment and Accountability secured website. The data were supplied from the data coaches and assistant principals at schools. These three years represented the most recent data at the time of data collection. The level of data for the study is a factor in determining the future funding of School Improvement Grant funded high school programs in a large urban district in a northern U.S. state. The Scholastic Assessment Test scores are standard scores and percentile ranks, which are the most common metrics reported for performance on homogenous examinations and are used as interval data (Gomez & Cheramine, 2018). The signed letter of permission from the School Improvement Grant building principals is obtained through a letter of consent to gain access to the Scholastic Assessment Test math and reading scores of the high school juniors (See Appendices B-E).

The research instruments of the study were secondary data including the identity of School Improvement Grant funded high school programs, no School Improvement Grant funded high school programs, Scholastic Assessment Test scores for math, and Scholastic Assessment Test reading scores for high school juniors in the respective schools. The data were supplied by the designated data coaches and assistant principals at the schools. Secondary data is every dataset not collected during the research, or the analysis of the data gathered was by someone else (Serra, Martins, & da Cunha, 2018). Secondary Scholastic Assessment Test data was used for the research. The data was retrieved from the College Board, founded in 1900, with the primary mission to expand access to higher education (The College Board, 2019). Scholastic Assessment Test data were a standardized, validated instrument suitable for the research.

The secondary data of math and reading Scholastic Assessment Test scores were a part of the interval data collected during the research. Permission was granted at each of the large urban high schools in a northern U.S. state. Standardized test scores for the Scholastic Assessment Test math and reading were valid because the test measures the academic achievement of those core areas and is stable, reliable, and dependable interval data (Houghton, Casey, Shaw, & Murphy, 2013).

Data Collection

To obtain the needed data for the study, the following steps were implemented: (a) gained permission via signed consent from the principals who have the autonomy to represent the district in building level decisions to grant access of secondary Scholastic Assessment Test data; (b) received secondary Scholastic Assessment Test data from the school building data coaches and assistant principals; (c) coded data to protect the identity of students; (d) inputted data into the SPSS program.

The performance evaluation of the Scholastic Assessment Test scores, along with the dichotomous variable (School Improvement Grant funded academic programs, or no School Improvement Grant Funded academic programs) designation, is entered into SPSS 25.0 for statistical analysis. The procedure consisted of examining, logging, and entering data using a personal password-protected laptop computer and saving the information to a password-protected cloud storage area for three years, which is a Health and Human Services regulation of Institutional Review Board records (U.S. Department of Health & Human Services, 2018). There were no original credentials or copies of documents removed from the high schools. Preceding the beginning of data collection and the analysis of secondary data sets (Serra et al., 2018), a signed permission letter to building principals was secured. The signed permission letter authorized personnel who had access to the Bureau of Assessment and Accountability secure website to release the needed data and inform each research participant of the research focus (Appendices B-E). Secondary data does not require an exit or debriefing procedure for participants. Data from non-full academic year students were filtered from the Bureau of Assessment and Accountability before release for the Statistical Package for the Social Sciences testing.

Data Analysis

The SPSS software was used for data analysis. The secondary data comes directly from the Bureau of Assessment and Accountability secure website to be inputted into SPSS for a clean set of interval data. The statistical test used to test the hypotheses was the research methodology of point-biserial correlation r_{pb}. Point-biserial correlation r_{pb} is a statistical procedure used to study the correlation between a continuous variable such as Scholastic Assessment Test math and reading scores and a dichotomous variable, such as

School Improvement Grant funded academic programs and no School Improvement Grant funded academic programs (LeBlanc & Cox, 2017). The main objective of interpreting point-biserial correlation r_{pb} is to determine if the research questions should be kept in the examination, based on the magnitude of the correlation and if the correlation is positive or negative (LeBlanc & Cox, 2017). If one of the research questions produced a significant positive correlation, the question was considered informative (LeBlanc & Cox, 2017). If a question created a sizeable negative correlation, it was investigated for errors and inputted into the Statistical Package for the Social Sciences.

The two research questions organized the analysis of the data. Research questions were posed to determine if a statistical correlation existed between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state. Math scores were analyzed first while comparing School Improvement Grant funded academic programs to no School Improvement Grant funded educational programs. Research question two was used to inquire if a statistical correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state. Reading scores were examined second while comparing School Improvement Grant funded academic programs to no School Improvement Grant funded academic programs.

Data Analysis Plan

To accurately and adequately analyze the collected data, the following steps were conducted: (a) data were imported into the SPSS program; (b) School Improvement Grant

funded high school programs data were compared to math Scholastic Assessment Test scores using Pearson; (c) data from math-focused high school programs not funded by School Improvement Grant funds were compared to math Scholastic Assessment Test scores using Pearson; (d) data from Step 2 and Step 3 were analyzed for a statistical correlation using point-biserial correlation r_{pb}; (e) School Improvement Grant funded high school academic programs data were compared to reading Scholastic Assessment Test scores using Pearson; (f) data from reading focused high school programs not funded by School Improvement Grant funds were compared to reading Scholastic Assessment Test scores using Pearson; and (g) data from Step 5 and 6 were analyzed for a statistical correlation using point-biserial correlation r_{pb}.

Reliability and Validity

Validation of findings occurs during the steps of the research process (Creswell, 2014). One threat of the validity of the study could be testing validity. Testing validity occurs when participants become familiar with outcome measures and remember responses for later testing (Creswell, 2014). For the study, testing validity could occur as students can repeat the Scholastic Assessment Test as often as the student chooses up until high school graduation. Only the most recent scores were included in the data requested by the Bureau of Assessment and Accountability to compensate for the threat.

Threats to external validity could come from incorrect data entry in the SPSS program. The data should be inputted into SPSS accurately to account for the threat. There were no threats to internal validity because the math and reading Scholastic Assessment Test scores are within the 2017-2019 academic years, and no historical mortality exists. Scholastic Assessment Test scores are reliable and valid. The point-biserial correlation r_{pb} test is a measurement of item

reliability with ranges of a low of -1.0 to a high of 1.0 (Creswell, 2014). The reliability was not a concern because of the nature of point-biserial correlational r_{pb} testing. There were no threats to objectivity because of the nature of the correlational design.

Ethical Procedures

The research was based on the investigation of secondary data in the form of Scholastic Assessment Test examination scores. The students involved had the Scholastic Assessment Test scores secured through a coding system, which contained an eight-digit number, which became the student's Scholastic Assessment Test registration number. No human subjects were used in the study (U.S. Department of Health & Human Services, 2018).

The eight-digit code safeguarded the contribution and privacy of all students who took the Scholastic Assessment Test. Permission to use the data was secured through a signed letter of permission from the building principals who have the autonomy to represent the district in building level decisions (Appendices B-E). Only the school's administrative team was knowledgeable of the codes assigned to students according to the Scholastic Assessment Test procedures and protocols for testing students developed by The College Board (2018). Access to the anonymous data is restricted on a password-protected laptop. The data will be destroyed three years after the conclusion of the study.

Chapter Summary

The purpose of the quantitative correlational analysis study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and Scholastic Assessment Test scores in math (dependent variable) and reading (dependent variable) in a large urban school district in a northern U.S. state. The methods which guided the research, including the relevance of the quantitative

correlative design, the sampling method, and how data were collected were outlined in Chapter 3. The study was intended to contribute to the larger body of knowledge in granting government and state grants. School-level data can help to contribute to future decisions on math and reading School Improvement Grant funded academic programs.

Chapter 4: Research Findings and Data Analysis Results

In response to the existence of a continued national academic achievement gap, President Barack Obama signed into law the American Recovery and Reinvestment Act of 2009 (Dragoset et al., 2017). President Barack Obama's determination to narrow the achievement gap included several significant investments in the education system through federal investments such as Race to the Top, Investing in Innovation, State Educational Technology Grants, and the School Improvement Grant, among many others. Highlighting the educational investment of the American Recovery and Reinvestment Act of 2009, states and school districts received over $100 billion to hire teachers and champion innovation in schools, which included $3 billion for the School Improvement Grants (Dragoset et al., 2017).

The problem was in one northern U.S. state, only 14 persistently lowest-achieving schools were designated as cohort V (schools who have received the School Improvement Grant for five years). The study focused on four of the 14 schools, where each received a state allocation of $750,000 annually from 2016-2020 (McVicar, 2016). The intervention programs selected by the schools in math and reading might show academic improvement for eleventh-grade students. If improvements were not shown, then programs would be deemed ineffective, and the schools would be at risk of funding not being extended. Little literature was available on exploring School Improvement Grant funding of specific intervention programs (Ginsburg & Smith, 2018).

The purpose of the quantitative correlational study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. state. The study was focused on whether these programs effectively improve Scholastic

Assessment Test scores in math and reading. A correlational design was suitable to address the research questions and hypotheses because the chosen design helped to determine if a correlation exists between the dichotomous variable of School Improvement Grant funded academic programs, no School Improvement Grant funded academic programs, and math and reading Scholastic Assessment Test scores (Creswell, 2014).

An analysis of the data collected during the research is addressed in Chapter 4. Analytical, educational results about School Improvement Grant funded academic programs discovered through data collection was provided for purposes of comparison with other School Improvement Grant funded academic programs among other educational, government, state, and school-level entities. The outcomes of the statistical analyses are synopsized in Chapter 4, as described in Chapter 3. A discussion of the results to address the research questions and hypotheses in the study is provided in Chapter 4.

Data Collection

The data were collected from a full academic year of high school juniors in four schools in a large urban district in a northern U.S. state for the school years between 2017-2019. Preceding the initiation of data collection, informed consent research participation documents were delivered face-to-face to the four high school principals on May 13, 2019, through May 23, 2019 (Appendix A), which included an option not to take part in the research. None of the principals decided to opt-out of the study. The principals, who have the autonomy to represent the district in building level decisions, were asked to sign permission letters between May 13, 2019, through May 23, 2019; granting access to non-public Scholastic Assessment Test data for math and reading scores of high school juniors between 2017-2019 (Appendix B-E). Data collection occurred by email over three weeks from March 11, 2020, through April 1, 2020.

Deviation from the data collection plan proposed procedures was nonexistent.

The estimated sample size of 895 students was surpassed for the Scholastic Assessment Test continuous dependent variable A of math by 19% (N=1061) of high school juniors during the years of 2017-2019. The estimated sample size for the Scholastic Assessment Test continuous dependent variable B of reading was surpassed by 18% (N=1053) of high school juniors during the same time frame. The educational data of the dichotomous variable of the inclusion of School Improvement Grant funded academic programs was assigned the numerical value of one (no) to high schools, which did not utilize School Improvement Grant funds for Scholastic Assessment Test academic programs. The educational data of the dichotomous variable of the inclusion of School Improvement Grant funded academic programs was assigned the numerical value of two (yes) to high schools, which utilized School Improvement Grant funds for Scholastic Assessment Test academic programs. The participating four high schools in the study provided demographic characteristics of high school juniors from the 2017-2019 school years, which are summarized in Table 1.

Table 1

Demographic Characteristics of the Sample Population

School	Year	No. Juniors	Female	Male	A.A.	Hispanic	Asian	N.H	White	E. D
1	2017	130	59	71	130	0	0	0	0	110
2	2017	46	24	22	45	0	1	0	0	40
3	2017	131	55	76	131	0	0	0	0	104
4	2017	110	44	66	106	2	1	1	1	85
1	2018	128	57	71	127	1	0	0	0	103
2	2018	156	73	83	153	1	1	1	0	143
3	2018	130	51	79	130	0	0	0	0	120
4	2018	97	52	45	95	1	0	0	1	84
1	2019	101	50	51	100	1	0	0	0	90
2	2019	138	60	78	137	0	0	0	1	120
3	2019	109	41	68	108	0	0	0	1	103
4	2019	114	57	57	114	0	0	0	0	100

Note. A. A represents African Americans, N.H. represents Native Hawaiians, and E.D represents Economically Disadvantaged

The statistical data on the demographic characteristics of the four schools in the research were similar. The data were derived from high school juniors during the three-year study of the Fall count of the schools, which occurred on the first Wednesday in October and the Spring count, which happened on the second Wednesday in February. Data from the state public-school index system, a website containing demographic data on all schools in the state, were used for the research.

Data Analysis and Results

Data collection for the research helped to measure a point-biserial correlational *(r_{pb})* strength and direction of the association between the continuous variables of math and reading, and the single dichotomous variable of no School Improvement Grant funded academic programs and school improvement grant-funded academic programs. The research data were tested for relationship, normality, equal variances, and outliers. The data collected were used to address the research questions and hypotheses.

Evaluated Statistical Assumption and Explanation

The correlation analyses of Point-Biserial Correlation procedure were chosen to measure the strength of the association between the continuous ratio variables of math and reading Scholastic Assessment Test scale scores and the binary dichotomous variable School Improvement Grant funded academic programs and no School Improvement Grant funded academic programs. A scatterplot was created during the study to find out if there was a relationship between the continuous variables of math and reading Scholastic Assessment Test scale scores and the dichotomous variable of School Improvement Grant funded academic programs and no School Improvement Grant funded academic programs. Figures 4 and 5 show a positive slope for both math and reading scores and indicates a positive correlation between math and reading Scholastic Assessment Test scale scores and School Improvement Grant Funded academic programs.

Figure 4

Scatterplot of Math Scale Scores

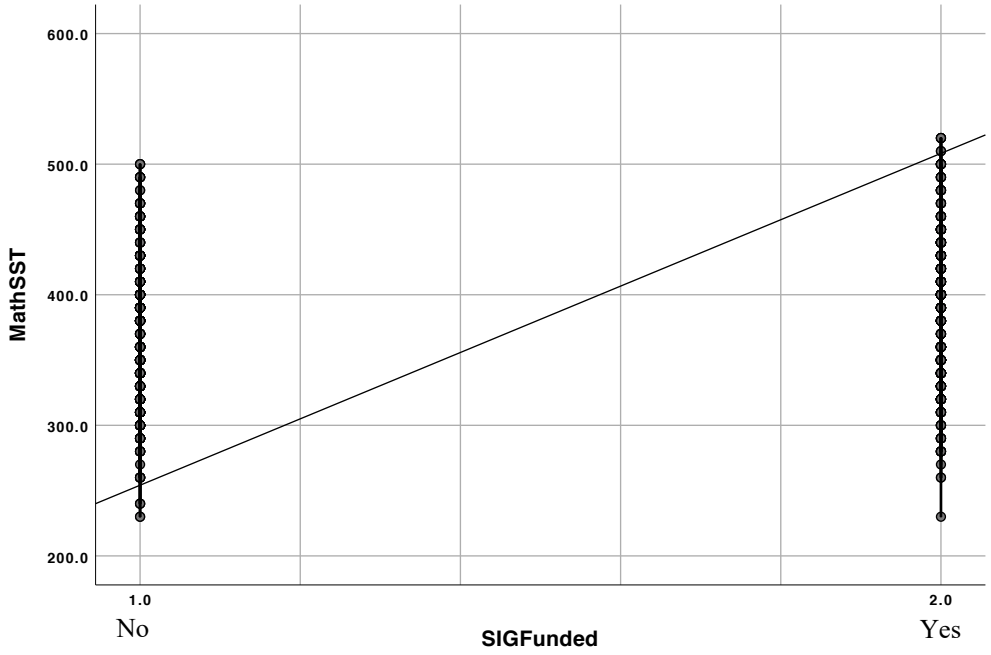
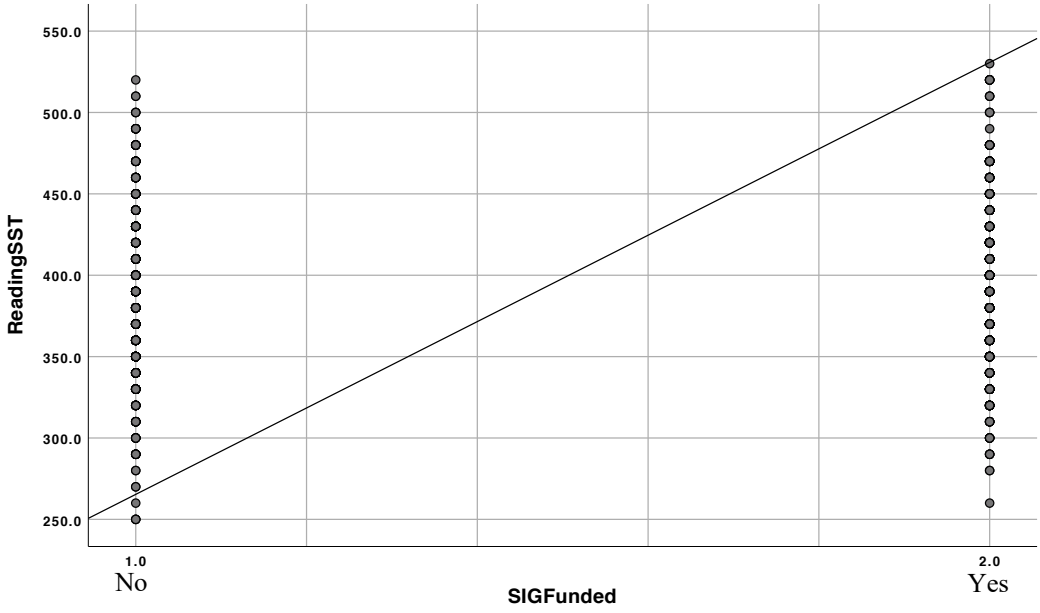


Figure 5

Scatterplot of Reading Scale Scores



Research data were tested for normality to determine if any violations of the underlying assumptions were detected. The Shapiro Wilk and the Kolmogorov-Smirnov tests for normality were run to determine the distribution of the data and the variables used in the research for the math and reading dependent variables (Laerd Statistics, 2018a) The results are presented in Table 2.

Table 2

Tests of Normality

	School Improvement Grant Funded	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Math Scale Score	1	.127	497	.001	.980	497	.001
	2	.083	564	.001	.988	564	.001
Reading Scale Score	1	.070	491	.001	.990	491	.002
	2	.070	562	.001	.991	562	.001

Note. a. Lilliefors Significance Correction, df indicates degrees of freedom, Sig indicates significance value.

The results in Table 2 are summarized as the Kolmogorov-Smirnov and Shapiro-Wilk tests of normality returned statistics with associated p-values of <= .05 for math and reading for the continuous dependent variable. These results indicated the distributions of reading and mathematics scores are not generally distributed among the dichotomous independent variable of School Improvement Grant funded academic programs and no School Improvement Grant funded academic programs. The point-biserial correlation coefficient *(*r_{pb}), the non-parametric test used in the study, compensates for the assumption violation by making no presumption about data distribution (Laerd Statistics, 2018b)

The research data were tested for equal variances to determine if any violations of the underlying assumptions were detected. The Levene's Test of Homogeneity of Variances was used to determine the variances for the dependent variables of math and reading used in the study of the dichotomous independent variable of School Improvement Grant funded academic programs, and no School Improvement Grant funded academic programs. The results are presented in Table 3.

Table 3

The Levene's Test of Homogeneity of Variance

Statistics	Levene Statistic	Sig
Reading Scale Score Mean Trimmed	.074	.786
Math Scale Score Mean Trimmed	5.871	.016

The Levene's Test of Homogeneity of Variances returned results for the dependent variable of reading scale scores of p =.786 with an associated p-value of >= .05. The assumption of homogeneity was met for reading variance being not significant and equal variances occurring between the dependent variable and the dichotomous independent variable of School Improvement Grant funded academic programs or no School Improvement Grant Funded academic programs. The Levene's Test of Homogeneity of Variances returned results for the dependent variable of math scale scores of p =.016 with an associated p-value of <= .05. The assumption of homogeneity was validated for math variance being significant and not equal variances occurring between the dependent variable and the dichotomous independent variable of School Improvement Grant funded academic programs or no School Improvement Grant Funded academic programs. To compensate for the violation of homogeneity point-biserial correlation analysis *(r_{pb})* was used in the study because of the statistical procedure designed to accommodate unequal variances (Bonett, 2019).

Part of the statistical analysis process of using point-biserial correlation *(r_{pb})* was to check for outliers. Outliers were checked in the study using the percentiles in Table 4.

Table 4

The Percentiles of the Study's Dependent and Independent Variables

		School Improvement Grant Funded	Percentiles						
			5	10	25	50	75	90	95
Weighted Average (Definition 1)	Math Scale Score	1	300.00	320.00	340.00	380.00	420.00	460.00	490.00
		2	290.00	300.00	330.00	360.00	400.00	440.00	470.00
	Reading Scale Score	1	320.00	330.00	360.00	390.00	430.00	470.00	506.00
		2	310.00	330.00	350.00	380.00	420.00	452.00	480.00
Tukey's Hinges	Math Scale Score	1			340.00	380.00	420.00		
		2			330.00	360.00	400.00		
	Reading Scale Score	1			360.00	390.00	430.00		
		2			350.00	380.00	420.00		

The outliers were then trimmed through the following statistical process. The 75th percentile value minus the 25th percentile value was calculated to get the inter-quartile range. If the scale score was >= the 75th percentile plus 1.5 times, the inter-quartile range or <= the 25th percentile value minus 1.5 times the inter-quartile range was labeled as an outlier. Table 5 includes values using the process to statically trim for outliers using Tukey's upper and lower hinge values for the continuous variables of math and reading of the linear correlation of the dichotomous variable of no School Improvement Grant funded academic programs (1), and School Improvement Grant funded academic programs (2).

Table 5

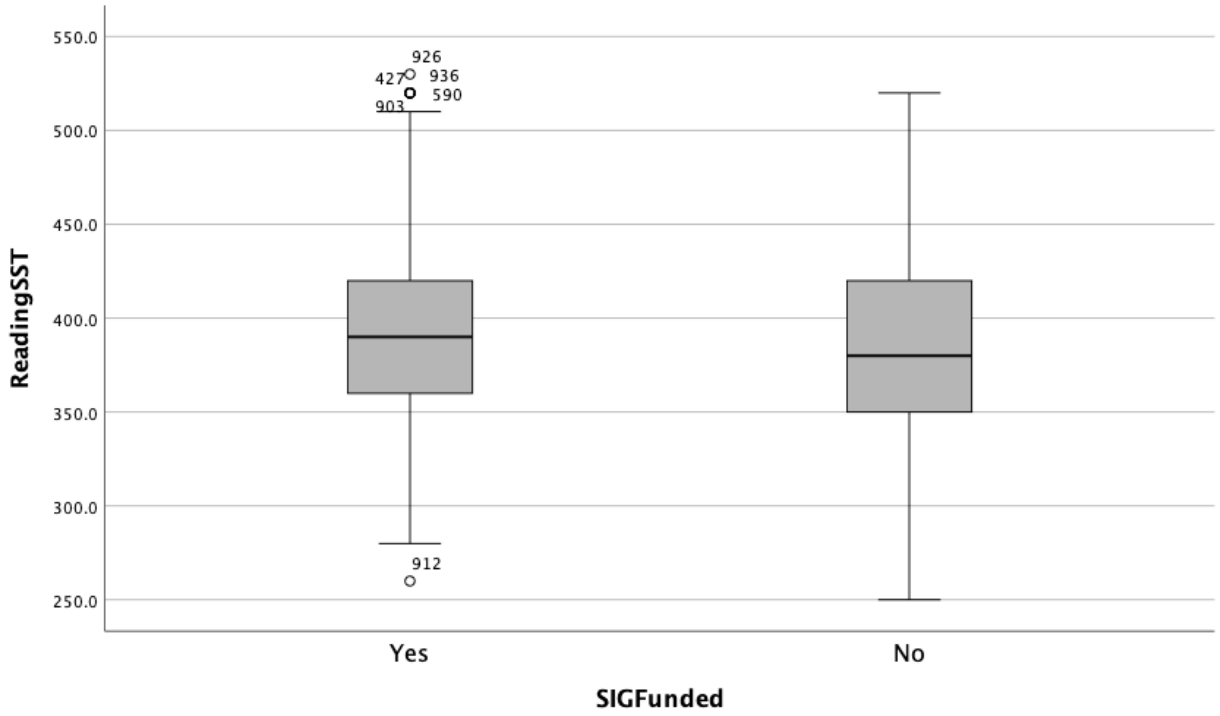
Statistical Package for Social Science Logical Expressions Results for Trimming Outliers

Variables	School Improvement Grant Funded	25%	75%
Math Scale Score	2	220	540
	1	225	505
Reading Scale Score	2	255	535
	1	245	525

The trimming of the data resulted in some outliers between the continuous variable of reading scores and the dichotomous variable of School Improvement Grant funded academic programs or no School Improvement Grant Funded academic programs. The SPSS software identified these outliers as not extreme values by the indication of open circles next to the case number. The outliers were considered a natural data variation, as displayed in Figure 6 (Bonett, 2019).

Figure 6

Boxplot of Outliers for Reading Scale Score



Research Questions and Hypotheses

The research questions focused on the correlation between the various math and reading courses the high schools had implemented with the inclusion of School Improvement Grant funds and the association on a northern U.S. state's Scholastic Assessment Test scores for math and reading during the years of 2017-2019. The research questions in the study were essential to address concerns of academic achievement using School Improvement Grant funded academic programs. To accomplish the purpose of the study, the research questions for the quantitative study were as follows:

Research Question One: What is the correlation between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic

Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state?

Research Question Two: What is the correlation between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state?

The following hypotheses are specific, clear, and testable predictive statements about the possible outcome of the research study. The outcome was based on a sample population and the relationships between variables. The accompanying hypotheses statements to the research questions were:

$H1_0$: No correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state.

$H1_A$: A correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state.

$H2_0$: No correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state.

$H2_A$: A correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state.

Two point-biserial Pearson correlation analyses *(r_{pb})* (two-tailed) were administered to address the hypothesis using the procedures described in Chapter 3. The dichotomous variable of School Improvement Grant funded academic programs or no School Improvement Grant Funded academic programs was compared to mean scale scores of the Scholastic Assessment Test results of math and reading. These analyses showed the degree of correlation between School Improvement Grant funded academic programs (independent variable) and scale scores in two Scholastic Assessment Test categories (dependent variables) for the sample study. Table 6 summarizes the results of the correlation analyses.

For Research Question one, the results were statistically significant at the .05 nominal alpha level ($p<.05$) and indicated a positive association between the inclusion of School Improvement Grant funded academic programs and higher math scale scores of high school juniors in a large urban school district in a northern U.S. state. The *r* value is low because the study utilized the distal measure of high school juniors Scholastic Assessment Test scores and this can reduce the statistical power of the procedure. There was evidence to reject the null hypothesis and accept the alternative hypothesis.

Table 6

Correlation Between School Improvement Grant Funded Academic Programs and Scholastic Assessment Test categories

School Improvement Grant Funded Academic Programs	Math Scale Score	Reading Scale Score
Pearson Correlation *r*	.160	.093
p value (2-tailed)	.001	.002
N	1061	1053

Note. Alpha level of .05

For Research Question two, the results were statistically significant at the .05 nominal alpha level ($p<.05$) and indicated a positive association between the inclusion of School Improvement Grant funded academic programs and higher reading scale scores of high school juniors in a large urban school district in a northern U.S. state. The *r* value is low because the study utilized the distal measure of high school juniors Scholastic Assessment Test scores and this can reduce the statistical power of the procedure. There was evidence to reject the null hypothesis and accept the alternative hypothesis.

Reliability and Validity

The first threat to the reliability and validity of the research was testing validity. Testing validity occurs when research participants become familiar with the results of the outcome and remember responses for later testing (Creswell, 2014). Testing validity for the study could occur since students can repeat the Scholastic Assessment Test as often as the student chooses until high school graduation. To compensate for the threat, the study only included data from the Bureau of Assessment and Accountability of high school juniors, who took the Scholastic Assessment Test for the first time in high school.

The threat to external reliability and validity could have come from incorrect data input

into the SPSS software program. The data entered the SPSS were accurately entered, and an independent consultant verified the statistical analysis to counteract the threat. The threat to internal reliability and validity of the study were addressed by using the math and reading Scholastic Assessment Test scores employed during the 2017-2019 academic years, which presented no historical mortality. Scholastic Assessment Test scores are reliable and valid according to the May 2019 validity research conducted by the College Board, which was based on data from 223,000 students through 171 four year colleges and universities (The College Board, 2020).

The point-biserial correlation *(rpb*) test is a measurement of item reliability with ranges of a low of -1.0 to a high of 1.0 (Creswell, 2014). The reliability was not a concern because of the nature of point-biserial correlational *(r_{pb})* testing. There are no threats to objectivity due to the nature of the correlational design. The sample of students used in the research was not intended to be representative of a larger sample. The sample size was intended to illustrate impact on the School Improvement Grant on schools in the sample.

Chapter Summary

The data collected in the quantitative correlational analysis research highlighted two main objectives. The first objective was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and math Scholastic Assessment Test scores of high school juniors in a large urban school district in a northern U.S. state. The second objective was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and reading Scholastic Assessment Test scores of high school juniors in a large urban school district in a northern U.S. state.

The sample for the research consisted of 1061 math Scholastic Assessment Test scores of

high school juniors in a large urban school district in a northern U.S. state and 1053 reading Scholastic Assessment Test scores of high school juniors in a large urban school district in a northern U.S. state during the three years between 2017-2019. The data showed a correlation exists between the inclusion of School Improvement Grant funded academic programs and math and reading Scholastic Assessment Test scores of high school juniors in a large urban school district in a northern U.S. state. An analysis of the findings, the research implications, limitations, future decisions on grant spending, and resulting recommendations to the larger body of knowledge in government grants is discussed in Chapter five.

Chapter 5: Discussion and Conclusion

The purpose of the quantitative correlational study was to determine if a correlation exists between the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. state. The study was focused on determining if these programs are effective at improving Scholastic Assessment Test scores in math and reading. The research design of correlation was valid to address the research questions and hypotheses because the chosen design provided an opportunity to determine if a correlation exists between the dichotomous variable of School Improvement Grant funded academic programs, no School Improvement Grant funded educational programs and math and reading Scholastic Assessment Test scores (Creswell, 2014).

The research findings from studies in the literature review were inconclusive on whether the various types of academic programs funded by School Improvement Grants improved student outcomes (Dragoset et al., 2015). The research findings from the present study were conclusive on whether the various types of academic programs funded by School Improvement Grants helped to improve student outcomes, contribute to future decisions, and other federally financed educational grants. The results of the study could assist in providing additional information and more narrowly focused data relating to the standardized Scholastic Assessment Test scores for high school juniors in the core academic areas of math and reading.

The methods used in Chapter 3 addressed the research questions and hypotheses. The research questions and hypotheses addressed the concerns of scholastic achievement of students at schools with School Improvement Grant subsidized programs and whether funding of these programs was a cogent allocation of School Improvement Grant funding. Academic programs funded by School Improvement Grants was the dichotomous independent variable (School

Improvement Grant funded academic programs or no School Improvement Grant Funded academic programs). The Scholastic Assessment Test scores of math were dependent variable A, and the Scholastic Assessment Test scores of reading were dependent variable B. A point-biserial correlational *(r_{pb})* analysis was used to measure the degree of correlation between School Improvement Grant funded academic programs and math and reading Scholastic Assessment Test scores.

The sample for the research included 1061 math Scholastic Assessment Test scores of high school juniors in a larger urban school district in a northern U.S. state and 1053 reading Scholastic Assessment Test scores of high school juniors in a larger urban school district in a northern U.S. state during the three years between 2017-2019. The research questions in Chapter 4 summarize the key findings on whether a correlation exists between the inclusion of School Improvement Grant-funded programs and math and reading Scholastic Assessment Test scores of high school juniors in a large urban school district a northern U.S. state. The results indicated a significant correlation between the inclusion of School Improvement Grant funded academic programs of math and reading Scholastic Assessment Test scores of high school juniors in a large urban school district in a northern U.S. state.

The findings of the research, including data interpretations and conclusions drawn from the results, are discussed in Chapter 5. Limitations of the study, recommendations for educational, government bodies, school districts, schools, and future researchers are examined in the findings, interpretations, and conclusions. The limitations, future decisions, and findings on grant spending and resulting recommendations to the larger body of knowledge in government grants are discussed.

Findings, Interpretations, Conclusions

The data collected and analyzed in Chapter 4 from a full academic year of high school juniors in four schools in a large urban district in a northern U.S. state for the school years 2017-2019, provided the evidence required to address the research questions, hypotheses and analyze the findings. Further interpretations and conclusions from the data collected may be drawn in the context of the theoretical research framework. The research questions in the study were essential to address concerns of academic achievement using the dichotomous independent variable of School Improvement Grant funded academic programs. To accomplish the purpose of the study, the research questions and hypothesis for the quantitative correlational analysis study were as follows:

Research Question One: What is the correlation between the inclusion of School Improvement Grant funded programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state?

$H1_0$: No correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state.

$H1_A$: A correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and math Scholastic Assessment Test scores (dependent variable A) of high school juniors in a large urban school district in a northern U.S. state.

Research Question Two: What is the correlation between the inclusion of School Improvement Grant-funded programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state?

$H2_0$: No correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state.

$H2_A$: A correlation exists between the inclusion of School Improvement Grant funded academic programs (independent variable) and reading Scholastic Assessment Test scores (dependent variable B) of high school juniors in a large urban school district in a northern U.S. state.

The hypotheses for the research began with the research questions which developed into predictive statements about the possible outcome of the study. The outcome was based on a sample population of high school juniors in a large urban school district in a northern U.S. state and the relationships between a dichotomous independent variable and two dependent variables. Two point-biserial Pearson correlation analyses *(r_{pb})* (two-tailed) were administered using the procedures described in Chapter 3 to address the hypotheses. The dichotomous variable of School Improvement Grant funded academic programs was compared to mean scale scores of the Scholastic Assessment Test results of math and reading. These analyses showed the degree of correlation between School Improvement Grant funded academic programs (independent variable) and scale scores in each of the two Scholastic Assessment Test categories (dependent variables) for the sample study.

For Research Question one, the results were statistically significant at the .05 nominal alpha level ($p<.05$) and indicated a positive association between the inclusion of School Improvement Grant funded academic programs and higher math scale scores of high school juniors in a large urban school district in a northern U.S. state. The r value is low because the study utilized the distal measure of high school juniors Scholastic Assessment Test scores and this can reduce the statistical power of the procedure. There was evidence to reject the null hypothesis and accept alternative hypothesis.

For Research Question two, the results were statistically significant at the .05 nominal alpha level ($p<.05$) and indicated a positive association between the inclusion of School Improvement Grant funded academic programs and higher reading scale scores of high school juniors in a large urban school district in a northern U.S. state. The *r* value is low because the study utilized the distal measure of high school juniors Scholastic Assessment Test scores and this can reduce the statistical power of the procedure. There was evidence to reject the null hypothesis and accept alternative hypothesis.

Interpretation of Findings

The results of the study were inconstant with the literature review, which showed inconclusive results on whether the various types of academic programs funded by School Improvement Grants helped to improve student outcomes (Dragoset et al., 2015). The data from the study showed a significant relationship between School Improvement Grant funded academic programs and math and reading Scholastic Assessment Test scores for high school juniors in a large urban school district in a northern U.S. state. The strength of the correlation found between School Improvement Grant funded academic programs and math and reading Scholastic Assessment Test scores in the study sample were considered small: r = .160 for math and r =

.093 for reading (Laerd Statistics, 2018b). The research refuted the findings of Mette and Stanoch (2016), who found turnaround efforts with School Improvement Grant funded academic programs are not likely.

The theoretical framework in the literature review included Lev Vygotsky's Sociocultural Theory of Learning. Vygotsky's theory considers intellectual development, such as thought, language, and reasoning process, to be developed through social relationships and interactions and influenced by culture and interactions with other people. Vygotsky used the term scaffolding to explain the levels of external support a learner needs to achieve mastery of a task (Zaretskii, 2016). The study existed in a theoretical framework where students should be engaged as active learners interacting daily with the environment to create complex intellectual structures to solve challenges (Mette & Stanoch, 2016). These challenges in the study existed in the form of Scholastic Assessment Test for math and reading by high school juniors.

The Sociocultural Theory of Learning theoretical framework explains how students acquire the knowledge and skills assessed by the Scholastic Assessment Test in the junior year of high school. Vygotsky explained the steps a high school junior follows in mastering test taking skills. The first step occurs when a student is unable to complete a task independently. The second step occurs when a student requires verbal support. The third step occurs when a student is supported with guided assistance. The final step is when a student can complete the task self-sufficiently (Vinogradova, 2016). These four fundamental factors are the steps that lead to internalization and independent thinking through cultural interactions along a student's educational journey (Vinogradova, 2016). A student's successful educational journey can result in better independent and assisted learning abilities which should help them in accomplishing

high assessment results on high-stakes tests such as the Scholastic Assessment Test for math and reading.

The proposed sample size of 895 students was surpassed for the Scholastic Assessment Test math variable (N=1061) of high school juniors during the years of 2017-2019. The recommended sample size for the Scholastic Assessment Test reading variable was surpassed for the Scholastic Assessment Test reading variable (N=1053) of high school juniors during the same time frame. The higher sample size provided a more exact statistical test than a smaller sample size (Creswell, 2014). The demographic data extracted during the research collection process showed the sample size of high school juniors had similar characteristics.

Conclusion

The data analyzed in the research provided a definitive answer about the positive association between School Improvement Grant funded academic programs and higher Scholastic Assessment Test scale scores in math and reading of high school juniors in a large urban school district in a northern U.S. state in the research sample. The study focused on four high schools with similar demographic characteristics between 2017-2019. The study contributed additional data to the growing body of research examining the correlation between School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading of high school juniors in a large urban school district in a northern U.S. state. The concluding results from the data indicated the inclusion of the School Improvement Grant funded academic programs during the years 2017-2019 produced higher math and reading Scholastic Assessment Test scale scores.

Limitations

The study was limited to generalizing the research results to high school juniors in a large urban school district in a northern U.S. state. The sample size included 1061 high school juniors for math Scholastic Assessment Test scores and 1053 high school juniors for reading Scholastic Assessment Test scores**.** The sample size was limited to show the impact of the School Improvement Grant on the schools in the sample.

A second coding system to further protect students' identity before imputing data into the SPSS software was a limitation to the external validity of the study because of the possibility of developing an incorrect formulated coding system which did not work with the SPSS software. The threat was alleviated through the support of an independent contractor. Inputting incorrect data into the SPSS software was a threat to the research's external validity. The threat to the imputing of inaccurate data was mitigated and verified by an independent consultant. Testing limitations were a threat to the reliability and validity of the study when sample participants become familiar with the Scholastic Assessment Test outcome measures and remember the responses for later testing (Creswell, 2014). The high school juniors in the study can repeat the Scholastic Assessment Test as often as desired or needed until high school graduation.
To compensate for the threat, the study only included data from the Bureau of Assessment and Accountability of high school juniors, who took the Scholastic Assessment Test for the first time in high school.

Recommendations

The educational investment of the American Recovery and Reinvestment Act of 2009, in which the states and school districts received over $100 billion to hire teachers and champion innovation in schools, included $3 billion for the School Improvement Grants (Dragoset et al.,

2017). Given the significant amounts of funding provided by the School Improvement Grant and limited data collection on outcomes, the federal policy should be changed to require government, state, and local educational agencies to collect more data as a requirement of the grant and monitor the implementation of the grant more closely. In addition to compliance monitoring, the federal, state, and local educational agencies should collect data on the inclusion of School Improvement Grant funded academic programs in other core subject areas such as science and social studies. The data results could be compared to the math and reading results from the study to give a core curriculum perspective on whether the inclusion of School Improvement Grant funded academic programs impact standardized high-stakes testing in determining the educational achievement of high school juniors nationwide.

The research findings and data analysis results grounded in the research indicated a positive association between the inclusion of School Improvement Grant funded academic programs and higher math and reading Scholastic Assessment Test scale scores during the years 2017-2019. The recommendation to schools of similar demographic characteristics nationwide, to allocate future grants should include a funded Scholastic Assessment Test program for high school juniors in math and reading core curriculum areas, based on the data results of the study. The recommendation of yearly reporting by recipients of federally funded grants should be required by a policy requirement to determine the actual implementation and outcomes among the schools which use federal funds. Yearly reporting would decrease the literature gap on examining School Improvement Grant funding of specific intervention programs (Ginsburg & Smith, 2018). Additional research on the inclusion of School Improvement Grant funded academic programs on standardized high-stakes testing used in determining the educational achievement of high school juniors across the nation is recommended.

Future researchers should consider a qualitative methodology to describe how the inclusion of School Improvement Grant funded academic programs affect Scholastic Assessment Test scores in math and reading throughout the United States. The research was not focused on the existing qualitative data of students, teachers, and administrators' opinions on the success or non-success of School Improvement Grant funded academic programs for math and reading. The addition of qualitative data or mixed-methods study may serve to show the inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading characteristics found to be valuable by federal, state, and local educational agencies on the future funding and allocation of the funds nationwide.

Implications for Leadership

The study is significant to federal, state, and local educational administrators, as the research showed the inclusion of School Improvement Grant funded academic programs promoted higher math and reading high stakes standardized assessment scores on the Scholastic Assessment Test. President Barack Obama, in October of 2015, conceded the emphasis on high stakes standardized testing in schools nationally were extreme (Parfitt & Shane, 2016). School principals can have additional data from the research to use as part of the testing preparation for high school juniors in taking high-stake tests. Research results on School Improvement Grant funded academic programs at improving Scholastic Assessment Test scores can be used to impact future funding of standardized test preparation programs and create a positive academic and social climate for administrators, teachers, students, and parents.

The study results have implications for teachers, parents, students, community members, and stakeholders to establish the inclusion of the School Improvement Grant funded academic program in the core areas of math and reading outside the usual classes. Ongoing and regular

communication from the teachers to the parents, students, community, and stakeholders on establishing math and reading academic programs and the potential benefit to the students could be inferred from the research. The teachers should involve the parents, students, community, and stakeholders in planning for the inclusion of School Improvement Grant funded academic programs to be offered before school, during lunch, and after school.

Administrators from local schools and school districts implementing School Improvement Grant funded academic programs based on research results to improve math and reading Scholastic Assessment Test scores may use the data as empirical evidence to apply for future grants. The study was designed to be directly applicable to the federal, state, school districts, and schools that were awarded the School Improvement Grant. The study results could assist in providing additional information and more narrowly focused data relating to the standardized Scholastic Assessment Test scores for high school juniors in the core academic areas of math and reading. The data from the research has further-reaching empirical implications in education for teachers, parents, students, community members, and stakeholders accountable for setting high educational standards. The state, regional, and local educational entities could have an interest in the data results of the study because of the potential impact on the future funding of school grants awarded across the United States.

The research has implications for the state, regional, and local education levels for the government to continue providing funding assistance to the school's lowest-performing schools to supplement state, regional, and local educational entities through the School Improvement Grant. The extended federal funding of the School Improvement Grant for academic programs should include subsidies for the school's library resources, educational research, and professional development for teachers. The additional funding to these academic programs could provide

more resources to support the state, regional, and local entities in increasing a positive association between School Improvement Grant funded academic programs and higher math and reading scale scores. Based on the research, government funding should continue to support the lowest-performing schools in the continued efforts to raise the achievement and closing the academic gap in math and reading.

Conclusion

An overview of the previous chapters was presented in Chapter 5. The findings, interpretations, conclusions, limitations, recommendations, and implications for leadership were summarized. The methods used in the research to address the questions and hypotheses were recapitulated. The results of the data showed a correlation exists between the inclusion of School Improvement Grant funded academic programs and math and reading Scholastic Assessment Test scores of high school juniors in a larger urban school district in a northern U.S. state. The results of the research were statistically significant at the .05 nominal alpha level ($p<.05$) for both math and reading. These findings were not consistent with several studies discussed in the literature review.

The limitations addressed in discussions and conclusion analyzed the data in the context of the two research questions, the existing literature, and the theoretical framework guiding the research. The generalizability of the research results was limited to eleventh grade students. The study is expected to contribute to the more significant body of research in government grant funding decisions and provide research information at the state and school levels. The study helps to contribute to future financial decisions on math and reading government grant-funded programs.

As parents, students, policymakers, educational administrators, and community stakeholders move forward in securing government grant-funded programs, these resources will offer the needed support in the pursuit of providing high-quality education for all students throughout United States. People involved in educating students should understand one academic program cannot meet all students' needs nationally. The inclusion of School Improvement Grant funded academic programs and Scholastic Assessment Test scores in math and reading in a large urban school district in a northern U.S. state was researched and discovered to produce a positive association.

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Appendix A: Informed Consent Document

American College of Education
Informed Consent for Research Participation

Consent to participate in the study of School Improvement Grant Funded Academic Intervention Programs is the *passive meaning* you do not have to sign anything or do anything to be a volunteer participant. There was no direct contact with the participants or the need to inform participants or obtain their consent. Students' data is protected under the Family Educational Rights and Privacy Act, which was enacted in 1974 (U.S. Department of Education [ED], 2018). The students' test scores are further secured through a coding system which contains an eight-digit number, which becomes the student's Scholastic Assessment Test code. Only the individual student, their immediate family, and the school know which student the code belongs according to the Scholastic Assessment Test procedures and protocols for testing students developed by The College Board (2018). The eight-digit code safeguards the contribution and privacy of all students who have taken the Scholastic Assessment Test. The following paragraph describes the research.

Research Title: School Improvement Grant Funded Academic Programs: A Quantitative Correlational Analysis Study	
Principal Researcher: Claude Tiller Jr Dissertation Chair: Matthew Smalley	Organization: American College of Education
E-mail: ctillerjr@gmail.com	Telephone: 313-438-8041

Introduction

You are invited to take part in a research study examining the correlation between the dichotomous school variable of School Improvement Grant funded intervention programs for math and reading Scholastic Assessment Test scores and the school variable of no School Improvement Grant funded intervention programs for math and reading Scholastic Assessment Test scores. The document is part of the informed consent process. The information included will enable you to consider the purpose, design, and procedures of the study before deciding if you want to take part. The research has been approved by ACE administration and the Institutional Review Board (IRB) responsible for protecting participants at ACE. All colleges and universities are required by law to have an IRB who reviews all research involving human participants.

Recipients

If you received the document, you were employed by a large urban school district in a northern U.S. State for all or a portion of the period between 2017–2019. All administrators or their

designees within the period are being asked to allow numeric performance rating data and educational attainment data used for the study. No personally identifying information is included in the final research report (doctoral dissertation).

Appendix B: Principal Permission Letter

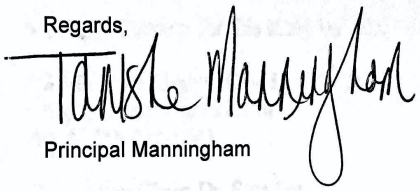
Permission Letter

May 13, 2019

Dear Mr. Claude Tiller Jr:

As the Principal of one of the four large urban high schools in the northern U.S. state for juniors. I give permission for you to utilize our 2017-2019 non-public SAT data for math and reading for your dissertation research related to School improvement Grant Funded Academic Programs: A Quantitative Correlational Analysis.

Regards,



Principal Manningham

Appendix C: Principal Permission Letter

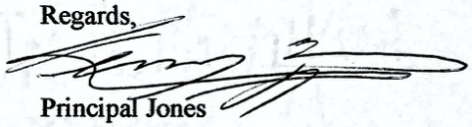
Permission Letter

May 22, 2019

Dear Mr. Claude Tiller Jr:

As the Principal of one of the four large urban high schools in the northern U.S. state for juniors. I permit you to utilize our 2017-2019 non-public SAT data for math and reading for your dissertation research related to School Improvement Grant Funded Academic Programs: A Quantitative Correlational Analysis.

Regards,



Principal Jones

Appendix D: Principal Permission Letter

Permission Letter

May 23, 2019

Dear Mr. Claude Tiller Jr:

As the Principal of one of the four large urban high schools in the northern U.S. state for juniors. I permit you to utilize our 2017-2019 non-public SAT data for math and reading for your dissertation research related to School Improvement Grant Funded Academic Programs: A Quantitative Correlational Analysis.

Regards,

Principal Barclay

Appendix E: Principal Permission Letter

Permission Letter

May 13, 2019

Dear Mr. Claude Tiller Jr:

As the Principal of one of the four large urban high schools in the northern U.S. state for juniors. I permit you to utilize our 2017-2019 non-public SAT data for math and reading for your dissertation research related to School Improvement Grant Funded Academic Programs: A Quantitative Correlational Analysis.

Regards,

Principal Mokdad