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The Impact of Expanded Access and Increased Engagement and the Effect on Closing the Achievement Gap

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by

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This Dissertation has been approved as partial fulfillment of the requirements for the degree of Doctor of Education Lindenwood University, School of Education

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Dr. Dennis Cooper, Committee Member — 3-21-18 Date

Dr. John Jungmann, Committee Member — 3-21-18 Date

Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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Abstract

Considering instructional time is one of the most valuable and expensive resources in public education, there is nominal research examining the effectiveness of its use (Farbman, 2015). The purpose of this study was to determine the correlation between the amount of extended learning time provided to eligible students at least one grade level below in reading or mathematics and their scale score growth determined by middle-of-year results on the i-Ready Diagnostic Assessment. i-Ready Diagnostic Assessment results were examined of students who attended an extended learning time after-school program focused on remediation of standards specific to mathematics and reading in grades two through five. The population for this study consisted of eligible students in a Midwestern school district who attended an after-school remediation program for reading and mathematics. The literature collected for this study was analyzed to support the findings and to understand the relation between time and learning. From the data collected and analyzed for the study, there was not a significant difference in the subject of reading when students were compared to their eligible peers who did not attend the after-school remediation program. In contrast, students did experience a significant difference in results from beginning-of-year to middle-of-year i-Ready Diagnostic Assessment for the content of mathematics as compared to the peer group. No correlation was found between scale score growth in reading or mathematics and the number of hours of attendance in the after-school remediation program.

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Chapter One: Introduction

The education of America's children is one of the nation's most important priorities (Berliner & Glass, 2014). For many years most Americans, including American educators, have believed schools cannot make a change in the lives of the children they support (Barr & Parrett, 2007). Often, the school improvement debate is centered on the lowest-performing schools, where the entire "ship" needs to be steered in a new direction (Superville, 2016). However, a variety of educational opportunities must be provided to children to keep pace with the forces and trends of school improvement (Huitt, 2017). Public educators cannot do it alone and must consider all stakeholders when developing school improvement plans (Schrader, 2017; Taylor, 2016).

Meaningful school improvement requires stakeholders, including students, parents, and school employees, to work differently (Johnson, Uline, & Perez, 2017). Because there is no "one size fits all" to school improvement, countries and jurisdictions around the world have taken different approaches over time (Capacity Building K-12, 2016, para. 1). Emmanuel Calk, superintendent of 40,000 students in Fayette County, Kentucky, restored confidence in the school system and community with a school improvement plan focused on "zeroing in on the needs of students who struggle the most" (Mitchell, 2017, para. 4).

Practice and research indicate extending the time in a school day or within a school year can have an affirmative, empirical student outcome on abilities and upon a youth's learning journey (Allington, 2013; Farbman, 2015). A student cannot progress in any specific content of study without obligating a particular sum of time to understanding fresh information, practicing and refining skills, and then connecting the

understanding and skills to comprehend specific learning goals (Farbman, 2015; Hattie & Yates, 2014). Currently, the education system clings to time as the constant, and the acquisition of new student skills and knowledge becomes the variable (Bailey, 2014). According to Couros (2015), "Some view time constraint as a barrier, others see the constraint as an opportunity" (p. 226).

Education is more critical than ever today (Porter, 2015). In 2013, the number of students performing at or above proficiency in reading at both grades four and eight was 34% of students in public schools (Glymph & Burg, 2013). In a similar result, 41% of public school students at grade four and 34% at grade eight performed at or above proficiency in mathematics in 2013 (Glymph & Burg, 2013). The ambition to close achievement gaps and eradicate chronic low performance has become a mission for the "K-12 Holy Grail" (Hammer, 2014, para. 1).

Extended time after-school programs of learning can be one remedy to support student remediation (Bokas, 2016). Some researchers have indicated an additional 150 hours of instruction will yield higher student achievement (Allington, 2013; Gibson & Barr, 2015; Mette & Biddle, 2016). Extended learning opportunities can increase achievement by structuring more individualized learning time for students (National Center on Time & Learning, 2017b).

Research suggests the attainment of excellent and equitable learning results is difficult (Johnson et al., 2017). According to a report by the Center for American Progress, data should be used by "school and system leaders to determine if all students receive the high-quality education they deserve and to provide more support or intervention if the results show that individual students, entire classrooms, or schools are

off track" (Brown, Boser, Sargrad, & Marchitello, 2016, p. 2). This study was designed to identify the optimal number of hours associated with highest scale score growth for students attending an after-school remediation program (up to a maximum of 60 hours) while seeking to understand time as the variable and learning as the constant.

Background of the Study

Each child has an opportunity for success despite family circumstances or special needs (Center for Public Education, 2017). In the mid-1800s, state legislatures began enacting policies designed to provide access to universal public education (Barr & Parrett, 2007). Even into the early 1900s, few students attended school beyond the elementary level (Barr & Parrett, 2007).

During the first part of the 1900s, the Carnegie unit, also known as the credit hour, became the fundamental metric for defining student readiness for college and advancement through an adequate program of study (Silva, Toch, & White, 2015). Escalating criticism regarding the Carnegie unit has come from educators and education policymakers who support making student academic performance more transparent and the mode of education more flexible (Silva et al., 2015). Many see the Carnegie unit as a critical obstacle to the changes they advocate for and to advancements that support straight-forwardness and adaptability, including competency-based instructional models (Silva et al., 2015).

In 2016, Hincapie wrote an article that posed the question, "Are the variations in schooling contributing to the low achievement levels and the achievement gap between different countries?" (para. 3). Many students need more time; some need less (National Education Commission on Time and Learning, 1994). There is no enchanted formula for

the instructional hours in a day, or learning days in a year, that provides assurances for all students (National Education Commission on Time and Learning, 1994).

The U.S. Census Bureau (n.d.) reported there are more than 14,000 independent United States school districts, which equals approximately 150,000 schools for more than 48 million students. The United States education system does not have a national agreement on what students should know at each grade level, a comprehensive exam, or consensus on what schools should do when students struggle to learn standards (DuFour, DuFour, Eaker, Many, & Mattos, 2016). District performance monitoring and accountability systems have standards as part of the key structures (Leithwood, Seashore-Louis, Anderson, & Wahlstrom, 2004). To outside observers, the United States education system reflects chaos (DuFour et al., 2016).

The United States public education school system juxtaposed the fundamental connection between time and learning with its strict adherence for the past 100 years to a traditional school calendar of six-and-a-half-hours per day for 180 days (Farbman, 2015). Bray and McClaskey (2015) studied fixed traditional systems of learning as compared to flexible learning systems to determine if seat time equals learning. The place to begin exploring how expanded time advances student knowledge is to investigate the larger inquiry of what key structures and approaches make schools effective (Farbman, 2015).

Studies linking time and learning began with educational psychologist John Carroll (1963) and the authoring of "A Model of School Learning." Hattie mentioned the role of time in promoting deep learning (Hattie & Yates, 2014). By asking students to race through mandated lessons under duress of time pressures, educators run the risk of creating isolated knowledge subject to rapid forgetting and not conducive to building

schema (Hattie & Yates, 2014). Students deserve the interventions identified to stay on the path of getting better every day, and the instructional system needs to recognize teaching should begin where each student is in his or her learning (Patrick, Worthen, Frost, & Gentz, 2016).

Americans have converted their cultural angsts and optimisms into intense demands for educational reform for centuries (Tyack & Cuba, 1995). The most effective method to promote learning for all students is to address the specific needs and interests of each student system-wide (Gendron & Traub, 2015). Learning starts with what is known and proceeds toward what needs to be known (Hattie & Yates, 2014). Time is needed to allow learners the opportunity to think deeply about incoming information and to find relationships between diverse ideas; however, public school systems remain governed by a time structure created for a different era (Hattie & Yates, 2014).

The legislation turned the tide of federal control of education when the Every Student Succeeds Act (ESSA) was passed by Congress in December 2015, and control of matters ranging from testing to curriculum to teacher evaluation was given back to states (DuFour, Reeves, & DuFour, 2018). The ESSA provides authority to states and districts to oversee and significantly enhance school improvement processes, while school reform and accountability were dramatically reduced at the federal level (Brennan, 2017; DuFour et al., 2018; Woods, 2017). Flexible new pathways were forged to empower capable students, teachers, and school leaders through personalized learning experiences outside of the outdated classroom (Patrick et al., 2016). According to Arnett (2017):

> Policy does not offer school systems the right incentives to disrupt traditional instruction. States pay schools for student enrollments, not student success;

> require schools to award credits based on seat-time, not mastery of academic content; and focus their accountability systems on getting all students to common proficiency benchmarks, rather than on pushing each student's individual learning growth. (para. 4)

Policymakers can plan innovative, next-level, and actionable accountability systems with live data for accurately recognizing school and student needs, interventions, and supports using time-bound measures (Patrick et al., 2016). Blad (2016) indicated school reform efforts for low-income students focused on the students feeling safe, engaged, and connected to their teachers result in positive results. Leaders should look ahead and redefine readiness for students to meet the needs of the learners (King, Prince, & Swanson, 2018).

Conceptual Framework

In 1963, the conceptual framework relating time and learning was first introduced when educational psychologist John Carroll constructed "A Model of School Learning" (Farbman, 2015). The "Model of School Learning" includes six fundamental with one each of input and output variables and four transitional (process) variables (Carroll, 1963). The input variable of aptitude is the interval of time a student needs to learn a given task (Carroll, 1963). Next, the ability a student has to learn is comprised of several variables such as the opportunity to learn, skill to understand the learning, quality of instruction, and perseverance to stay motivated to learn (Carroll, 1963). Finally, the outcome of the framework is academic achievement (Carroll, 1963).

In later years, William Huitt developed a framework classifying a number of categories of variables and the association among them (Huitt, Huitt, Monetti, &

Hummel, 2009). The Huitt (2009) framework describes context variables, input variables, and process variables to reach the output of student achievement. Huitt's (2009) framework includes four categories of variables influencing student learning: 1) home context variables; 2) school-level context variables (school characteristics, school processes, school leadership, curriculum); 3) classroom input variables (teacher and student characteristics); and 4) classroom process variables (teaching strategies, teacher behavior, student behavior, classroom processes). In this study, the conceptual framework was based upon the input variable of time as a school-level process (Carroll, 1963; Huitt, 2009) to find the connection to the output variable of student achievement. The remaining variables from Carroll (1963) and Huitt (2009) were excluded from this research.

Statement of the Problem

In December 2016, the leaders of a Midwestern school district began reviewing how many Average Daily Attendance (ADA) units were collected through remediation hours during the prior school year (M. Dawson, personal communication, December 1, 2016). The information revealed 13 ADA units were collected through remediation by the district during the 2015-2016 school year (Missouri Department of Elementary and Secondary Education [MODESE], 2016). M. Dawson (personal communication, December 5, 2016) indicated district leadership wanted to know the remediation ADA units accrued by peer districts during the same time frame and the full legal language of the statute defining student eligibility for remediation.

M. Bardwell (personal communication, January 17, 2017) provided the statewide data of remedial hours reimbursed to Missouri school districts for the 2013-2014, 2014-

2015, and 2015-2016 school years. A district team reviewed the statewide data of remedial ADA hours reimbursed to Missouri school districts (M. Dawson, personal communication, January 24, 2017). These data were reviewed in rank order of most remedial hours to least remedial hours reimbursed to each school district with district attributes of student enrollment, meal status, and academic performance as measured by the state assessment (M. Dawson, personal communication, January 24, 2017).

The district team noticed comparable school districts, determined by student enrollment, meal status, and academic performance, were reimbursed for a greater number of remedial hours than the district in question (M. Dawson, personal communication, January 24, 2017). As a result, the decision was made to revise and revamp the district's after-school program (M. Dawson, personal communication, February 20, 2017). The district team reviewed the 2015-2016 Missouri Assessment Program proficient and advanced percentages for grade levels three through eight (A. Wallenmeyer, personal communication, March 20, 2017). The review revealed, in most cases, more than half of students at each grade level fell below the minimum expectation of proficiency (A. Pilley, personal communication, April 27, 2017).

M. Dawson (personal communication, March 21, 2017) commissioned the district work team to review the large number of students who scored below grade-level expectations as determined by the Missouri Assessment Program in the content areas of English language arts or mathematics. Next, i-Ready Diagnostic Assessment results from 2016-2017 end-of-year assessments for reading and mathematics for grade levels K-8 were analyzed (J. Palmer, personal communication, May 6, 2017). A. Pilley (personal communication, May 6, 2017) and the district work team determined the eligibility

criteria for the after-school program would include students in grades two through five who scored at least one grade level below their current grade level in either reading or mathematics on the iReady Diagnostic Assessment.

In addition, assessment results were analyzed to determine the top-10 deficient standards in reading and mathematics as determined by the i-Ready Diagnostic Assessment (J. Palmer, personal communication, May 8, 2017). By mid-May 2017, the identified standards were utilized to build the after-school program curriculum (A. Wallenmeyer, personal communication, May 10, 2017). Project-based learning units were designed in a grade-span format for grades two to three and grades four to five (A. Pilley, personal communication, May 17, 2017). Starting in late August 2017, all students who met the criteria of eligibility were invited to attend the after-school program (M. Dawson, personal communication, May 17, 2017).

This study was designed to address issues identified by the school district. The district team determined a high number of low achievement scores in reading and mathematics. In addition, the district team discovered a low utilization of state funding available for remediation. The problem was to find the most effective way to improve student achievement through exploitation of remediation funds.

Purpose of the Study

The findings of this research will allow educators to conclude if there is a variance in achievement in reading and mathematics for criteria-eligible students who chose to attend an after-school program as compared to those who chose not to attend. In addition, data were analyzed to determine the correlation between the amount of time students attended an after-school program for remediation and their growth on i-Ready

scale scores for reading and mathematics. By reviewing the outcomes of this study, educators could use the same program design model to review student data, build curriculum to support student deficiencies based on Missouri Learning Standards, and monitor progress to determine how to close the student achievement gap.

Research questions and hypotheses. The following research questions and hypotheses guided the study:

1. What is the difference in mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program?

$H1_0$: There is no difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program.

$H1_a$: There is a difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program.

2. What is the difference in mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school program?

$H2_0$: There is no difference in middle-of-the-year mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school program.

$H2_a$: There is a difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program.

3. What is the correlation between scale score gains on a middle-of-the-year reading diagnostic assessment and number of hours spent in an after-school program?

$H3_0$: There is no correlation in mean scale score gains on a reading diagnostic assessment and number of hours spent in an after-school program.

$H3_a$: There is a correlation in mean scale score gains on a reading diagnostic assessment and number of hours spent in an after-school program.

4. What is the correlation between scale score gains on a middle-of-the-year mathematics diagnostic assessment and number of hours spent in an after-school program?

$H4_0$: There is no correlation in mean scale score gains on a mathematics diagnostic assessment and number of hours spent in an after-school program.

$H4_a$: There is a correlation in mean scale score gains on a mathematics diagnostic assessment and number of hours spent in an after-school program.

Significance of the Study

According to Farbman (2015), research indicates a clear relationship between time and learning. An expanded school day for learning contributes to increased scale score growth for students and to success of school reform efforts, especially for student populations exposed to greater risk factors (Farbman, 2015). To close the achievement gap by improving student performance, state-supported reform efforts to raise standards and measure student achievement must entail schools changing what and how they educate students (Daggett, 2014). The findings of the study are critical to determining the optimal number of hours a student should attend an after-school remedial program to

yield the maximum growth in reading and mathematics scale scores to close the student achievement gap. The outcomes revealed in this study will guide the Midwestern district in the next phase of the remediation of student learning.

The conceptual framework of John Carroll (1963) was applied to determine if increased time improves the outcome of achievement. An existing gap in research is the correlation of time and maximum performance (Carroll, 1963). The nexus of peak performance to hours spent in the after-school program was key to guiding future programming to close the student achievement gap in the Midwestern district. The rationale for this research was to determine if providing 60 hours of additional instruction in an after-school program during first semester would reduce the student achievement gap.

The findings of this study will allow educators to determine if there is a connection between the amount of time students spend in an after-school program and growth in i-Ready scale scores. By reviewing the outcomes of this study, educators could use the same program design model to review student data, build curriculum to support student deficiencies based on Missouri Learning Standards, and monitor progress to determine how to close the student achievement gap.

Definition of Key Terms

For the purposes of this study, the following terms are defined:

After-school program. An after-school program occurs beyond the traditional school day (Youth.gov, 2018). Programming includes supporting students through mentoring, academic intervention, fine arts activities, and recreational activities

(Youth.gov, 2018). Quality matters in after-school programming, as quality is a determining factor of student success due to attendance (Youth.gov, 2018).

Allocated time. Allocated time is time provided to a student by the state, district, school, or teacher for instruction (Berliner & Glass, 2014).

Aptitude. Aptitude is the amount of time needed to reach some standard of learning under ideal instructional conditions (Berliner & Glass, 2014).

Competency-based learning. Competency-based learning is a system based on learners demonstrating mastery of standards through academic instruction, assessment, grading, and reporting (Bray & McClaskey, 2015). The standards must be mastered before the learner can advance to the next lesson, developmentally move to the next grade level, or meet the qualifications of a diploma (Bray & McClaskey, 2015).

High-poverty schools. For the purpose of this study, high-poverty schools enroll 75-100% of students who qualify for free or reduced price meals (Rogers, Mirra, Seltzer, & Jun, 2014).

Low-poverty schools. For the purpose of this study, low-poverty schools enroll 0-25% of students who qualify for free or reduced price meals (Rogers et al., 2014).

Personalized learning. Personalized learning is based on the strengths, interests, and learning needs of each student (Patrick et al., 2016). Each student's decision and opinions about how, what, where, and when to achieve the highest level of mastery are factors in customizing the learning (Patrick et al., 2016).

Project-based learning. Project-based learning provides learners experiences with real-world problems and trials through an active approach to teaching and learning (Bray & McClaskey, 2015).

Student growth measure. A student growth measure allows teachers and administrators to see how much students have progressed and determines whether students are on-track to meet expected growth (i-Ready Central, 2017b).

Limitations

The following limitations were identified in this study:

Sample demographics. The research focused on all students who met the eligibility criteria for one public school district in the Midwest; therefore, the sample is a limitation, and the results of the analysis should not be considered absolute (Fraenkel, Wallen, & Hyun, 2015).

Secondary data. Secondary data collected by the Midwestern school district were used for this research. The data already existed for the Midwestern school district, which limits the study to the fields available as part of the data collection and assumes the research has the depth to provide interpretation of results in accordance with the intended use of the instrument (Fraenkel et al., 2015).

Instrument. The instrument for this research was a computer-based, adaptive assessment of reading and mathematics for students in kindergarten through high school created by Curriculum Associates called the i-Ready Diagnostic Assessment (i-Ready Central, 2017a). The Midwest school district administers the diagnostic assessment three times per school year as part of the district assessment plan (D. Whitham, personal communication, August 16, 2017). This assessment was created to serve several purposes:

- Precisely and competently assess student knowledge by adapting to each student's ability for the content strands within each subject

- Offer an accurate assessment of student knowledge, which can be monitored over a period of time to measure student growth
- Provide valid and reliable information on skills students are likely to have mastered and the recommended next steps for instruction
- Link assessment results to instructional advice and student placement decisions. (i-Ready Central, 2017a, p. 8)

Student skills are measured from one point in time to another using a vertical scale (i-Ready Central, 2017a).

Summary

According to the National Center on Time & Learning (2017c), a considerable amount of research has shown the relationship between quantities of time on-task and student outcomes on an individualized level. The culture of K-12 public education established long ago is changing in remarkable ways (Barr & Parrett, 2007). The pedagogy of the past will neither engage students nor prepare them for the work of the future (Taylor, 2016).

A system of interventions means the school has a comprehensive plan for dealing with struggling students rather than relying on each teacher to solve the problems (DuFour et al., 2018). According to Skrla, Bell-McKenzie, and Scheurich (2009), "Principals and leadership teams grapple with the charge of ensuring that every student will meet increased academic standards, and district and school system officials are challenged with making every school a high performing one" (p. ix). Schools with substantial allotted time to provide additional academic instruction have a greater likelihood of increased student performance (Farbman, 2015). The background

information in this chapter was provided to clarify the need to analyze time as a function for students attending the after-school program in an effort to close the student achievement gap.

Chapter Two includes a review of literature related to time and learning. The review of literature includes an overview of two key models for time and learning, as well as barriers to implementation of an after-school program. The design of the research and methodology are described in Chapter Three. Chapter Four includes an analysis of data as measured by the instrument from beginning-of-year to middle-of-year. The findings are revealed in Chapter Five.

Chapter Two: Review of Literature

For this study, two models were reviewed regarding expanded learning time and student achievement with specific focus on two characteristics: (1) time and learning and (2) impact of time on student achievement (Carroll, 1963; Huitt, 2009). The models included John Carroll's (1963) model of learning and William Huitt's (2009) school reform model. In comparison to other nations, American students ineffectively use the school day by spending a smaller amount of time on daily lessons and using homework as an extension the learning (National Commission on Excellence in Education, 1983). The literature reviewed included the history of time and learning, more specifically after-school programs. A historical timeline of assessment as related to closing the student achievement gap was examined for this chapter. To understand the role of time in school reform efforts, key variables were examined. Barriers to closing the achievement gap were identified to justify conducting the study.

According to the Association for Supervision and Curriculum Development (ASCD) (2016), "Significant time, attention, and resources have been directed toward closing the persistent achievement gap in the K-12 education system" (p. 5). The literature reviewed was utilized to find underpinnings of the concept of time and learning, including the historical perspective of time in public education. In addition to research on closing the achievement gap during after-school programs, key components of time and learning in relation to improved student achievement were examined. Barriers to closing the achievement gap during after-school programs were identified to justify conducting the study.

Culture is the key to effectiveness and growth (Capacity Building K-12, 2018; Hoerr, 2017). According to Hoerr (2017), "Like the water in which fish live, culture is all around us; a school's culture affects how we feel, think and act" (p. 155). Engaged students stay in school, graduate with the skills and competencies needed for higher learning and the workforce and develop a greater understanding of how to be successful (Association for Supervision and Curriculum Development [ASCD], 2016). Tolley (2015) challenged the school culture to change social expectations and shift the paradigm to break out of the factory model.

History of Time and Learning

Massachusetts became the first state in the United States to sanction a compulsory education law in 1852 (Find Law, 2017). Compulsory education laws govern time for students to learn in public or state-accredited private schools (Find Law, 2017). In 1894, William Torrey Harris, United States Commissioner of Education, authored a report criticizing American public education's change in the number of school days from 193.1 to 191 per year (National Center on Time & Learning, 2017c). Alignment among American school districts began with conforming to similar hours, days, and years required to attend school by the late 1920s (Berliner & Glass, 2014).

In addition, during the 1920s, the North Central Association of Colleges and Secondary Schools demanded schools require 15 Carnegie units for graduation, class periods of at least 40 minutes, and a school year of at least 36 weeks (Tyack & Cuba, 1995). The standard Carnegie unit is calculated based upon one hour of instruction per subject each day for 24 weeks for a total of 120 hours (Silva et al., 2015). Critics of the Carnegie unit argued it led to frozen schedules, separated knowledge into discrete boxes,

and created an accounting better suited for banks than schools (Tyack & Cuba, 1995). Sturgis (2015) discussed frameworks of instruction centered on seat time and based on guaranteeing a minimum academic experience instead of student mastery of the subject. Hattie and Yates (2014) stated time is needed to allow learners opportunity to think deeply about incoming information and to find relationships among diverse ideas and experiences.

A Nation at Risk, released by the National Commission on Excellence in Education in 1983, fueled growing concern that the American school system was failing in four highlighted areas: content, expectations, time, and teaching (National Center on Time & Learning, 2017c). *A Nation at Risk* had a profound impact on the way educators think about achievement (Leithwood et al., 2004). The National Education Commission on Time and Learning (1994) published a report, *Prisoners of Time*, referencing Commissioner Harris's 1894 report and outlining inherent problems with the traditional school calendar (National Center on Time & Learning, 2017d; National Education Commission on Time and Learning, 1994).

As of 1997, Arizona boldly pioneered the path as the first state to push school districts from 180 to 200 instructional days (National Center on Time & Learning, 2017c). During the 1990s, charter schools were established and changed from a traditional calendar and length of day to a model of student outcomes (Farbman, 2015; National Center on Time & Learning, 2017c). The American Recovery and Reinvestment Act of 2009 (ARRA) provided $3.5 billion for the School Improvement Fund with the aim to "turn around" persistently low-performing schools (U.S. Department of Education, 2009).

Education, at all levels and in its many forms, is experiencing significant social and economic pressure to change (Huitt & Monetti, 2017). Identifying the challenges facing schools today is not hard but recognizing the best ways to address them is not easy (Daggett, 2014). An increasing number of education leaders understand traditional time-based methods of learning contribute to the continuation of inequity in the public school system (Bray & McClaskey, 2015). The pace at which the world is changing is faster than efforts being made by schools; therefore, the reality is the achievement gap continues to grow (Daggett, 2014).

In 2012, Florida mandated a targeted approach to address student achievement issues in the 100 lowest-ranking kindergarten through fifth-grade classrooms by adding an hour to the regular school day and dedicating the time to reading remediation instruction (Folsom, Osborne-Lampkin, Cooley, & Smith, 2017; Maeroff, 2014). In the first year of the program, 73 of 100 schools improved the proportion of students scoring at grade level (Maeroff, 2014). In contrast, Massachusetts expanded an extended learning time initiative without a targeted approach, and the initiative yielded inconsistent results (Maeroff, 2014). As recent as 2013, Arne Duncan, Secretary of Education, announced the U.S. Department of Education would fund schools in five states enrolling 20,000 students in 40 schools to experiment with “extended” school calendars (Berliner & Glass, 2014).

History of Assessment and Accountability

Working together to create a true system of education, educators and legislators can offer action research to help others learn from their work (DuFour et al., 2018). Students and communities deserve the best, and they deserve it immediately (DuFour et al., 2018). Different forms of testing have existed for centuries (Brown et al., 2016). The Tenth Amendment of the U.S. Constitution states, "The powers not delegated to the United States by the Constitution, nor prohibited by its States, are reserved to the States respectively or to the people" (U.S. Const. amend. X). The United States Supreme Court and the state courts have repeatedly ruled education is one of the powers reserved for the states (DuFour et al., 2018).

The Supreme Court case *Brown v. Board of Education* (1954) provided a way for the federal government to limit authority of the states regarding equal protection under the law (DuFour et al., 2018; McKenzie & Kress, 2015). The plaintiff in the *Brown v. Board of Education* case pushed back against the *Plessy v. Ferguson* (1896) verdict of "separate but equal" schools that allowed racial separation when the states provided equivalent facilities to both races (DuFour et al., 2018, p. 10). In 1954, the Supreme Court's *Brown v. Board of Education* decision banned segregated schools (Pekow, 2015). This ruling established that, under the right circumstances, the federal government could indeed play a role in K-12 education (DuFour et al., 2018). The U.S. has made great progress to improve educational opportunities for all students (Raun, 2018).

In 1965, the administration of President Lyndon Johnson used the "general welfare" clause from Article I, Section 8 of the Constitution to persuade the U.S. Congress to further strengthen the federal role in education (DuFour et al., 2018, p. 11).

Congress passed the landmark Elementary and Secondary Education Act of 1965 (ESEA) to allow local educational agencies with high concentrations of students from high-poverty families to increase and improve their academic programs (Social Welfare History Project, 2016). The ESEA established block grants for money to pass through to the states from the federal government (DuFour et al., 2018). The original intent of the ESEA was that school systems would use the money to reform and reach out to underperforming students (Social Welfare History Project, 2016).

Matters regarding what students should learn and how their learning should be monitored continued to be reserved to the states (DuFour et al., 2018). The original intent of the ESEA was to be in effect for five years; however, from 1965 to 2015, "Congress reauthorized and modified the law ten times," including the No Child Left Behind Act (2002) and the Every Student Succeeds Act (2015) (DuFour et al., 2018, p. 12). The reauthorization of the ESEA from 1965 to current day has influenced school reform (DuFour et al., 2018).

A Nation at Risk, a memorable 1983 report presented by President Ronald Reagan's National Commission on Excellence in Education, provoked the "quality of schooling" in the United States (DuFour et al., 2018, p. 12). The main warning from the report created concern regarding students in the United States as a "rising tide of mediocrity that threatens our very future as a nation of a people" (National Commission on Excellence in Education, 1983, para. 1). *A Nation at Risk* propelled one of the largest reform movements in American public schools and pushed educators to look beyond the details of school to the three big issues of time, content, and expectations (National Education Commission on Time and Learning, 1994). Specifically, to address the

predicament, the commission called for “more hours in the school day, more days in the school year and more standardized tests, more credit required for graduation, and more homework” (DuFour et al., 2018, p. 12).

The 1980s and 1990s gave way to the advent of standardized testing for purposes of school accountability with the standards-based reform movement (Brown et al., 2016). In 1989, President George H. W. Bush attempted to interject a federal voice into the education reform discussion when he convened U.S. governors for a summit on education to establish national goals (DuFour et al., 2018). The federal government set goals, but the question of how to achieve the goals was left to states and local districts (DuFour et al., 2018). During the 1990s, the Comprehensive School Reform movement pressed schools to increase the time students spend learning and to view improvement efforts as whole-school changes (Berliner & Glass, 2014; Maeroff, 2014).

The next layer of U.S. assessment initiatives came from President Bill Clinton with the Goals 2000: Educate America Act (DuFour et al., 2018). However, the year 2000 came and went without achieving the educational goals set forth (DuFour et al., 2018). Many states relied on nationally normed assessments that placed students on a spectrum of achievement rather than ensuring mastery of standards (DuFour et al., 2018).

The No Child Left Behind Act of 2002 forced states to assess reading and mathematics yearly for grades 3-8 and once during high school and to disaggregate reporting of data based upon all races and ethnicities (Aldeman, 2015; Brown et al., 2016). Prior to No Child Left Behind, nearly every state required annual norm-referenced testing in reading and mathematics, which compared students against their peers instead of holding all students to the same standards (Aldeman, 2015). No Child

Left Behind intended “to replace the laissez-faire approach to education by establishing accountability with a capital A” (DuFour et al., 2018, p. 14). While the provisions of No Child Left Behind remained in operation, “each year more and more schools failed to demonstrate adequate yearly progress; therefore, states applied for waivers to avoid sanctions” (DuFour et al., 2018, p. 16).

As of 2002, only nine states required all students in grades three to eight to take a criterion-referenced test in English language arts, and only seven states required similar mathematics assessments (Aldeman, 2015). The federal government continued to spur states to improve student achievement (Aldeman, 2015). Practically no state was using a growth model to review student progress each year until the Bush Administration invited states to participate in a pilot program; rather, states relied only on final proficiency rates (Aldeman, 2015). Policy alignments at all levels were created to measure what matters and to empower those closest to the students to make data-driven decisions (Data Quality Campaign, 2016).

No Child Left Behind signaled a major turning point in the effort to reform U.S. education by dramatically increasing the authority of the federal government in matters that states had authority to decide previously (Brown et al., 2016; DuFour et al., 2018). The public intensely favored laws allowing states to take over local districts where academic outcomes were low year over year (West, Henderson, Peterson, & Barrows, 2018). In 2018, only one-third of the public opposed the federal government assessing students in reading and mathematics annually from third to eighth grade and once in high school (West et al., 2018).

DuFour et al. (2018) stated, “Only a few states, including Missouri (the Show-Me Standards) and Florida (the Sunshine State Standards), had established academic content standards, state assessments, and established local control to decide what was best for the students in each district” (p. 14). These steps were taken to promote the goals of ensuring U.S. schools would become the highest-performing schools in the world and improving poor and minority student achievement (DuFour et al., 2018). However, “not a single state came anywhere near the No Child Left Behind goals, and none of the highest-performing nations in the world were using the reform strategies imposed on U.S. public schools” (DuFour et al., 2018, p. 16). According to Gray (2017), the more “rigid, authoritarian and narrowly task-and-test driven the school program,” the higher the possibility of low achievement for students from low-income families (para. 17).

The idea of school accountability became known in school districts, as they were held responsible by policymakers and taxpayers to provide an adequate education for every student (McKenzie & Kress, 2015). School accountability was based on three values: constructing rigorous academic standards, calculating student advancement against those standards, and attributing consequences to the results (Baucke, 2017; McKenzie & Kress, 2015). School accountability requires numerous organizational changes to embrace the collaborative work of many individuals for one collective goal – quality education (Bokas, 2016). Students are as diverse as situations are different (Bokas, 2016).

In December 2015, the Every Student Succeeds Act (ESSA) amended the Elementary and Secondary Education Act of 1965 (MODESE, 2017). The ESSA continued the policies of No Child Left Behind requiring annual testing and reporting, but

expanded the subgroup categories to include foster children, homeless status, and military information for students (DuFour et al., 2018; Woods, 2017). States have the capability to administer formative assessments during the school year to result in a single score (DuFour et al., 2018; Woods, 2017). With the ESSA, states have the ability to include measures locally decided including successful completion of advanced courses and student engagement indicators (Brown et al., 2016).

Skrla et al. (2009) noted, "A central question has been whether accountability policies and standardized testing are helping or harming the children the policies are most often designed to serve" (p. 11). States can take a more holistic look at student performance to determine whether schools are succeeding or failing with the implementation of the ESSA (DuFour et al., 2018). A variety of accountability measures have been implemented in an effort to trigger the pressure of school reform but have fallen short of consistently leading to success (Capacity Building K-12, 2016). For example, in Massachusetts, test results are part of administrator evaluations (Capacity Building K-12, 2016). Looking forward, the goal of teaching and learning must be based on an assessment system that improves instruction through an alignment to rigorous standards and consistent, equitable processes to help all students meet grade-level expectations (Brown et al., 2016).

Every Student Succeeds Act: State Comparison

The Education Commission of the States (2018) is the trustworthy source for broad knowledge and impartial resources on education strategy issues ranging from early learning through postsecondary education. A comparison study was conducted to review how the 50 states would implement the ESSA (Education Commission of the States,

2018). The key takeaways from the study in the areas of student growth, school quality or student achievement for each grade span, and a statewide rating system included the following:

> Most states (45 plus the District of Columbia) plan to use some form of a summative rating system, such as A-F grades, to describe school performance. According to state ESSA plans:
>
> - Thirteen states plan to use an A-F rating system.
> - Eleven states plan to use a descriptive rating system (Needs Improvement, Average, Good, Great, Excellent).
> - Nine states plan to use an index rating system (1-100 or 1-10).
> - Eight states plan to use a tier-of-support system (Comprehensive Support and Improvement, Targeted Support and Improvement, None).
> - Four states plus the District of Columbia plan to use a 1-5 stars system.
>
> ESSA requires states to select at least one indicator of **school quality or student success** for each grade span. According to state ESSA plans:
>
> - Thirty-five states plan to include a college and/or career readiness (may include military readiness) measure.
> - Thirty-six states plan to use a chronic absenteeism/attendance measure.
> - Twenty-two states plan to use a science proficiency/progress measure.
> - Nine states plan to use a school climate/culture measure.
> - Eight states plan to use a social studies proficiency/progress measure.
> - Six states plan to use an art access/participation or well-rounded education measure.

ESSA permits states to include **student growth** in their accountability systems. According to state ESSA plans:

- Forty-seven states plus the District of Columbia will include growth as an accountability indicator in elementary and middle school. Of those, 20 states will weight growth more than achievement; in 13 states, growth and achievement will be weighted equally.
- Twenty states will include growth as an accountability indicator in high school. Of those, seven states will weight growth more than achievement; in five states, growth and achievement will be weighted equally.

Student growth incorporates other indicators, such as English-language proficiency/progress. (Education Commission of the States, 2018, paras. 6-8)

Brown et al. (2016) declared, "States and districts must work together to grasp this chance to create coherent, aligned assessment systems that are based on rigorous outcomes" (p. 1).

History of After-School Programs

In the beginning, after-school programs were an avenue to offer children and parents a safe and controlled location during out-of-school hours (Afterschool Alliance, 2014a). Driven by changes in youth demographics of the late 1800s in the United States, as well as the increasing occurrence of formalized school and the diminished need for children to be employed on the farm, the first established after-school club provided an opportunity to enhance the lives of children (Halpern, 2002). With an increase in child labor limits and stricter laws for compulsory education, children had more free time than ever before in history (Find Law, 2017; Halpern, 2002).

Concurrently, scholastic opportunities for children expanded and were reinforced by compulsory education laws passed in the late 1800s to ensure students were spending their time learning (Halpern, 2002). Lee (1915) indicated more structured play activities would be beneficial for children's growth and development. Advocates of after-school programs recommended making them available for purposes of resolving inequities; these programs can be fundamental to closing the opportunity shortfalls that exist between high- and low-income families (Luchner, 2016). After-school programs assist students and parents with transition years throughout grades Pre-K to 12, supporting on-time promotion, linking students to career interests and pathways, and building engagement to safeguard students from dropping out (Afterschool Alliance, 2018).

According to Luchner (2016), increased attendance, improved behavior, and higher test scores can be expected from students in high-quality after-school programs as compared to their non-participating peers. Regular attendance in quality after-school programs has shown significant increases in student test scores and work habits (Luchner, 2016). Often, the accessibility of an after-school program depends on outside support of local and state agencies (Luchner, 2016). A study of Boys & Girls Clubs of America showed several benefits for students who attended the after-school program, including improvements in reading, verbal skills, writing, and attendance (Jensen, 2013).

According to the Florida Education Association (2017), the amount of time students need to learn varies. Families with the most financial means spend nine times more on academic experiences beyond the traditional school day than do low-income families (National Center on Time & Learning, 2017a). In 2014, the Afterschool Alliance (2014b) found approximately 19.4 million children (41%) not currently in an

after-school program would be enrolled if one were available to them. A broad curriculum including experiences in the arts, robotics, drama, creative writing, forensics, and music can be made available with the extension of learning time (National Center on Time & Learning, 2017a).

According to the Afterschool Alliance (2018), after-school programs are critical to children and families today, yet the need for programs is far from met. The Afterschool Alliance (2018) reported:

- In communities today, 11.3 million children take care of themselves after the school day ends.
- 10.2 million children are in afterschool programs – but the parents of another 19.4 million children say their children would participate in afterschool if a program were available.
- A report on 21st Century Community Learning Centers (afterschool programs receiving federal funds) showed that 45 percent of all participants improved their reading grades and 41 percent improved their mathematics grades.
- On school days, the hours between 3 p.m. and 6 p.m. are the peak hours for juvenile crime and experimentation with drugs, alcohol, cigarettes, and sex.
- Teens who do not participate in afterschool programs are nearly three times more likely to skip classes than teens who do participate. They are also three times more likely to use marijuana or other drugs, and they are more likely to drink alcohol, smoke cigarettes, and engage in sexual activity.
- Parents with children in afterschool programs are less stressed, have fewer unscheduled absences, and are more productive at work. (para. 1)

Looking ahead, states have the opportunity for after-school programming in the new regulations of the ESSA, which supports preparing students for the future (Brennan, 2017; Luchner, 2016).

The Every Student Succeeds Act of 2015 mentions the flexibility for states to determine school improvement plans including evidence-based interventions for helping struggling schools (Luchner, 2016). Unless an extension of time is mandated, it would be difficult for school districts to force students to attend, since extended attendance is voluntary (Maeroff, 2014). According to a report by the Afterschool Alliance (2014b), parents of more than 18 million children would enroll in an after-school program if one were available. Extended learning time will not become essential to schools until states and districts decide taxpayers should endure the cost and make it part of the regular school day (Maeroff, 2014)

Conceptual Framework

Extending learning time has the potential to create a path of equity for economically disadvantaged students (Farbman, 2015). Carroll (1963) articulated the connection between time and learning, proposing learning was characterized as a work of endeavors spent in relation to efforts needed. In this study, learning was viewed as dependent on the amount of time to learn (Carroll, 1963; Huitt, 2009).

In 1963, John Carroll defined learning as a function of efforts spent in relation to efforts needed, which became known as the model for school learning (Carroll, 1963). Carroll (1989) observed students learning a foreign language and found some students achieved the criterion faster and with less effort than others. Based on his observations, Carroll (1963) presented five variables to account for school achievement (see Figure 1):

- Aptitude: the variable of time a student needs to learn a task, unit of instruction, or curriculum to an acceptable criterion of mastery under optimal conditions of instruction and student motivation (Carroll, 1989).
- Opportunity to learn: the variable of time allowed for learning both in class and within homework (Carroll, 1989).
- Perseverance: the variable of time a student is willing to spend on learning a task or unit of instruction (Carroll, 1989).
- Quality of instruction: the variable of time based on the optimal instructional design (Carroll, 1989).
- Ability to understand instruction: the variable of time based on the learners' abilities to understand (Carroll, 1989).

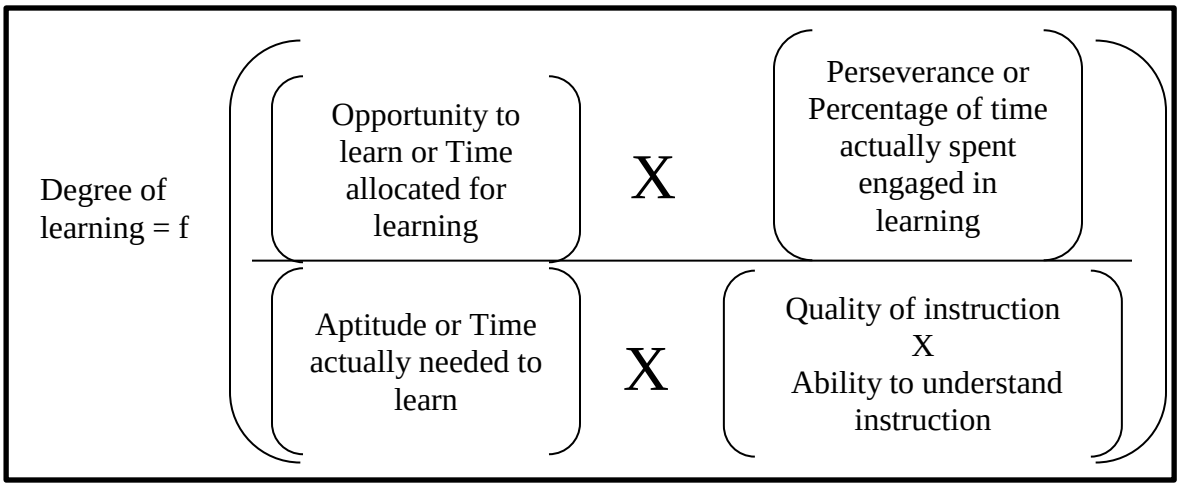


Figure 1. The Carroll model. Adapted from "What's All the Fuss about Instructional Time?" by D. Berliner, 1990, *The Nature of Time in Schools: Theoretical Concepts, Practitioner Perceptions*, p. 12. Copyright 1990 by Teachers College Press (see Appendix A).

The attribute of a strong, data-driven teacher has proven to be a crucial attribute in a child's academic success, including the empowerment of students to do their best (Data Quality Campaign, 2018). Huitt's model compares context, input, and process variables (see Figure 2) as guiding principles for all educators (Huitt, 1999; Huitt et al., 2009). The model describes specific variables as processes and characteristics in relation to student academic achievement (Huitt, 2009).

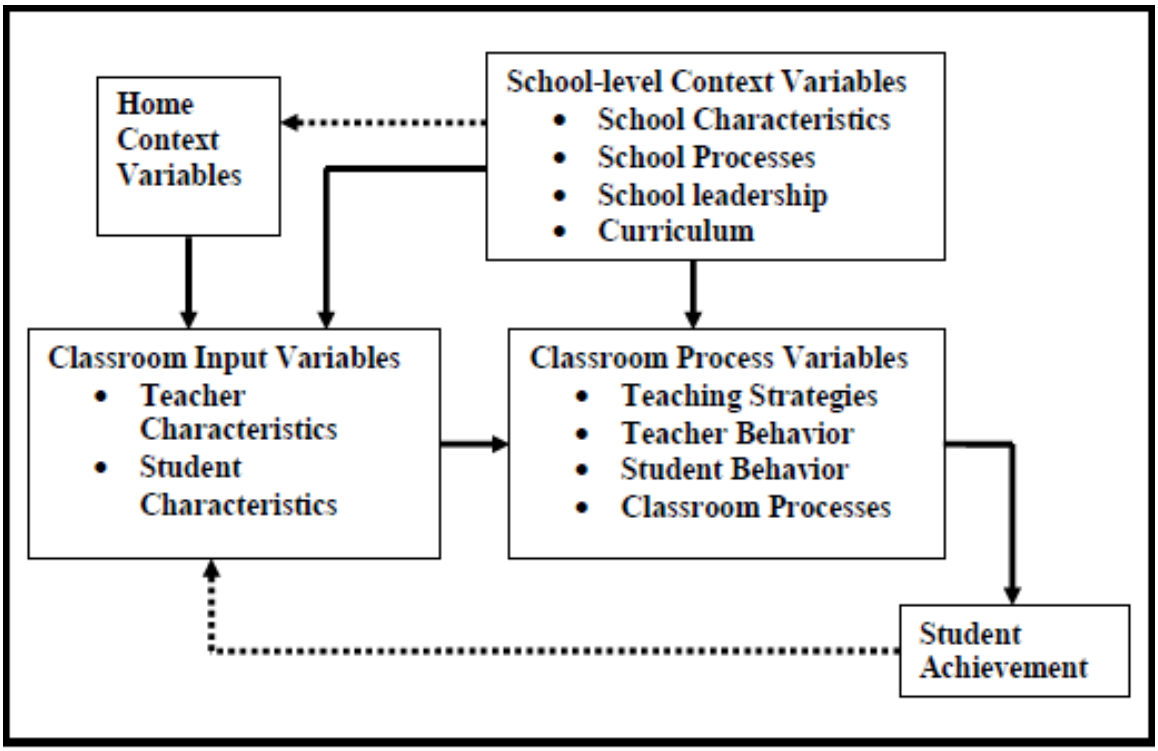


Figure 2. Huitt model of variables impacting student academic achievement. Adapted from *A Systems-Based Synthesis of Research Related to Improving Students' Achievement Performance* by W. Huitt, M. Huitt, D. Monetti, & J. Hummel, 2009. Paper presented at the 3rd International City Break Conference sponsored by the Athens Institute for Education and Research (ATINER), Athens, Greece. Copyright 2009 (see Appendix B).

The Role of Time in Closing the Achievement Gap

Leaders and teachers are responsible to cultivate a school and classroom culture where excellence is the foundation of success for all students (Whitaker, Zoul, & Casas, 2015). Schools, districts, and states effective at educating low-income and minority students have identified instructional programs with documented effectiveness in increasing student achievement (Barr & Parrett, 2007). Time spent with the adults in a

school building is equally as important as working with the students (Marshall & Marshall, 2017).

Racial inequalities are still a blemish on American society, but they are no longer the fundamental divider (Porter, 2015). According to DuFour and Marzano (2011), educators are to compel every student to these radically higher standards of academic attainment. No group of educators in the history of the United States have ever been required to do so much for so many; schools are to bring every student to dramatically higher standards of academic achievement (DuFour & Marzano, 2011). A positive relationship has been identified between improved school climate and student achievement (Blad, 2016).

Today, the biggest threat to the American dream is social class (Porter, 2015). Maeroff (2014) stated by the sixth grade, a child from a high-income family has spent exponentially more hours learning than a child from a low-income family. The achievement gap can be closed through the impact of time spent believing in students, accessing programs, and equalizing learning through opportunities for all students (Bokas, 2016; Donohoo, 2017; Gibson & Barr, 2015; Jensen, 2013; Marzano, 2001). Continuously improving teaching and learning for the benefit of students is the key to school reform (Marshall & Marshall, 2017; Marzano, 2001). According to Superville (2016), "Moving the needle for struggling students in above-average or high-performing schools is at times difficult to start" (para. 4).

Impact of Collective Efficacy

Donohoo (2017) reported, "Collective teacher efficacy refers to teachers in a school characterized by an attitude that together they can make a difference for students"

(p. 3). Hattie (2016) indicated if teachers share a sense of collective efficacy, they are the greatest factor influencing student achievement. Donohoo (2017) agreed, "The strength of collective efficacy beliefs affects how school staffs tackle difficult challenges" (p. 13). In addition, "Amazing things happen when a school staff shares the belief that they can achieve collective goals and overcome challenges to impact student achievement" (Donohoo, 2017, p. 1).

Donohoo (2017) described the *Pygmalion Effect*, where a self-fulfilling prophecy occurs when teachers hold low or high expectations for their students. Toward that end, "Turning attention to improving collective teacher efficacy would be advantageous based on its impressive list of positive consequences" (Donohoo, 2017, p. 13). A student's standards-based skill acquisition is not mutually exclusive to student engagement and enjoyment of school (Johnson et al., 2017). Superville (2016) noted, "Closing the gaps requires hard work, bringing student voice and culture into the conversation and being positive" (p. 6). Effective and engaging instructors in America's best urban schools commit to eight teaching practices (see Figure 3) to make students feel valued and capable while achieving mastery of standards (Johnson et al., 2017).

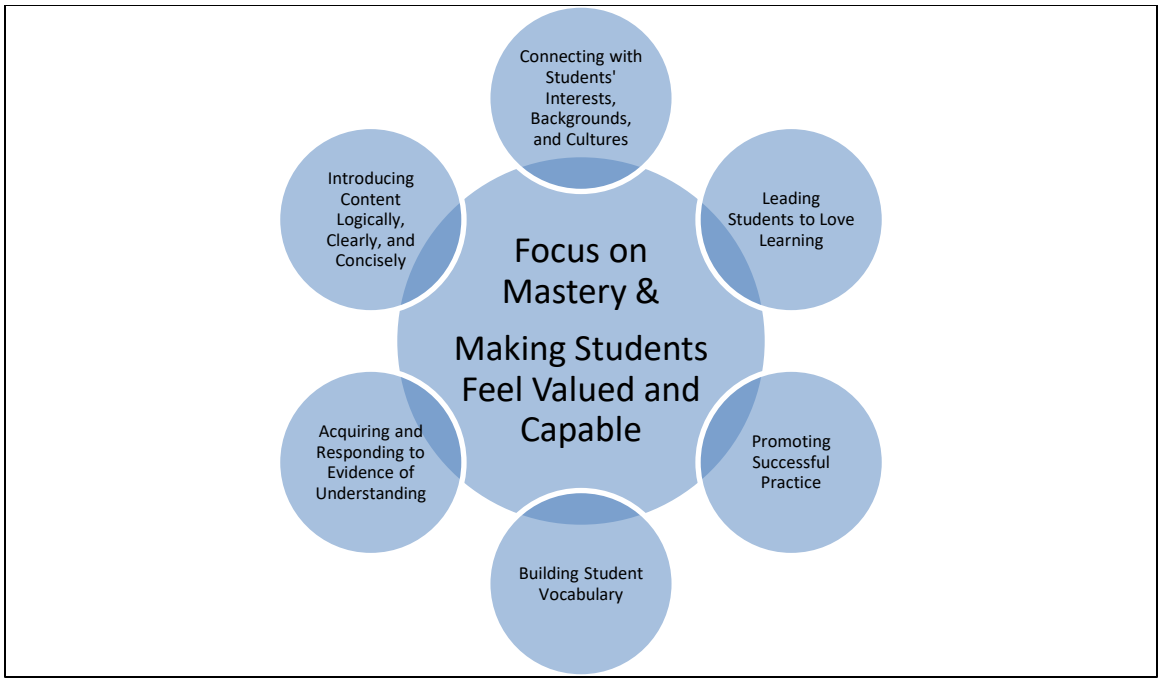


Figure 3. Teaching practices in America's best urban schools. Adapted from *Leadership in America's Best Urban Schools*, by J. Johnson, Jr., C. Uline, & L. Perez, 2017, p. 53. Copyright 2017 by Routledge (see Appendix C).

Impact of Access to Learning

In the old world of public education, low-income students were not expected to learn (Barr & Parrett, 2007). The word poverty inflames strong emotions and many inquiries (Jensen, 2013). Poverty in America is a growing phenomenon (Bokas, 2016). The Office of Management sets official poverty thresholds and budgets based on income levels lower than a sufficient amount to purchase basic needs (Jensen, 2013). In spite of decades of overall development in reducing achievement gaps, disparities in educational results related to poverty, English language proficiency, disability, and racial and ethnic background continue (National Education Association, 2018). All the needs of children

are not being met by America's schools (National Center on Time & Learning, 2017d). According to Barr and Parrett (2007):

> In fact, public education actually offered these students programs that isolated, stereotyped, and impeded their progress. Because of these ineffective policies, programs, and procedures, poor children were demoralized, and the cycle of poverty continued as generation after generation of poor children and youth were not educated effectively. (p. 123)

The effects of poverty include a multifaceted array of risk influences that unfavorably affect students through emotional and social trials, chronic and critical stressors, cognitive delays, and health and safety issues (Jensen, 2013; Scherer, 2016). Throughout the United States, students, especially from high-poverty communities, lack critical supports and experiences both inside and beyond the school day to support them as students (National Center on Time & Learning, 2017d). Low academic achievement can lead to a lifetime of unemployment, missed opportunities, and the denial of a basic civil right (Gibson & Barr, 2015).

There is no single magic measure that can turn a disinterested student into an engaged learner (Bokas, 2016). To guarantee all students have an opportunity for high quality education, districts must cultivate educational practices that are flexible, relevant, empowering, and supported by the entire community (Bokas, 2016). Students from neighborhoods with concentrated poverty often face overwhelming odds in their communities and find very little interest in academic pursuits and personal achievement (Bokas, 2016).

Challenges for families of poverty can include lack of resources to meet adequate standards of living; schools can fill the gap by providing breakfast, snacks, and clothing (Capacity Building K-12, 2016). In addition to physical insecurities, students lack an adequate standard of living including tutoring and extracurricular activities that their peers may be able to access to support learning (Capacity Building K-12, 2016). Capacity Building K-12 (2016) provided lessons for all schools as part of *Every Student/Every School* guidance:

- Building leadership for learning: System and school leaders ensure necessary conditions that deepen learning and engagement enhance collective responsibility.
- Ensure equity as the foundation of excellence: All students, regardless of background or personal circumstance, can reach their full capacity with access to rich learning opportunities and with appropriate time and intervention.
- Connect professional learning needs to student learning needs: A variety of conditions from establishing group norms to unsung conversation protocols support reflective learning communities.
- Monitor impact: Using a wide range of assessments, educators evaluate effectiveness of instruction.
- Focus on effective literacy and mathematics: Deepening educator content knowledge and pedagogy for teaching (including differentiated instructional approaches).
- Build relationships and work toward collective goals: Building relationships with families and communities deepens educator knowledge and understanding of

students and facilitates teaching through culturally relevant pedagogies which improve student success.

- Understand student-learning needs: Understanding student learning needs is important because it enables refinement of educator response. (p. 8)

School strategies can meet the challenge and fill gaps by offering focused, systematic actions to help students and families access a range of resources to develop each student's capabilities (Capacity Building K-12, 2016).

According to Smith and Brazer (2016), superintendents need to remove barriers created within the system and create access to rigorous academic opportunities for all children. Furthermore, Smith and Brazer (2016) shared the principles conveyed by superintendents regarding student achievement:

- Consistent expectations of what is taught, how it is taught, and how it is measured;
- Rigorous academic experiences available and promoted to all students;
- Teacher collaboration directed toward increased student achievement performance;
- Implementation of equitable curriculum and instruction through vehicles such as professional learning communities;
- Drive for high expectations and directly confronting issues of race and privilege. (p. 36)

Research-based strategies must be a large part of school reform plans to support the change needed to make a difference for all students (Luchner, 2016). The goal of

education is to provide a solid foundation that springboards students to success beyond high school (Gibson & Barr, 2015).

Impact of Equity of Learning

The achievement gap in reading and mathematics is defined as being more than one year behind on the first day of kindergarten if students come from low-income families as compared to their peers with college-educated parents (Porter, 2015). In addition, "Despite the courageous efforts of schools and districts, students and educators are still experiencing disparities in academic outcomes and school climate between students of different races and socio-economic classes" (Raun, 2018, para. 1). The clear mission of public schools is to provide an excellent education to every child enrolled regardless of their socioeconomic status, native language, or ethnicity (Center for Public Education, 2017). Effective schools and districts have demonstrated how targeting the neediest students in a positive way not only transforms low-income children but breaks the cycle of poverty (Barr & Parrett, 2007).

The challenge of addressing student achievement gaps is that such gaps do not develop overnight and cannot be solved with simple solutions (Raun, 2018). Black and Hispanic student populations are considerably behind academically in nearly every community across the United States (Sparks, 2016). Many districts with a traditional commitment to education, and with resources to serve all students, have the worst inequities (Sparks, 2016). Achievement gaps arise from complex, deeply entrenched systems that may span generations (Raun, 2018).

Raun (2018) stated, "Some factors that contribute to generational poverty and cycles of failure are out of the control of educators, but the evidence base shows that

there are factors within educators' control" (para. 3). Brooks (2016) shared, "The schools are better than they were, but the gap between the rich and the poor is as great as it was 20 years ago because the emotional environment is worse" (para. 7). If innovation efforts are not anchored with equity and inclusion at the forefront, personalized models will only replicate the results of the traditional system (Freeland-Fischer & Parsi, 2018).

Equity audits have a significant history in at least three areas of U.S. education: (a) civil rights enforcement, (b) curriculum auditing and mathematics and science reform, and (c) state accountability (Skrla et al., 2009). Skrla et al. (2009) offered a model with 12 indicators grouped into three areas: teacher quality equity, programmatic equity, and achievement equity. At the district level, there is essentially one large question to lead the efforts of identifying the inequities of learning (Skrla et al., 2009):

> Do systematic differences exist across campuses within the same district on the indicators of the equity audit? That is, no matter what the overall level of performance for the district is on a particular indicator, are these differences associated with the racial and economic composition of the campuses? (p. 58)

Being bold is about personifying knowledge, confidence, and courage in the face of perceived risk (Kieschnick, 2017). Data are powerful tools to highlight inequities in education and to help identify solutions (Data Quality Campaign, 2017b).

Skrla et al. (2009) noted, "The simple existence of the data does not automatically lead to school improvement or diminished achievement gaps in our schools, the data must be analyzed, linked and monitored to key metrics" (p. 5). Marshall and Marshall (2017) firmly understood the impact of classroom observations as a measure of impact on teaching and learning. Building relationships with teachers and students includes "mini-

observations" to know what is going on in classrooms, to identify early warning signs of classroom problems, and to provide focused coaching for teachers (Marshall & Marshall, 2017).

Over several generations, federal, state, and local governments have amplified spending for public education and have reduced the spending gap between low-income and high-income school districts; during this same era, the achievement gap has increased (Gray, 2017). Skrla et al. (2009) reported, "Equity audits are a systematic way for school leaders to access the degree of equity or inequity present in three areas of their schools or districts: programs, teacher quality, and achievement" (p. 3). Freeland-Fischer and Parsi (2018) offered an equity framework centered around four questions to ensure equity in the design of programs:

- Vision: Is the vision guiding an initiative incorporating all students? How could an outsider or a new team member ascertain these characteristics?
- Engagement: Who are the stakeholders who have been invited into the conversations? Do those stakeholders reflect the diversity of the community being served?
- Difficult Conversations: How have you been explicit about the mindsets of different actors in the system? Have you set up a space to talk about addressing underlying biases related to race, culture, gender, sexual orientation, and disability status?
- Action-Reaction: How have you set up a system to act on what you have learned? What are the protocols your team and program use to modify their practice? (para. 10)

Many children from low-income households cannot catch up to the achievement levels of their advantaged peers (Barr & Parrett, 2007). Even though federal, state, and district policies have evolved, they have unsuccessfully addressed key areas of access to learning, equity of learning, and the opportunity to learn (Barr & Parrett, 2007).

Impact of Opportunity to Learn

Educators want students to attend school and to be authentically and actively engaged in what they are learning (Brown et al., 2016; Whitaker et al., 2015). An assured and viable curriculum is a combination of the factors "opportunity to learn" and "time" (Marzano, 2001, p. 52). The Scheerens and Bosker ranking (see Figure 4) was the "first of its kind and significantly increased the understanding of school level factors associated with enhanced academic achievement" (Marzano, 2001, p. 17).

According to Marzano (2001), the strongest link to student achievement and all school-level factors identified is the opportunity to learn (see Figure 5). A barrier is created to the guaranteed viable curriculum if children do not have the opportunity to learn the content expected (Marzano, 2003). Marzano (2003) stated, "A viable curriculum is unattainable without the benefit of time" (p. 24).

Ranking of School-Level Factors Based on Scheerens and Bosker	
Rank	Factor
1	Time
2	Monitoring
3	Pressure to Achieve
4	Parental Involvement
5	School Climate
6	Content Coverage
7	School Leadership
8	Cooperation

Figure 4. Ranking of school-level factors (Scheeran & Bosker). Adapted from *What Works in School: Translating Research into Action* by R. Marzano, 2003, p. 17. Copyright 2003 by the Association for Supervision and Curriculum Development (see Appendix D).

As difficult as it might be, expanding institutional capacity to provide all families and students with opportunities for learning is a necessity (Bokas, 2016). With all of the variances, however, what stays constant is that to improve the odds for all students, education needs to become a responsibility of all (Bokas, 2016). Hattie and Yates (2014) asserted, "What a student already knows determines what they can learn and how the student thinks" (p. 126). Excuses cannot be accepted by schools with at-risk students, since evidence exists that schools can effectively educate at-risk students (Farbman, 2015). Often the opportunity to learn erodes for students in high-poverty schools, due to

interruptions from discipline issues and a lack of capable substitute teachers (Farbman, 2015).

Ranking of School-Level Factors	
Rank	Factor
1	Opportunity to Learn
2	Time
3	Monitoring
4	Pressure to Achieve
5	Parental Involvement
6	School Climate
7	Leadership
8	Cooperation

Figure 5. Ranking of school-level factors (Marzano). Adapted from *What Works in School: Translating Research into Action* by R. Marzano, 2003, p. 18. Copyright 2003 by the Association for Supervision and Curriculum Development.

Regardless of the neighborhood a student comes from, each and every student has the right to a great teacher (Data Quality Campaign, 2017b). Fitting all state standards and district- and school-level expectations into a typical school day is impossible, since all students learn at different rates (Couros, 2015; Marzano, 2003; Taylor, 2016). In 1994, the National Education Commission on Time and Learning reported the mean school day consisted of 5.6 hours of class time out of a six-period day. Marzano (2003)

offered five action steps to implement a guaranteed and viable curriculum to create the opportunity to learn how to do the following:

1. Identify and communicate the content considered essential for all students versus that considered supplemental or necessary only for those seeking postsecondary education. (p. 25)
2. Ensure essential content can be addressed in the amount of time available for instruction. (p. 29)
3. Sequence and organize the essential content in such a way that students have ample opportunity to learn it. (p. 30)
4. Ensure teachers address the essential content. (p. 30)
5. Protect the instructional time available. (p. 31)

According to Bokas (2016), "A modern view of educating includes opportunities to learn by removing the barriers of school walls as the absolute space for learning" (para. 3). To guarantee all students have an opportunity for quality education, however, schools have to promote educational practices that are "flexible, relevant, empowering, and supported by the entire community" (Bokas, 2016, para. 3). When students explore their passions and interests, they are empowered, because the learning is engaging and personal (Bokas, 2016; Couros, 2015).

Kaplan and Chan (2011) suggested time for thorough and comprehensive education that ensures student success in college and careers as the Four Interlocking Gears of School Success with the following components:

- Time: Time for a rigorous and well-rounded education that prepares students for success in college and careers.

- People: Time to coach and develop teachers and continually strengthen instruction.
- Data: Time for teachers to assess students understanding and analyze and respond to data.
- School Culture: Time to build high expectations for achievement and behavior. (pp. 4-5)

When schools address these factors, the gap will begin to narrow (Schrader, 2017). Efficient, engaging, and focused uses of time are allocated in the classrooms that lead to closing the achievement gap (Daggett, 2014; Florida Education Association, 2017; Gendron & Traub, 2015). Students need memory skills to learn lower-level surface knowledge, not necessarily the deeper or extended aspects (Hattie & Yates, 2014). Students need to know surface knowledge before they can extend the learning through experience (Hattie & Yates, 2014).

Barriers to Closing the Achievement Gap

Learning is the variable. The expectation is for administrators and teachers to go beyond to meet standards above all other nations, while supporting an increasing number of students who have fallen further behind in traditional schools (DuFour & Marzano, 2011). In most states, the designers of accountability systems presume students have the same amount of time and the same levels of support to develop proficiency in the intended outcomes (DuFour et al., 2018). Learners are placed at their appropriate developmental instructional levels based on demonstrative performance (Bray & McClaskey, 2015). The problem with this approach is that time and support are the

constants, and the variable is always the learning (DuFour et al., 2018). According to DuFour et al. (2018):

> Until a school has a systematic plan to provide struggling students with additional time and support for learning, those students will continue to be subjected to an educational lottery in which the response to their struggles depends almost entirely on the randomness of their assigned teacher. (p. 38)

Data should be provided to parents from all assessments in a timely, individualized format to improve student performance (Brown et al., 2016).

The Center for American Progress identified several steps for school districts and buildings to shore up the variable of learning (Brown et al., 2016). The district should identify overlapping testing programs, build teacher capacity for understanding the assessment design, develop aligned systems of high-quality formative assessments, better communicate to parents, and ensure seamless logistics of assessment with the least amount of classroom disruption (Brown et al., 2016). Brown et al. (2016) went on to discuss suggestions for buildings including creating relaxing testing environments, implementing parent communication nights, supporting teacher understanding of the process, and ending unnecessary test preparation (Brown et al., 2016). If students have an active voice in their skill development and knowledge attainment, then learning ownership will occur at the highest performance level (Florida Education Association, 2017). There is not one remedy that will work for every student every time (Bokas, 2016).

Time is the constant. The quantity of time produces a deeper learning for students actively engaged in the learning progression in relation to the student's quantity

of time needed in order to learn (Florida Education Association, 2017). The amount of allocated time in public education is similar (Rogers et al., 2014). Building bell schedules are not useful for measuring available learning time, as every school varies in teacher and student absences, delays and early releases in the calendar, and disruptions to the daily routine (Rogers et al., 2014). According to Peter Gray (2017):

> The compulsory public school system is supposed to be "the great equalizer." By providing the same schooling to everyone, it is supposed to promote equal opportunities for young people regardless of their socioeconomic background. In fact, however, the system has never been a great equalizer, and research indicates that it is even much less an equalizer today than it was in the past. (para. 1)

According to the *Keeping Time* survey conducted by the University of California-Los Angeles's Institute for Democracy, Education and Access, students in low-income schools have a disadvantage compared to students in high-income schools in terms of instructional opportunities (Rogers et al., 2014). The survey results highlighted high-poverty schools "experience cracks in the very foundation of educational opportunity" (Rogers et al., 2014, p. 3).

Validated proficiency levels advance learners to the next performance stage in a content area (Bray & McClaskey, 2015). According to Gibson and Barr (2015), a proven organizational strategy to improve low-performing schools is to extend learning time. Overhauling and significantly expanding the school day has appeared to close the student achievement gap by two years of education (National Center on Time & Learning, 2017d).

Summary

The literature review in this chapter included information on the history of time and learning (National Center on Time & Learning, 2017c), Carroll's (1963) "Model of School Learning," and school reform based on the perspective of William Huitt (2009). Specifically, this research was guided by Carroll's (1963) opportunity to learn and Huitt's (1999; 2009) "What You Measure Is What You Get." The concern about instructional time is not new (Berliner, 1990; Carroll, 1963). Districts considering changes to their schedules must identify the usual barriers and questions about extending the school day (Mette & Biddle, 2016; Rosenberg, 2015).

When students are no longer serving time, but when time is serving them, they will have the greatest chance at success (National Education Commission on Time and Learning, 1994). If students arrive at school below grade level academically and quickly fall further behind, they must be provided with extra instructional time (Barr & Parrett, 2007). The key to turning around schools that struggle to support student learning lies in the ability of formal and informal leaders to cultivate collective efficacy (Donohoo, 2017). A critical component of student success is a strong classroom teacher rooted in data-driven decisions (Data Quality Campaign, 2018).

In conclusion, instructional time variables clearly play a part in predicting, understanding, and directing instructional processes across a broad range of activities (Berliner, 1990). It has been demonstrated in effective schools that before- and after-school programs and Saturday programs are essential to increasing student achievement (Barr & Parrett, 2007). Lasting improvements in closing the achievement gap will be realized when the move shifts toward proficiency education in elementary and secondary

schools, alterations to accountability, assessment, data, research, and funding systems (Patrick et al., 2016). Chapter Three contains details of the methodology utilized in this study. The data analysis process is revealed in Chapter Four, while findings are shared in Chapter Five.

Chapter Three: Methodology

Students in poverty who arrive at school far behind their more affluent classmates quickly fall further behind unless they receive additional instructional time to remediate and accelerate their learning in a framework serving the not-so-common learner (Barr & Parrett, 2007; Dove, Honingsfeld, & Cohan, 2014). All students must have high academic achievement or live out their lives unemployed, underemployed, or unemployable (Gibson & Barr, 2015). Carroll's (1963) "Model of School Learning" views time as the variable and learning as the constant. In this chapter, the overview of the study is revisited, the research design is established, ethical considerations are discussed, and components of the study are outlined including population and sample, instrumentation, data collection, and data analysis.

Expert instruction is needed for some students if they are expected to succeed as readers (Allington, 2013; Skillicorn, 2016). Research and practice indicate adding time to the school day or year can have a meaningfully positive impact on student proficiency and upon a child's entire educational experience (Allington, 2013; Farbman, 2015). Farbman (2015) found providing instructional time of at least 300 more annual hours than conventional allotments is one of the strongest predictors of higher achievement. Through Farbman's (2015) research it was also made clear time is a resource which must be used well and in concert with a continuous focus on quality implementation to realize full potential.

In this study, the after-school remediation program designed to provide the potential for 60 additional hours of instruction per semester for a targeted group of students was critically examined. Students invited to the after-school remediation

program met the eligibility criteria of performing at least one grade level below their current grade level in either reading or mathematics as measured by the i-Ready Diagnostic Assessment (A. Pilley, personal communication, May 6, 2017). Eligible students' scale scores in the areas of reading and mathematics were associated with hours of attendance in an after-school remediation program and were compared to the scale scores of eligible students who did not attend the after-school remediation program. In addition, the researcher reviewed the correlation between the amount of time spent in the after-school remediation program and the change in scale scores from beginning-of-the-year to middle-of-the-year i-Ready Diagnostic Assessments administered by the Midwestern school district.

Problem and Purpose Overview

During the spring of 2017, a district work team in a Midwestern school district was established to take a closer look at the reading and mathematics remediation needs of elementary-level students (A. Pilley, personal communication, May 6, 2017). The district work team started by reviewing the large number of students who scored below grade-level expectations as measured by the Missouri Assessment Program (MAP) in the content areas of English language arts or mathematics (A. Pilley, personal communication, May 6, 2017). The problems identified by the district work team included a high number of low achievement scores in reading and mathematics and low utilization of state funding available for remediation. The purpose of this study was to find the most effective way to improve student achievement while using the remediation funds available.

Research questions and hypotheses. The following research questions and hypotheses guided the study:

1. What is the difference in mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program?

$H1_0$: There is no difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program.

$H1_a$: There is a difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program.

2. What is the difference in mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school program?

$H2_0$: There is no difference in middle-of-the-year mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school program.

$H2_a$: There is a difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program.

3. What is the correlation between scale score gains on a middle-of-the-year reading diagnostic assessment and number of hours spent in an after-school program?

$H3_0$: There is no correlation in mean scale score gains on a reading diagnostic assessment and number of hours spent in an after-school program.

$H3_a$: There is a correlation in mean scale score gains on a reading diagnostic assessment and number of hours spent in an after-school program.

4. What is the correlation between scale score gains on a middle-of-the-year mathematics diagnostic assessment and number of hours spent in an after-school program?

$H4_0$: There is no correlation in mean scale score gains on a mathematics diagnostic assessment and number of hours spent in an after-school program.

$H4_a$: There is a correlation in mean scale score gains on a mathematics diagnostic assessment and number of hours spent in an after-school program.

Research Design

The eligible students who attended the after-school remediation program were grouped according to hours of attendance. The criteria for eligibility included performing at least one grade level below current grade level in either mathematics or reading and being in grades one through four during the 2016-2017 school year; students in the study were in grades two through five during the 2017-2018 school year (A. Pilley, personal communication, May 6, 2017). In causal-comparative research, investigators attempt to determine the causes or consequences of differences that already exist between or among groups of individuals (Fraenkel et al., 2015). According to Fraenkel et al. (2015), the group difference variable is either a variable that cannot be manipulated or one that might have been manipulated but for one reason or another has not been. This causal-comparative analysis involved comparing two groups of students to determine if they differed in terms of mean score growth from beginning-of-year to middle-of-year based on the variable of attending an after-school remediation program.

A frequency polygon was created based on the number of hours attended in the after-school remediation program. Based on the frequency polygon, a one-way analysis of variance (ANOVA) test was conducted on multiple data sets to determine if there was a statistically significant difference in the mean scale score gain based on the frequency of time. The frequency bans for the study were as follows: Group X (zero hours), Group A (1.00-10.00 hours), Group B (10.01-20.00 hours), Group C (20.01 hours-30.00 hours), Group D (30.01-40.00 hours), Group E (40.01-50.00 hours), and Group F (50.01-60.00 hours).

The same frequency groups were used for reading and mathematics ANOVA testing. Next, the researcher set the data up into an array of total hours attended by each eligible student (independent variable) in relation to his or her scale score change (dependent variable). Then, a correlation test was performed to determine the relationship between time and learning as measured by the scale score change.

Population and Sample

The population of this study included 4,135 students in grades two through five who met the eligibility criteria for an after-school remediation program supporting reading and mathematics (see Table 1). The i-Ready mean scale scores of these students were reviewed to determine if participation in an after-school remediation program was related to a difference in student performance. The study focused on all students who met the eligibility criteria for one public school district in the Midwest; therefore, the sample is a limitation, and the results of the analysis should not be considered absolute (Fraenkel et al., 2015).

Secondary data. Secondary data collected by the Midwestern school district were used for this study. The data already existed for the Midwestern school district, which limits the study to the fields available as part of the data collection and assumes the research has the depth to provide interpretation of results in accordance with the intended use of the instrument (Fraenkel et al., 2015). This study focused on the independent variable of time in relation to the dependent variable of student outcome as measured by scale score growth from beginning-of-the-year to middle-of-the-year in reading and mathematics.

Instrumentation

This study was based on an existing diagnostic instrument created by Curriculum Associates called i-Ready Adaptive Diagnostic (D. Whitham, personal communication, August 16, 2017). According to Fraenkel et al. (2015), selecting an instrument already developed is preferred due to the benefit of being created by experts. The validity of the i-Ready instrument is based on the defensibility of the inferences a researcher can make from the data collected (Fraenkel et al., 2015). The reliability of i-Ready products is based on extensive stand-alone and embedded field testing with over two million students nationwide (i-Ready Central, 2017a). Upon completion of the i-Ready Adaptive Diagnostic, multiple scores are reported by i-Ready to provide a well-rounded view of each student's proficiency levels (i-Ready Central, 2017a):

- Scale Scores – a common language across grades and schools. Scale scores put everything on a single continuum, so educators can compare across grade levels. The scores provide a metric, which indicates a student has mastered skills up to a certain point and still needs to work on skills that come after that point.

- Placement Levels – the practical day-to-day language that helps teachers determine what grade level of skills to focus on with a particular student. Placement levels indicate where students should be receiving instruction.
- Norm Scores – identify how students are performing relative to their peers nationwide. Based on a nationally representative sample of students, norm scores specify a student's ranking compared to other students in the same grade.
- Lexile® Measures – developed by MetaMetrics®, Lexile® measures are widely used as measures of text complexity and reading ability, allowing a direct link between the level of reading materials and the student's ability to read those materials.
- Quantile® Measures – developed by MetaMetrics®, the Quantile® Framework for Mathematics is a unique resource for accurately estimating a student's ability to think mathematically and matching him/her with appropriate mathematical content. (i-Ready Central, 2017a, p. 8)

Educators are given reliable, explicit quantitative information on each student's abilities regarding specific skills mastered and those that need to be prioritized for instruction (i-Ready Central, 2017a).

Data Collection

Permission to collect data for this study was granted by the Institutional Review Board at Lindenwood University (see Appendix E), as well as from the Midwestern school district (see Appendix F). Once permission was granted, the Coordinator of Accountability created two de-identified groups of students representing those who received remediation during the after-school remediation program (R_1) and those eligible

who did not attend the after-school remediation program (R_2). The Coordinator of Accountability provided the results of the beginning-of-year i-Ready diagnostic for eligible students, the middle-of-year diagnostic scale scores for eligible students, and the number of hours of attendance in the after-school remediation program.

Data Analysis

In order to answer the four research questions, a variety of statistical tests were conducted on the data sets. Using the Data Analysis Add-In in Microsoft Excel, the measures of central tendency including mean, median, mode, and midrange were calculated. The causal-comparative research process required the setup of two groups of students: one with the independent variable of remediation in the after-school remediation program and one without remediation in the after-school remediation program (see Figure 6) (Fraenkel et al., 2015).

Group	Independent variable	Dependent variable
I	R_1 (group possesses remediation)	SSG (scale score growth)
II	R_2 (group does not possess remediation)	SSG (scale score growth)

Figure 6. Basic causal-comparative designs. Adapted from "Causal-Comparative Designs" by J. Fraenkel, N. Wallen, & H. Hyun, 2015, *How to Design and Evaluate Research in Education* (9th ed.), p. 368. Copyright 2015 by McGraw Hill Education.

The researcher analyzed the differences between Groups I and II based on the mean scale score gains from the beginning-of-year to middle-of-year i-Ready Diagnostic

Assessment in both reading and mathematics. The one-way ANOVA test was conducted on multiple sets of data to determine if there was a statistically significant difference in mean scale score gains based on attendance in the after-school remediation program (Fraenkel et al., 2015). The correlation coefficient (*r*) was calculated to determine the strength of the relationship between the number of hours of attendance in the after-school remediation program and the scale score difference from the beginning-of-the-year and middle-of-the-year results.

Ethical Considerations

All data and supporting documentation were locked in both physical and electronic forms. Electronic files were password-protected and saved on a secure network. Because this study required comparison of student-level data, the Coordinator of Accountability encrypted the student names and numbers to de-identify scores to ensure student anonymity. If data sets were less than five, numbers were suppressed in data statements for purposes of maintaining student anonymity. Due to the possibility of conflict of interest because the researcher supervises the Coordinator of Accountability, safeguards were put in place by including the Supervisor of Analytics to validate student data identifiers, which were expunged before the data were provided to the researcher and data analysis was conducted. The Exempt Research Information Sheet (see Appendix G) was provided to the Coordinator for Accountability and the Supervisor of Analytics to ensure only de-identifiable data were provided to the researcher.

Summary

Underachieving students who live in poverty require more instructional time to catch up to their higher-achieving peers (Scherer, 2016). The objective for this causal-

comparative research was to examine the possible differences between students who attended an after-school remediation program and those who did not attend, as well as to discover possible causes for the differences (Fraenkel et al., 2015). A key factor in causal-comparative research was to ensure the groups were homogeneous with regard to the independent variable of remediation in the after-school program (Fraenkel et al., 2015).

In Chapter Four, the results of this quantitative study on the relationship between after-school remediation program attendance and scale score differences in reading and mathematics are revealed and analyzed. The findings of the research questions are presented and explained. In Chapter Five, the study is concluded with a summary of the implications for practice and data analysis. Recommendations for future research are made for educators based on the results of the study.

Chapter Four: Analysis of Data

The purpose of this study was to examine differences in mean scale score gains of eligible participants and eligible nonparticipants of an after-school remediation program. Further, the correlation between scale score gains on a middle-of-year diagnostic assessment and time spent in an after-school remediation program was reviewed. The focus of this study was to understand the relationship between additional time for remediation and student achievement for students meeting eligibility for after-school remediation, specially examining mathematics and reading achievement. Student achievement data were collected and compared to determine the impact of the after-school remediation program on eligible students who attended.

Closing the gap means overcoming many complex issues, such as low expectations for students, underdeveloped language skills, and lack of equity in teacher quality, program participation, and resources (Skrla et al., 2009). The outcomes of this study could allow educators to identify the impact of program participation. Furthermore, the i-Ready Adaptive Diagnostic instrument utilized in this study could allow educators to better understand individual student needs (i-Ready Central, 2018).

Data Collection

Student achievement data were collected for this study by the Midwestern school district as a component of the district assessment plan for both the beginning-of-the-year and middle-of-the-year. Following Lindenwood University Institutional Review Board approval, all data were de-identified, analyzed, and protected according to guidelines (see Appendix H). Once the middle-of-the-year diagnostic was complete, the results were tied

to eligible students who attended the after-school remediation program and eligible students who did not attend the after-school remediation program.

The participating eligible students were compared to those who did not participate but were eligible to determine if the growth of those who participated in the after-school remediation program exceeded the growth of those who did not participate as measured by scale scores on the i-Ready Adaptive Diagnostic assessment. In addition, data were analyzed to determine the correlation between scale score gains in reading and mathematics and hours of attendance for students who attended the after-school remediation program. Of the 4,135 students who met the eligibility criteria, 1,847 logged one hour or more of attendance from September 2017 to December 2017. There were 2,288 eligible students who did not attend the after-school remediation program.

Organization of the Chapter

This chapter contains a summary of characteristics of all 4,135 eligible students to provide a description of the population. Then, a breakdown of demographic information is provided for the 1,847 eligible students who attended the after-school remediation program. An accounting of all eligible students who attended and had paired scores for the i-Ready Diagnostic Assessment for beginning-of-the-year and middle-of-the-year is provided (see Table 1).

Table 1

Summary of All Eligible Students with and without Attendance

	Reading			Mathematics		
	Paired	Not Paired	Total	Paired	Not Paired	Total
Eligible & Yes Attendance	1,728	119		1,726	121	
Eligible & No Attendance	1,813	475		1,814	474	
Totals	3,541	594	4,135	3,540	595	4,135

Research questions one and two were answered to show the difference in mean scale score gains on a diagnostic reading and mathematics assessment based on the time of attendance of the treatment group (eligible students who attended the after-school remediation program) and the control group (eligible students who did not attend the after-school remediation program). In addition, research questions three and four were answered regarding scale score gains at the middle-of-the-year in correlation with the number of hours an eligible student attended the after-school remediation program.

Description of All Eligible Students

In the fall of 2017, 4,135 students qualified for the after-school remediation program; 1,847 students attended one hour or more, and 2,288 students did not attend during the first semester of the 2017-2018 school year for the Midwestern school district (see Table 2). Eligible students who attended represented 44.7% of the students deemed eligible for the after-school remediation program designed to close the student achievement gap in reading and mathematics. Student demographic data were provided by the Midwestern school district.

Table 2

Summary of All Eligible Students with Attendance Participation Breakdown

Grade Level	Eligible Students	Eligible students who did attend	Eligible students who did not attend
2	988	476	512
3	1,103	488	615
4	1,023	464	559
5	1,021	419	602
Total	4,135	1,847	2,288

As shown in Table 3, the summary of all 4,135 eligible students by race and ethnicity description included Asian 2.2% (90), African American 9.5% (393), Hispanic 8.4% (348), Indian 0.5% (22), Multi 7.9% (325), Pacific Island 0.2% (10), and White 71.3% (2,947).

Table 3

Summary of All Eligible Students: Race and Ethnicity

	Asian	African American	Hispanic	Indian	Multi	Pacific Island	White
Grade 2	2.6%	10.1%	8.1%	0.7%	6.9%	0.2%	71.4%
Grade 3	1.7%	7.9%	8.6%	0.6%	8.2%	0.3%	72.7%
Grade 4	2.0%	9.5%	8.3%	0.3%	8.6%	0.2%	71.2%
Grade 5	2.4%	10.7%	8.6%	0.5%	7.7%	0.3%	69.7%
Grand Total	2.2%	9.5%	8.4%	0.5%	7.9%	0.2%	71.3%

Demographic Information

Eligible students who attended after-school remediation program. As shown in Figure 7, of the 1,847 eligible students who attended the after-school remediation program, data reflect the percent of students by grade level. The distribution of the students who attended the after-school remediation program was nearly even across grades two through five. The highest grade-level percentage was third grade with 26.7% of the 1,847 in total who attended the after-school remediation program. The lowest grade-level percentage was second grade with 23.9% of all eligible students.

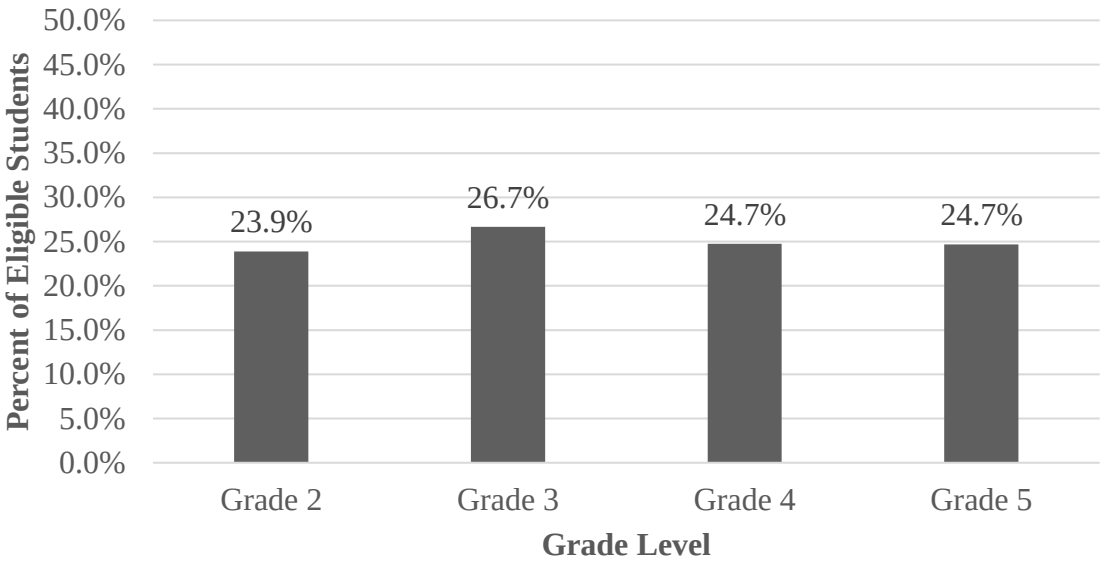


Figure 7. Percent of eligible students by grade level.

As shown in Figure 8, the data reflect the participant breakdown of meal status by grade level of eligible students who attended the after-school remediation program. Fifth grade had the highest percentage of students identified as free or reduced price meal status (74.4%) as compared to other grade levels of students who attended the after-

school remediation program. Fourth grade had the lowest percentage of eligible students (71.0%) with a meal status of free or reduced.

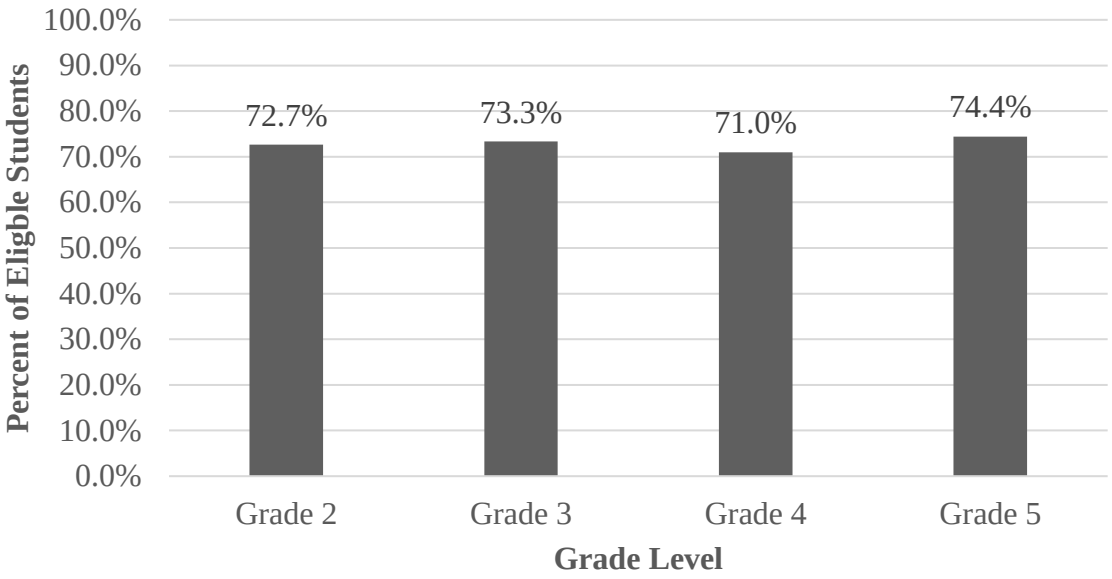


Figure 8. Percent of eligible students with free or reduced price meal status.

As shown in Figure 9, the data reflect the participant breakdown of gifted status of students who were eligible and attended the after-school remediation program. Fewer than 1% of the eligible students who attended the after-school program were also identified as gifted according to the Midwestern school district. Fifth-grade students who attended the after-school remediation program had the highest identification of gifted status with 0.9% as compared to other grade levels of students who were eligible and attended the after-school remediation program. Additional gifted services were not provided through the after-school remediation program.

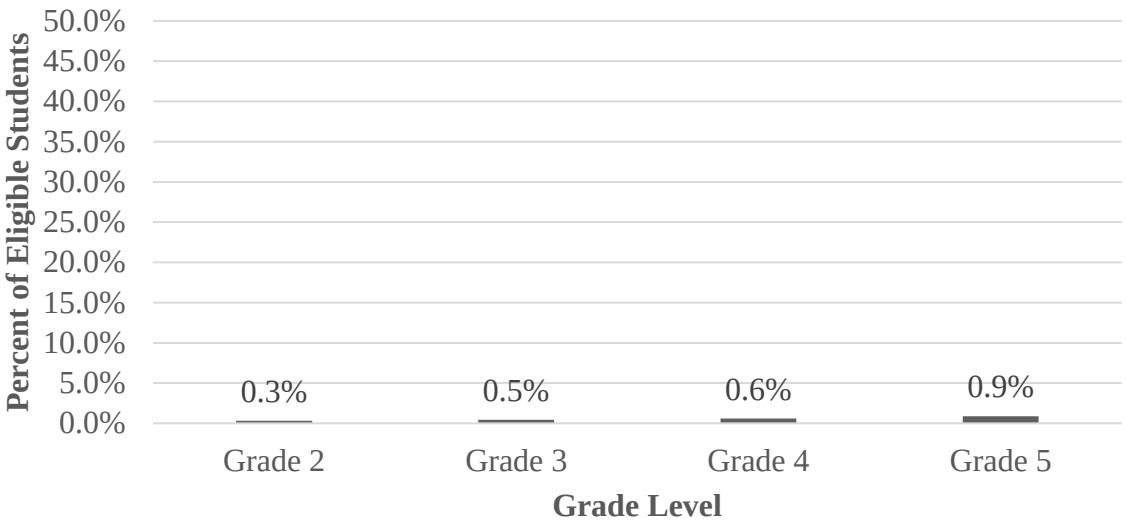


Figure 9. Percent of eligible students with gifted status.

As shown in Figure 10, the data reflect the participant breakdown of students identified and receiving services for English language learner (ELL) status. The ELL summary of all 1,847 students who attended the after-school remediation program by grade level was as follows: grade two 7.7%, grade three 6.3%, grade four 8.7%, and grade five 7.7%. Additional ELL services were not provided through the after-school remediation program.

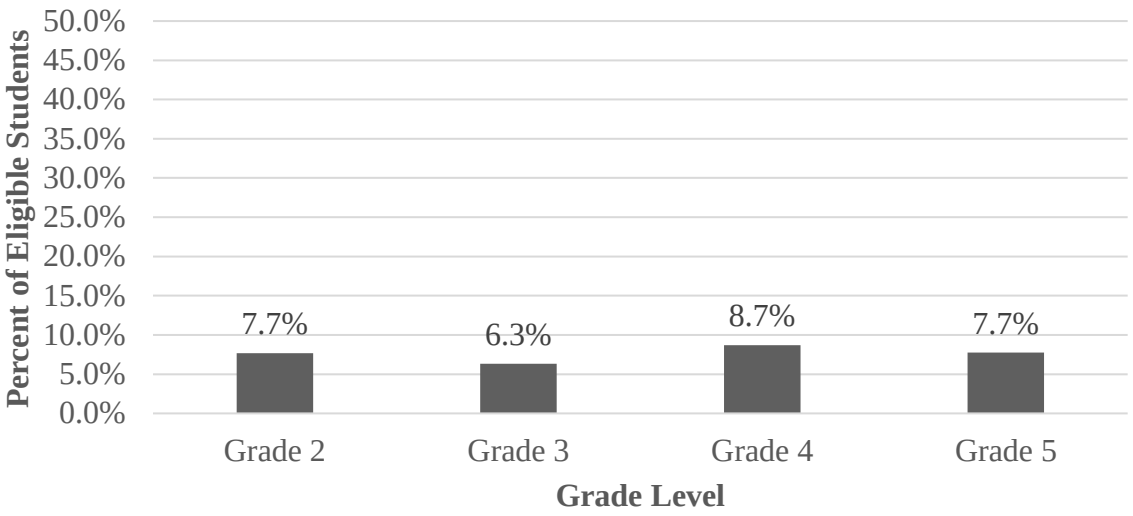


Figure 10. Percent of eligible students with English language learner status.

As shown in Figure 11, the data reflect the participant breakdown of students identified as having disabilities and receiving special education services through Individualized Educational Plan (IEP) status. The special education status of all 1,847 students who attended the after-school remediation program by grade level was as follows: grade two 20.9%, grade three 19.1%, grade four 22.4%, and grade five 22.0%. Additional special education services were not provided through the after-school remediation program.

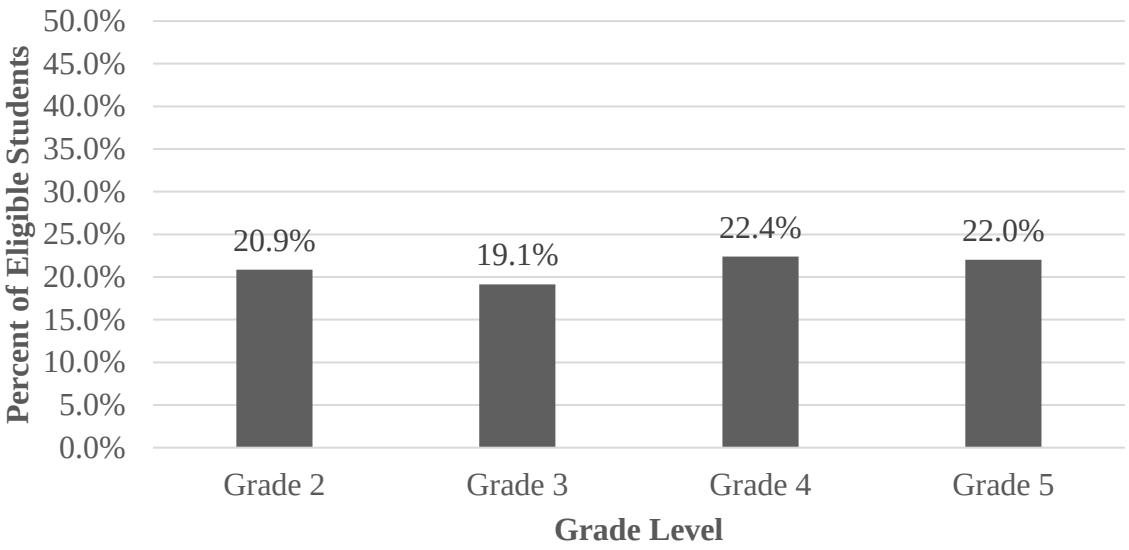


Figure 11. Percent of eligible students with IEP status.

Eligible students who attended after-school remediation program and paired scores for reading. Of the 4,135 eligible students, 1,847 students attended the after-school remediation. Of those students, 1,728 had paired scores for beginning-of-the-year and middle-of-the-year i-Ready diagnostic scale scores in the area of reading (see Table 4).

Table 4

Summary of Eligible Students Who Attended with Paired i-Ready Scores in Reading

Grade Level	Eligible students who attended	Eligible students with two i-Ready scores in Reading
2	476	447
3	488	454
4	464	435
5	419	392
Total	1,847	1,728

Eligible students who attended after-school remediation program and paired scores for mathematics. Of the 4,135 eligible students, 1,847 attended the after-school remediation. Of those students, 1,726 had paired scores for beginning-of-the-year and middle-of-the-year i-Ready diagnostic scale scores in mathematics (see Table 5).

Table 5

Summary of Eligible Students Who Attended with Paired i-Ready Scores in Mathematics

Grade Level	Eligible students who attended	Eligible students with two i-Ready scores in Mathematics
2	476	447
3	488	454
4	464	433
5	419	392
Total	1,847	1,726

Research Question One

What is the difference in mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program?

Of the 4,135 eligible students, 1,847 eligible students attended the after-school remediation program, as compared to 2,288 eligible students who did not attend at least one hour of the after-school remediation program. Table 6 displays the breakdown of eligible students with and without paired scores for reading.

Table 6

Summary of Eligible Students with and without Reading Paired Scores

Group	Paired Scores	No Paired Scores
Reading with Attendance	1,728	119
Reading without Attendance	1,813	475
Total	3,541	594

As shown in Table 7, data reflect the difference in mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school remediation program.

Table 7

Summary of Descriptive Statistics of Eligible Students with Paired Scores

Group	*N*	Mean	*SD*
Reading with Attendance	1,728	20.29	29.26
Reading without Attendance	1,813	19.87	28.73

The first research question was analyzed by conducting a one-way ANOVA on the difference in reading scale scores from beginning-of-the-year to middle-of-the-year (see Table 8). The one-way ANOVA is an appropriate statistical test to conduct when comparing the means of three or more populations (Bluman, 2013; Fraenkel et al., 2015). The mean for Group X was 19.8, the mean for Group A was 17.38, the mean for Group B was 20.28, the mean for Group C was 20.76, the mean for Group D was 17.17, the mean for Group E was 18.15, and the mean for Group F was 24.78. The one-way ANOVA resulted in $F(6, 3534) = 1.90517$, $p = 0.07626$. With α set at .05, a significance value of

p = of 0.07626 was reported between the groups of eligible attending students with paired reading scores and eligible non-attending students with paired reading scores. With F = 1.90517 less than F_{crit} = 2.10115, the null hypothesis was not rejected, and it was concluded there was not a statistically significant difference in the scale scores between the two groups.

Table 8

Summary of One-Way ANOVA Data – Reading

SUMMARY

Groups	Count	Sum	Average	Variance
Group X	1813	36021	19.868174	830.727
Group A	183	3180	17.377049	710.786
Group B	286	5799	20.276224	923.422
Group C	615	12768	20.760976	797.909
Group D	141	2421	17.170213	913.257
Group E	239	4338	18.150628	920.07
Group F	264	6541	24.776515	911.748

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P*	*F crit*
Between Groups	9620.81	6	1603.4675	1.90517	0.07626	2.10115
Within Groups	2974354	3534	841.63945			
Total	2983975	3540				

As shown in Figure 12, the data reflect the participant breakdown of students by the number of hours in attendance at the after-school remediation program. The attendance summary of all 1,847 students who attended the after-school remediation program is as follows: Group X mean = 19.8, Group A mean = 17.38, Group B mean = 20.28, Group C mean = 20.76, Group D mean = 17.17, Group E mean = 18.15, and Group F mean = 24.78.

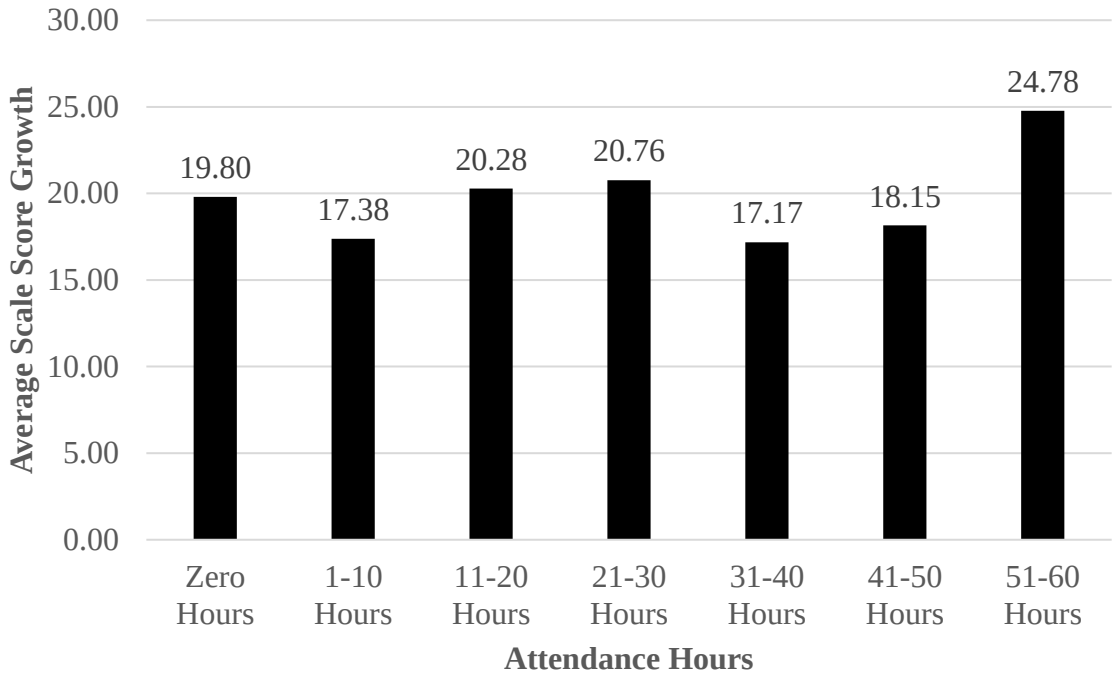


Figure 12. Average growth in reading: 2017-2018 beginning-of-the-year and 2017-2018 middle-of-the-year results.

Research Question Two

What is the difference in mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school program?

Of the 4,135 eligible students, 1,847 eligible students attended the after-school remediation program, as compared to 2,288 eligible students who did not attend at least one hour of the after-school remediation program. Table 9 displays the breakdown of eligible students with and without paired scores for mathematics. As shown in Table 9, data reflect the difference in mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school remediation program.

Table 9

Summary of Eligible Students with and without Mathematics Paired Scores

Group	Paired Scores	No Paired Scores
Mathematics with Attendance	1,726	121
Mathematics without Attendance	1,814	474
Total	3,540	595

As shown in Table 10, data reflect the difference in mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school remediation program.

Table 10

Summary of Descriptive Statistics for Mathematics with and without Attendance

Group	*N*	Mean	*SD*
Mathematics with Attendance	1726	15.15	17.08
Mathematics without Attendance	1814	14.19	16.57

The second research question was analyzed by conducting a one-way ANOVA on the difference in scale scores from beginning-of-the-year to middle-of-the-year in mathematics. The one-way ANOVA is an appropriate statistical test to conduct when comparing the means of three or more populations (Bluman, 2013; Fraenkel et al., 2015). The mean for Group X was 14.21, the mean for Group A was 13.42, the mean for Group B was 13.59, the mean for Group C was 15.71, the mean for Group D was 12.81, the mean for Group E was 16.96, and the mean for Group F was 16.32. The one-way ANOVA resulted in $F(6, 3533) = 2.23176$, $p = 0.03748$. With α set at .05, a significance value of $p = 0.03748$ was reported between the groups of eligible attending students with paired mathematics scores and the eligible non-attending students with paired mathematics scores. With $F = 2.23176$ greater than $F_{crit} = 2.10115$, the null hypothesis was rejected, and it was concluded there were statistically significant differences in the scale scores between the two groups. An additional post-hoc Tukey test revealed no statistical significance between the groups, so the null hypothesis was not rejected (Bluman, 2013; Fraenkel et al., 2015).

Table 11

Summary of One-Way ANOVA Data – Mathematics Scale Scores

SUMMARY

Groups	Count	Sum	Average	Variance
Group X	1814	25770	14.206174	324.242
Group A	183	2455	13.415301	264.178
Group B	286	3887	13.590909	288.593
Group C	613	9632	15.712887	284.529
Group D	141	1806	12.808511	419.613
Group E	239	4053	16.958159	290.309
Group F	264	4309	16.32197	272.691

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P*	*F crit*
Between Groups	4138.34	6	689.72312	2.23176	0.03748	2.10115
Within Groups	1091869	3533	309.04868			
Total	1096007	3539				

As shown in Figure 13, the data reflect the participant breakdown of students by the number of hours in attendance at the after-school remediation program. The attendance summary of all 1,847 students who attended the after-school remediation program is as follows: Group X mean = 14.21, Group A mean = 13.42, Group B mean = 13.59, Group C mean = 15.71, Group D mean = 12.81, Group E mean = 16.96, and Group F mean = 16.32.

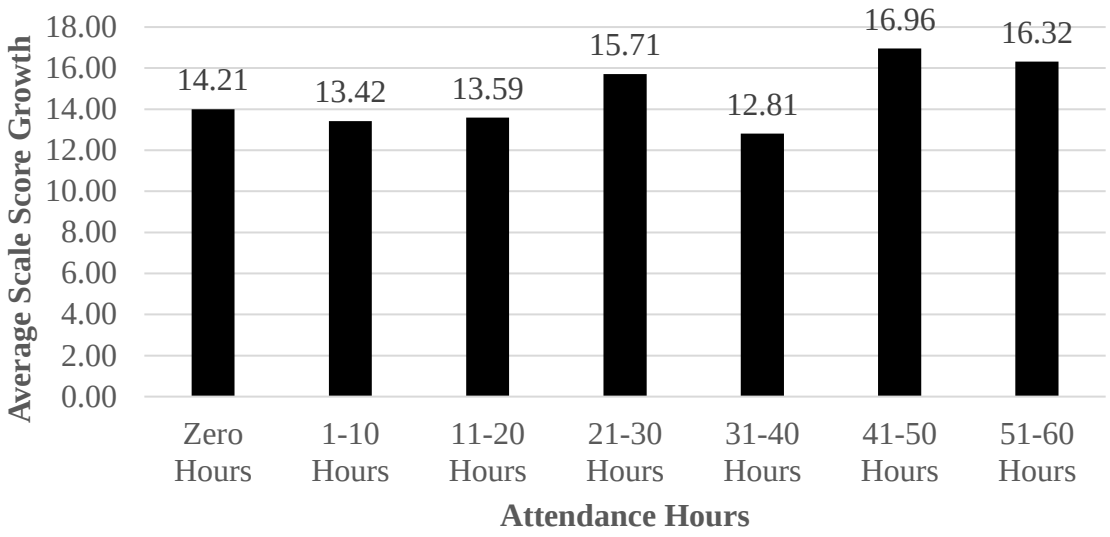


Figure 13. Average growth in mathematics: 2017-2018 beginning-of-the-year and 2017-2018 middle-of-the-year results.

Research Question Three

What is the correlation between scale score gains on a middle-of-the-year reading diagnostic assessment and the number of hours spent in the after-school program?

In Figure 14, the scatterplot displays the correlation between the hours an eligible student attended the after-school program with the difference in scale scores from beginning-of-the-year to middle-of-the-year on the reading i-Ready Diagnostic Assessment.

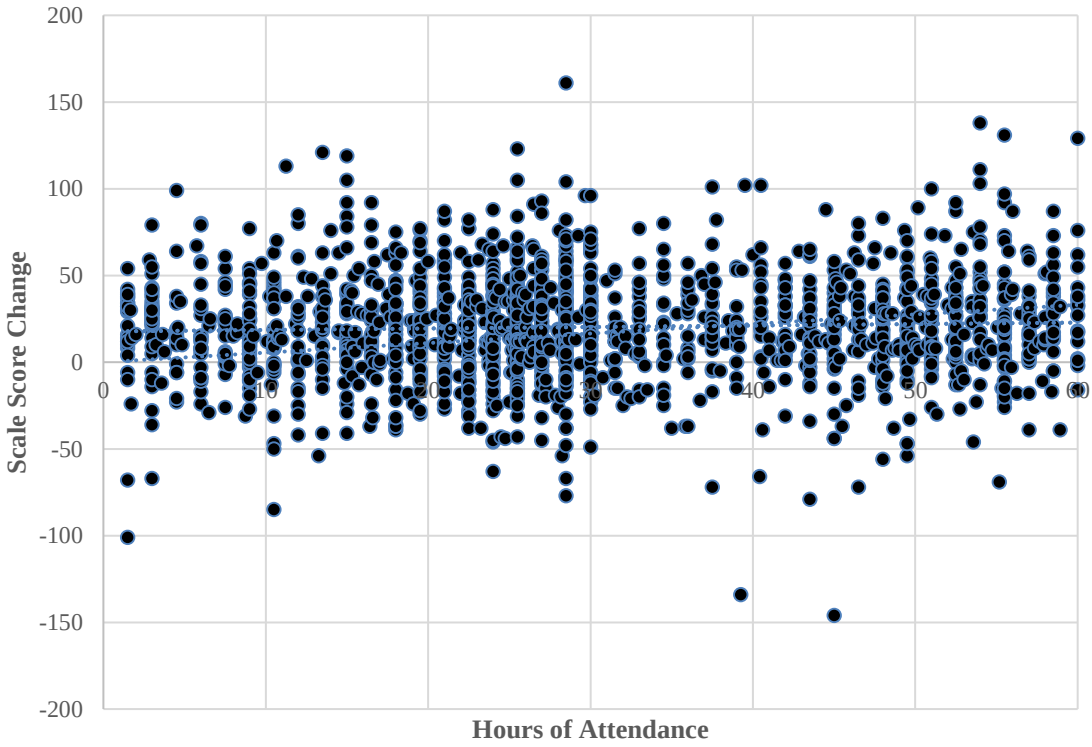


Figure 14. Correlation of attendance and scale score growth changes in reading.

In order to answer the third research question to determine if there was a relationship between scale score gain on the middle-of-the-year assessment and attendance in the after-school remediation program, the two variables were reviewed using the Pearson correlation. The Pearson correlation between the number of hours attended in the after-school remediation program and the scale score gain on reading middle-of-the-year was not significant (r = .0020, N = 1728, p = .0592). There was no clear relationship between the number of hours in attendance for after-school remediation and i-Ready middle-of-year scale scores. Since the r was near zero, the null hypothesis was not rejected (Bluman, 2013).

Table 13

Summary of Pearson Correlation Data – Reading Scale Scores

	N	*r*	*P*
Eligible students with attendance	1,728	.0020	.0592

Research Question Four

What is the correlation between scale score gains on a middle-of-the-year mathematics diagnostic assessment and the number of hours spent in the after-school program?

In Figure 15, the scatterplot displays the correlation between the hours an eligible student attended with the difference in scale scores from beginning-of-the-year to the middle-of-the-year on the mathematics i-Ready Diagnostic Assessment.

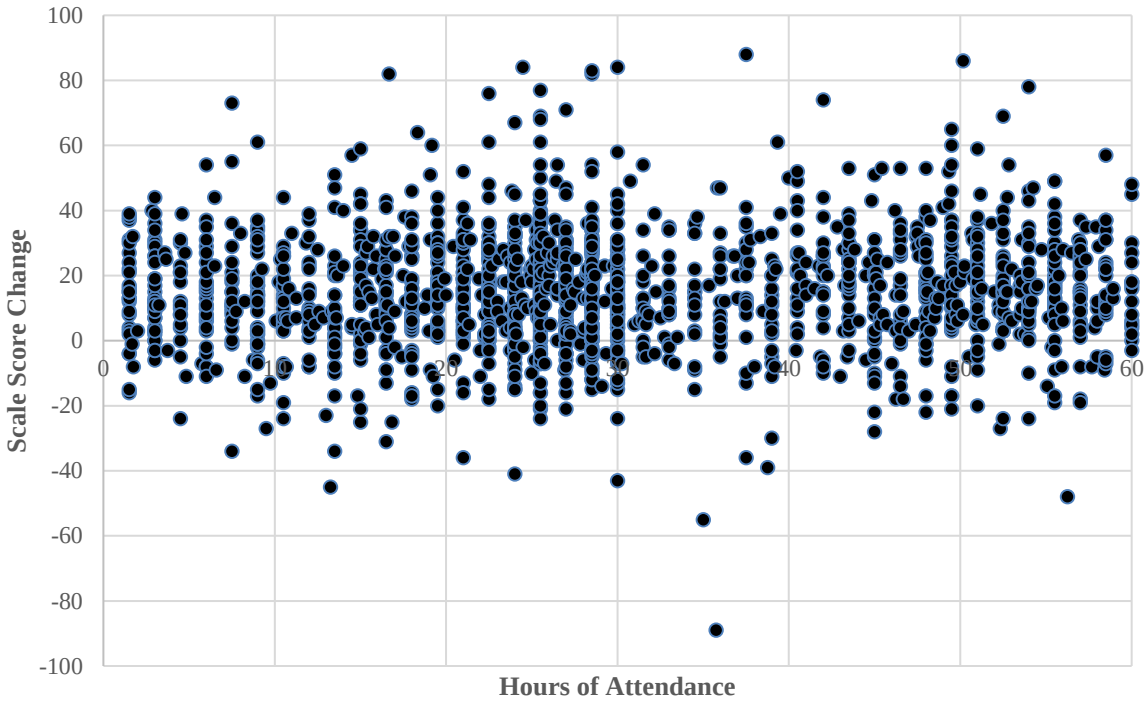


Figure 15. Correlation of attendance and scale score growth changes in mathematics.

In order to answer the fourth research question to determine if there was a relationship between mathematics scale score gain on the middle-of-year assessment and attendance in the after-school remediation program, the two variables were reviewed using the Pearson correlation. The Pearson correlation between the number of hours attended in the after-school remediation program and the scale score gain on the mathematics middle-of-year assessment was significant, but the model does not explain the variability (r = .0031, N = 1726, p = .0592). There is no clear relationship between the number of hours in attendance for after-school remediation and i-Ready middle-of-year scale scores. Since the r was near zero, the null hypothesis was not rejected (Bluman, 2013).

Table 14

Summary of Pearson Correlation Data – Mathematics Scale Scores

	N	*r*	*P*
Eligible students with attendance	1,728	.0020	.0205

Summary

Data from 4,135 eligible participants in grades two through four were analyzed for this study. From the data collected and analyzed, there was not a statistically significant difference in middle-of-the-year mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school remediation program. There was a statistically significant difference in middle-of-the-year mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school remediation program. No correlation was found between mean scale score gains on either reading or mathematics middle-of-the-year diagnostic assessment and the number of hours spent in the after-school remediation program.

In Chapter Five, the study is concluded with a summary of the research and data analysis. Recommendations are made for future strategies to close the student achievement gap based on the results of the study. Suggestions for modifications to this study for additional future research are made to explore variations of extensions of time in elementary education.

Chapter Five: Summary and Conclusions

The main elements of the study are reviewed in this chapter, and an explanation of how the major elements relate to closing the student achievement gap is outlined. This study was designed to identify the optimum number of hours related to the highest scale score growth for students attending an after-school remediation program (up to a maximum of 60 hours), seeking to understand time as the variable and learning as the constant. The findings explained in Chapter Four are reiterated. Conclusions and implications supported by current literature are detailed in the section that follows. At the end of the chapter, recommendations and suggestions are provided. Finally, areas for future research based on this study are suggested.

Review of the Study

Teachers who believe in students regardless of their circumstances have the power to motivate students and see them succeed (Bokas, 2016). Improved learning occurs with effective educational leadership (Leithwood et al., 2004). There is an emphasis on instructional quality in academically successful school districts, and this emphasis is considered one of the keys to improvement in student learning (Leithwood et al., 2004). High-performing districts pay much consideration to state-mandated standards for curriculum content, student achievement, and school performance (Leithwood et al., 2004).

In underperforming schools, time allotted for instruction is often misused and unaccounted for by both students and teachers (Farbman, 2015). Americans have ambitious goals for the elementary and secondary educational system (Farbman, 2015). Efforts of educators are focused to allow the next generation to compete successfully in

the international economy and to live prosperous, gratifying lives (Capacity Building K-12, 2018; Farbman, 2015). Ideally, educators realize personalized learning for all students is dynamic, because students learn in a dynamic world (Gendron & Traub, 2015).

Tolley (2015) indicated if schools continue to calibrate learning with the purpose of meeting the standards of college admission, then the efforts of "hacking and disrupting" will fail to break away from the current "factory model" (para. 10). Hoerr (2017) noted, "Investing time and energy in areas that may not lead to higher test scores or broadening the curriculum to include nonacademic spheres of instruction can be an uphill struggle" (p. 5). According to Hoerr (2017), "We must teach students to read, write, and calculate, but that is only the beginning; those goals should form the floor, not the ceiling" (p. 2).

Actively engaging students in their own learning process takes into account their different instructional needs (Dove et al., 2014). Educators pursue the ability to harness the power of more time; research points toward the need to focus on two dimensions of the organization including the execution of educational programs to generate intended outcomes and more time for student learning (Farbman, 2015). High-performing schools do not just have more time, but also employ procedures and practices to maximize use of time while being transparent about its use (Farbman, 2015). After-school programs are considered a school reform measure with positive outcomes including increased academic performance (Afterschool Alliance, 2014a).

The purpose of this study was to find the answers to four research questions pertaining to the use of time as a variable to determine the effect on student achievement

measured by scale score growth in reading and mathematics. The goal of the Midwestern school district program was to close the student achievement gap of students struggling in grades two through five in the areas of reading and mathematics. The emphasis of the after-school remediation program was to narrow the proficiency gap for students scoring more than one grade level below their current grade level as they began the school year.

The first research question was asked to understand whether attending the after-school remediation program had an impact on student achievement in reading. The second was asked to understand whether attending the after-school remediation program had an impact on student achievement in mathematics. The third question posed in this study was asked to determine if there was a correlation between increments of time spent in the after-school remediation program and change in reading scale scores. Finally, the fourth research question was asked to determine if there was a correlation between increments of time spent in the after-school remediation program and change in mathematics scale scores.

A quantitative study was required to successfully capture and analyze the data needed in order to answer the questions posed in this study (Fraenkel et al., 2015). A basic causal-comparative research design is effective in determining the differences in groups with variables that cannot be manipulated (Fraenkel et al., 2015). The research required data that "already occurred," thus secondary data were used to answer the research questions posed (Fraenkel et al., 2015, p. 364).

The study took place in a Midwestern school district in the fall of 2017. Participants of the study were the 4,135 students who met the eligibility criteria of greater than or equal to one grade level below their current grade level in reading or

mathematics. The eligibility criteria for the after-school remediation program was based on end-of-year results (2016-2017) for first through fourth grades. The student information was de-identified. In the fall of 2017, all students took the beginning-of-the-year and middle-of-the-year diagnostic assessments from i-Ready according to the Midwestern school district's assessment plan. The researcher tied attendance (0-60 hours) to eligible students with the paired scores of the two assessments.

Findings

Research question one. What is the difference in mean scale score gains on a diagnostic reading assessment based on the amount of time spent in an after-school program?

After conducting statistical analysis of the reading scores, it was found that after-school participants as a whole group showed greater gains than non-participants in reading. Examining the reading differences further, no statistically significant differences were found between the groups who did and did not attend, although students who attended between 51-60 hours demonstrated the largest gains of those who attended. Elementary students who participated in the after-school program showed greater gains in reading than elementary students who did not participate. Students who attended between 1-20 hours earned mean scores lower than the students who did not attend the after-school program at all. Additionally, a dip in mean scores was found for elementary students who attended 31-50 hours.

Research question two. What is the difference in mean scale score gains on a diagnostic mathematics assessment based on the amount of time spent in an after-school program?

After conducting statistical analysis of the mathematics scores, it was found that after-school participants as a whole group showed greater gains than non-participants in mathematics. Examining the mathematics differences further, statistically significant differences were found between the groups who did and did not attend, and students who attended between 41-50 hours had the largest gain scores of those who attended. Elementary students who participated in the after-school program demonstrated greater gains in mathematics than elementary students who did not participate. Students who attended between 1-20 hours earned mean scores lower than the students who did not attend the after-school program at all. Additionally, a dip in mean scores was found for elementary students who attended 31-40 hours.

Research question three. What is the correlation between scale score gains on a middle-of-the-year reading diagnostic assessment and the number of hours spent in the after-school program?

In response to the third research question, there was no statistically significant correlation found between the number hours of after-school remediation and reading scale score difference. There was no correlation between a particular number of hours a student attended the after-school remediation program to an increase in scale score growth for reading. In fact, when comparing the correlation coefficient between the number of hours students attended versus scale score growth in reading, the correlation coefficient values calculated were random and a trend line could not be concluded.

Research question four. What is the correlation between scale score gains on a middle-of-the-year mathematics diagnostic assessment and the number of hours spent in the after-school program?

In response to the fourth research question, there was no statistically significant correlation found between the number of hours of after-school remediation and mathematics scale score difference. There was no correlation between a particular number of hours students attended the after-school remediation program to an increase in scale score growth for mathematics. In fact, when comparing the correlation coefficient between the number of hours students attended versus scale score growth in mathematics, the correlation coefficient values calculated were random and a trend line could not be concluded.

Conclusions

The purpose of the study was to determine if there was a difference in student achievement in reading and mathematics for criteria-eligible students who participated in an after-school program as compared to those who chose not to attend. In addition, a determination was made based on data analyzed regarding the correlation between the amount of time students attended an after-school program for remediation and their growth in i-Ready scale scores for reading and mathematics. By reviewing the outcomes of this study, educators can use the same program design model to review student data, build curriculum to support student deficiencies based on Missouri Learning Standards, and monitor progress to determine how to close the student achievement gap.

As discussed in Chapter Three, results from this quantitative study are considered to be substantial due to the design of the study and the instrument chosen to assess the outcomes (Fraenkel et al., 2015). The conclusions drawn in this study are associations aligned directly to the variables under study (Creswell, 2014; Fraenkel et al., 2015). The

study produced results researchers and educators may find of value in the future when deciding on and forming strategies to close the student achievement gap.

Implications for Practice

Based on the findings in this study, the use of after-school remediation as an extension of time for students produced a statistically significant difference in mean scale score for the content of mathematics in grades two through five. This finding is consistent with other learning time extension studies (Berliner, 1990; Carroll, 1963, 1989; DuFour & Marzano, 2011; Huitt et al., 2009; National Center on Time & Learning, 2017c). Without extending time, there appears to be less chance of producing higher proficiency and improved aptitudes among students from all circumstances (Farbman, 2015).

Individual academic needs of students should determine time for learning rather than administrative convenience of adults (National Education Commission on Time and Learning, 1994). A substantial body of research has long identified quantity of time on task as a key determinant of student performance on an individual level (Farbman, 2015). Additionally, researchers have asserted the negative effects on available learning time in schools of high poverty (Rogers et al., 2014).

Unfortunately, there were no statistically significant findings in the area of reading for grades two through five. In addition, there was no correlation between the number of hours students attended the after-school remediation program and their scale score growth on the middle-of-the-year i-Ready Diagnostic Assessment. Couros (2015) stated, “Never stop asking questions or pushing the boundaries of what is possible for learning for our students and ourselves; this is where the true learning will happen” (p.

217). Schools successful at closing the achievement gap use key strategies such as focusing on student and teacher attendance, increasing time for remediation and tutoring, helping students become invested in school-wide goals, and praising and celebrating student success (Mader, 2017).

An innovative accountability system should bring into focus state-required accountability measures for student-centered outcomes in support of success for each student (Patrick, 2013). Student-centered, personalized learning requires assessments for learning that are meaningful to students and educators alike in providing real-time feedback on progress toward mastery of learning goals (DuFour et al., 2016; Patrick et al., 2016). School accountability systems can serve many purposes, including sharing information, measuring progress toward state and local goals, and supporting greater educational equity (Woods, 2017).

The recently passed Every Student Succeeds Act requires states and districts to be much more proactive when acting in schools where subgroups of students are struggling (Education Commission of the States, 2018; Superville, 2016). According to the *Promising State Policies for Personalized Learning Report* by Patrick et al. (2016):

> [The] Every Student Succeeds Act allows states to design systems of assessment that provide data to support continuous real-time improvement of student learning towards college and career readiness, rapid closure to subgroup achievement gaps, and provide the flexibility to align with support and next generation learning models. (p. 24)

As a large-scale reform effort sponsored by the federal government, participating schools selected programs from a list of approved programs to implement research-based

approaches to improving student achievement (Berliner & Glass, 2014). Students are worthy of a great education – one that provides them every chance to grow into well-informed and prosperous adults (Data Quality Campaign, 2016).

Recommendations for Future Research

When change is the constant, administrators and teachers must work collaboratively and persistently to create a school culture that prepares students for the future (Hoerr, 2017; Data Quality Campaign, 2017a). According to Couros (2015), "Educational leaders and continuous learners must commit to perpetually moving forward, for the sake of learning leaders and for the benefit of the schools and the students" (p. 217). The results of this study raised questions worthy of further consideration. The recommendations for future research are in the areas of extending the timeframe of the study, including qualitative components, and correlating school data by building, teacher, and frequency of classroom observations.

Extending the timeframe of the study. One of the limitations of this study was the timeframe limited to only one semester (September-December 2017). In this study, student achievement data were analyzed after the middle-of-the-year i-Ready Diagnostic Assessment for reading and mathematics for grades two through five. This timeframe was not extensive enough for a conclusive correlation to be established (Farbman, 2015). Previous studies have indicated significance at 150 hours (Allington, 2013; Gibson & Barr, 2015; Mette & Biddle, 2016) and 300 hours (Farbman, 2015) as the optimal number of remediation hours to achieve the strongest student results (Farbman, 2015). Investing in the impact of the after-school remediation program for one school district in the first year of implementation is a solid baseline. An extension of this study could be to

continue following the students who participated in this study until they reach 150 and 300 hours of remediation over several more years of additional instructional time during the after-school program.

Role of school culture in closing the achievement gap. This study was limited to quantitative data based on a secondary data source to determine the effect on closing the student achievement gap in reading and mathematics based on attendance in an after-school remediation program. Albeit the groups were homogeneous with regard to the independent variable of remediation in the after-school program, future researchers could expand on the variables by adding a qualitative component or components to complement the quantitative component.

A mixed-methods study could involve surveying teachers to isolate the specific variables within Huitt's (2009) conceptual framework of the classroom process variable considering teacher behavior. Donohoo (2017) articulated, "When teachers share that belief, it outranks every other factor about affecting student achievement including socioeconomic status, prior achievement, home environment, and parental involvement" (p. 1). According to Donohoo (2017) and Hattie (2016), teachers are the greatest single factor influencing student achievement.

Donohoo (2017) indicated collective teacher efficacy influences student achievement. In a future study, a qualitative survey should be added to determine teacher belief in students' ability compared with actual student achievement results. It would benefit the researcher to understand if there is a correlation between high collective efficacy and high student performance (Donohoo, 2017).

Difference in reading and mathematics scale score based on the buildings as related to closing the achievement gap. Opportunities for meaningful collaboration and the empowerment of teachers include strategies for creating an organization of shared inquiry and decision making based upon student achievement data (Cherasaro, Reale, Haystead, & Marzano, 2015; Donohoo, 2017). If this study were repeated, the independent variable of the poverty level of each building should be correlated to the student outcome data (Gray, 2017; Porter, 2015; Rogers et al., 2014). One of the categories of variables in Huitt's (2009) framework describes socioeconomic status as affecting outcomes measured by student academic achievement.

By viewing the data sets using parameters of socioeconomic status and student outcome, best practices could be identified and shared among the buildings to connect professional learning with student learning needs (Capacity Building K-12, 2016). Teachers can develop students' well-being and nurture a sense of self-confidence and efficacy while helping them learn (Capacity Building K-12, 2016). Mette and Biddle (2016) reviewed successful strategies and challenges for extended learning programs. Youth who participated in high-quality after-school programs showed positive evidence to suggest social, emotional, and academic skill development (Mette & Biddle, 2016).

Difference in reading and mathematics scale score based on teachers versus paraprofessionals as related to closing the achievement gap. Both certificated teachers and paraprofessionals implemented the after-school remediation program during this study. Teacher quality is widely cited as the greatest in-school factor influencing student achievement (Data Quality Campaign, 2017b; Hattie & Yates, 2014). A recommendation for further study should include a correlation between differences in

scale score growth of students taught by either a certificated content teacher or a paraprofessional (Allington, 2013; Barr & Parrett, 2007; Marshall & Marshall, 2017). Allington (2013) expressed concern with a paraprofessional as the individual assisting struggling readers due to a lack of formal education to provide strategies for how to teach children to read.

Difference in reading and mathematics scale score based on classroom observations as related to closing the achievement gap. In an effort to ensure a viable curriculum was delivered with fidelity, classroom observations should be conducted and correlated to student results. Carroll (1963) and Huitt (2009) both included the variable of instructional fidelity. According to Carroll (1989), poor-quality instruction adversely affects the amount of time needed to learn the material. In December 2017, an article in *School Administrator* provided guidance on the simple practice of "mini-observations" to improve teaching and collaboration (Marshall & Marshall, 2017, p. 28).

As shown in Figure 16, the model includes four key areas: teamwork, teaching, leadership, and relationships (Marshall & Marshall, 2017). Leaders who want their schools to produce excellent and equitable learning results face the challenge of building the capacity of their stakeholders to succeed (Johnson et al., 2017). School district reform requires a leader with qualities of collective values, data-driven results, and expectations of collaborative partnerships (Mitchell, 2017). Marshall and Marshall (2017) indicated, "Principals making short, frequent, unannounced classroom visits" have a positive impact on teaching and learning (p. 26).

Mini-Observations				
Teamwork	Cross-pollinate, inform PD		Build creditability with stakeholders	Leadership
	Compare the micro and macro		Keep and attract quality staff	
	Encourage teachers to bring "A" game; reflect		Walk the talk	
Teaching	Be good coach; two-way PD		Provide fair and accurate evaluations	Relationships
	Get early warning of problems		Show empathy and trust with teachers	
	Know what's really going on		Get to know students	

Figure 16. Mini-observations. Adapted from "Mini-observations: A Keystone Habit" by K. Marshall & D. Marshall, 2017, *Marshall Memo*, *74*(11), pp. 26-29. Copyright 2017 by Marshall Memo LLC (see Appendix I).

Summary

Every student, no matter where he or she lives, deserves a great teacher (Data Quality Campaign, 2017a). The most significant step educators and politicians should take toward making elementary and secondary education in the United States a more transparent and malleable framework is to systematically test new learning standards, provide high-quality assessments, and employ accountability models that focus more attention on teaching and learning (Silva et al., 2015). Transformation can only occur if it is wide-ranging and inclusive, aggressively attacking many problems at the same time (National Education Commission on Time and Learning, 1994).

High standards have been described as the compass and time as the rudder of student achievement reform (National Education Commission on Time and Learning, 1994). A top-down approach pushed on a state or community for school reform does not work; rather, a model of genuine reform must be grown from the students, teachers, administrators, and parents (National Education Commission on Time and Learning, 1994). Students who attend extended learning programs with an aligned curriculum, focused with explicit instruction of skills, show some evidence of increased outcomes (Mette & Biddle, 2016).

In Chapter Two, a review of literature revealed connection to time and learning in American schools influenced by federal and state assessment systems (Berliner, 1990; Berliner & Glass, 2014; Carroll, 1963; Farbman, 2015; Huitt, 2009). The barriers to closing the student achievement gap include the historical view of learning as the variable while time is a constant (Barr & Parrett, 2007; Carroll, 1963; Huitt, 2009; Marzano, 2001). Several conditions impact student learning including access to learning, equity of learning, and opportunity for learning (Carroll, 1989; Jensen, 2013; Raun, 2018; Skrla et al., 2009). The advent of an extended school day to increase the time for students to learn was in effort to close achievement gaps and improve academic performance for all students (Afterschool Alliance, 2015, 2017; Carroll, 1989).

Chapter Three contained an overview of the methodology of the study. The study was conducted to determine the difference in mean scale score gains on a diagnostic reading and mathematics assessment based on the amount of time spent in an after-school remediation program. Additionally, the correlation was reviewed between scale score

gains on a middle-of-the-year diagnostic assessment and the number of hours spent in the after-school remediation program in the areas of reading and mathematics.

The findings, highlighted in Chapter Four, resulted in a statistical significance in the area of mathematics scale score increases when students attended the after-school remediation program. No statistically significant difference was found in mean scale score gain on a reading diagnostic assessment between the groups who attended the after-school remediation program and those who did not. Despite the lack of correlation found between students who attended the after-school remediation and their performance on the middle-of-the-year diagnostic assessment, the literature suggested this is a beneficial strategy for closing the student achievement gap (Farbman, 2015; Gray, 2017; Maeroff, 2014).

There are multiple possibilities for the lack of correlation, including the limitations of correlation by grade level, socio-economic status, short timeframe, certificated teacher versus paraprofessional, and classroom observation (Bokas, 2016; Gibson & Barr, 2015; Jensen, 2013; Marshall & Marshall, 2017). Analyzing data, assessing student learning, and targeting instruction to individual student needs should continue with the additive of managing classrooms tightly to make every minute count and universally holding all students to high expectations for learning and conduct (Farbman, 2015; Gray, 2017).

School districts could leverage against the findings of this study to create future remediation programs to close the achievement gap for students. The future research considerations could assist school administrators in determining additional factors to

consider in the design of a remediation program. Finally, a countless number of variables lead to closing the student achievement gap; therefore, it is a moral imperative of educators to make the complex simple and to determine the most effective use of the time students are with educators.

Appendix A

Permission to Reproduce Copyright Material – David Berliner

St John, Amy

From: David Berliner <berliner@asu.edu>
Sent: Monday, February 26, 2018 11:16 PM
To: St John, Amy
Subject: Re: Requesting Permission to Reproduce Copyrighted Material

I have copyright and you have my permission to use in any way that you choose. I would like a copy fo your finished paper.
Good luck
Cordially

David

David C. Berliner

Home: 120 E. Rio Salado Pkwy., #205
Tempe, AZ 85281
☎ 480-861-0484
Office: Regents' Professor Emeritus,
Mary Lou Fulton Teachers College,
Arizona State University,
Tempe, AZ 85287

On Feb 26, 2018, at 7:53 PM, St John, Amy [redacted]

Requesting Permission to Reproduce Copyrighted Material

Dr. David Berliner

Regents Professor and Research Professor
Arizona State University

Dear Dr. Berliner:

I am researching the impact of expanded learning time in relation to improving student achievement for my dissertation. [redacted] I am using the Carroll Model as part of my conceptual framework. I am writing to ask your permission to include the following material:

Author: David Charles Berliner
Title: "What's All the Fuss About Instructional Time?"
Issue: The Nature of Time in Schools: Theoretical Concepts, Practitioner Perceptions
Page #: 12
Figure: The Carroll Model
Publisher: Teachers College Press

The material will be distributed/published as follows:

Purpose: Educational
Format: Dissertation

If you do not control copyright in the requested materials, I would appreciate any information you can provide about others to whom I should write, including most recent address if available.

Sincerely,
Amy

[redacted]

Appendix B

Permission to Reproduce Copyright Material – William Huitt

St John, Amy

From: St John, Amy
Sent: Wednesday, February 28, 2018 5:23 PM
To: 'William G Huitt'
Subject: RE: Requesting Permission to Reproduce Copyrighted Material

I appreciate your quick response. I will update the citation as noted below. The focus of my paper is the impact of time on learning as a school-level variable.

Thank you,
Amy

Amy St. John, Ed. S.
[redacted]

From: William G Huitt [mailto:whuitt@valdosta.edu]
Sent: Wednesday, February 28, 2018 10:12 AM
To: St John, Amy
Subject: Re: Requesting Permission to Reproduce Copyrighted Material

Amy:

You have my permission to reproduce the material from this article.

The correct citation of the paper is

Huitt, W., Huitt, M., Monetti, D., & Hummel, J. (2009). *A systems-based synthesis of research related to improving students' academic performance.* Paper presented at the 3rd International City Break Conference sponsored by the Athens Institute for Education and Research (ATINER), October 16-19, Athens, Greece. Retrieved February 2018, from http://www.edpsycinteractive.org/papers/improving-school-achievement.pdf

What is the focus/topic of your dissertation?

Bill Huitt
--
William G. Huitt, PhD
Founder & Co-Director, Community Development through
Academic Service Learning

Professor Emeritus
Valdosta State University

http://www.edpsycinteractive.org

1

Educational Psychology Interactive

www.edpsycinteractive.org

Links to major topics studied in educational psychology

http://www.cd-asl.org

CD-ASL: Index

www.cd-asl.org

Community Development through Academic Service Learning Foundations of an Ecological Approach to Social and Economic Development

From: St John, Amy [redacted]
Sent: Monday, February 26, 2018 10:14:36 PM
To: William G Huitt
Subject: Requesting Permission to Reproduce Copyrighted Material

Requesting Permission to Reproduce Copyrighted Material

Dear Dr. Huitt:

I am researching the impact of expanded learning time in relation to improving student achievement for my dissertation, [redacted] I am using the categories of variables impacting student achievement as part of my conceptual framework. I am writing to ask your permission to include the following material:

Author: William Huitt, Marsha Huitt, David Monetti, John Hummell
Title: "A Systems-based Synthesis of Research Related to Improving Students' Academic Performance
Issue: The Nature of Time in Schools: Theoretical Concepts, Practitioner Perceptions
Paper: Presented at the 3rd International City Break Conference sponsored by the Athens Institute for Education and Research (ATINER), Athens, Greece.
Figure 1: Categories of Variables Impacting Student Academic Achievement
Retrieved from: https://pdfs.semanticscholar.org/03f2/403ad4ecd45cd0e44bcfd03-1eea23fcaf1f6.pdf

The material will be distributed/published as follows:

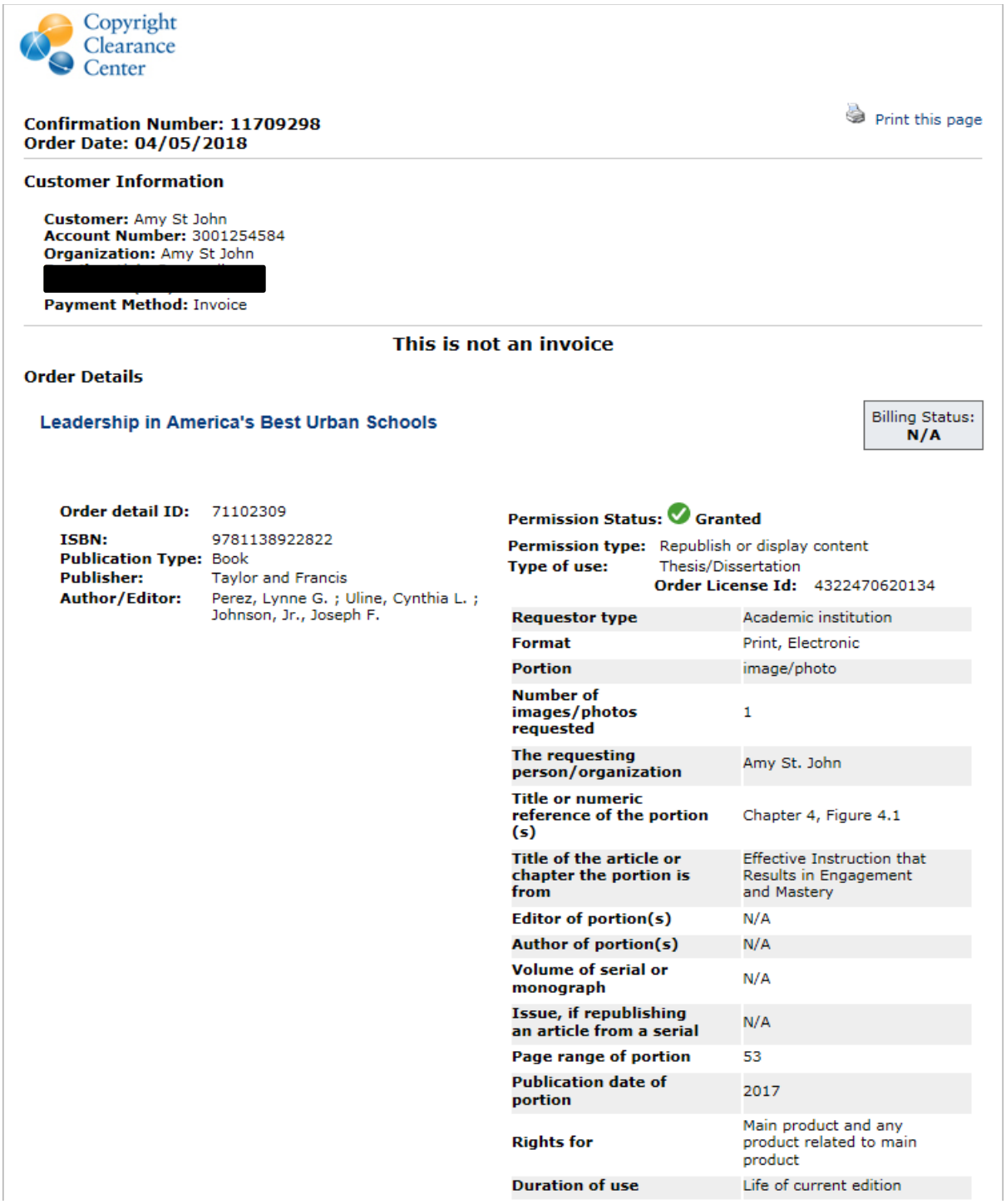
Purpose: Educational
Format: Dissertation

If you do not control copyright in the requested materials, I would appreciate any information you can provide about others to whom I should write, including most recent email if available.

Sincerely,
Amy

Appendix C

Permission to Reproduce Copyright Material – Taylor and Francis



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Customer Information

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Account Number: 3001254584
Organization: Amy St John
[redacted]
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Order detail ID: 71102309
ISBN: 9781138922822
Publication Type: Book
Publisher: Taylor and Francis
Author/Editor: Perez, Lynne G. ; Uline, Cynthia L. ; Johnson, Jr., Joseph F.

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Format	Print, Electronic
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Number of images/photos requested	1
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Title or numeric reference of the portion (s)	Chapter 4, Figure 4.1
Title of the article or chapter the portion is from	Effective Instruction that Results in Engagement and Mastery
Editor of portion(s)	N/A
Author of portion(s)	N/A
Volume of serial or monograph	N/A
Issue, if republishing an article from a serial	N/A
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Instructor name	Dr. Kathy Grover
Institution name	Lindenwood University
Expected presentation date	May 2018
Attachment	

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Appendix D

Permission to Reproduce Copyright Material – ASCD

St John, Amy

From: no-reply@copyright.com
Sent: Tuesday, February 27, 2018 8:27 PM
To: St John, Amy
Subject: RESPONSE REQUIRED for your request to Assn for Supervision and Curriculum Development

Copyright Clearance Center

Accept your approved request

Dear Amy St John,

Assn for Supervision and Curriculum Development has approved your recent request described below. Before you can use this content, **you must accept** the license fee and terms set by the publisher.

Use this link to accept (or decline) the publisher's fee and terms for this order.

Order Summary

Licensee:	Amy St John
Order Date:	Feb 26, 2018
Order Number:	501369853
Title:	What works in schools : translating research into action
Type of Use:	Thesis/Dissertation

View or print complete details of your request.

Sincerely,

Copyright Clearance Center

How was your experience? Fill out this survey to let us know.

Copyright Clearance Center RightsLink®

Account Info Help

Title:	What works in schools : translating research into action	Logged in as: Amy St John
Article ID:	9780871207173	Account #: 3001254584
Publication:	Publication1	LOGOUT
Publisher:	CCC Republication	
Date:	Jan 1, 2003	

Order Completed

Thank you for your order.

This Agreement between Amy St John ("You") and Assn for Supervision and Curriculum Development ("Assn for Supervision and Curriculum Development") consists of your order details and the terms and conditions provided by Assn for Supervision and Curriculum Development and Copyright Clearance Center.

License number	Reference confirmation email for license number
License date	Mar, 05 2018
Licensed content publisher	Assn for Supervision and Curriculum Development
Licensed content title	What works in schools : translating research into action
Licensed content date	Jan 1, 2003
Type of use	Thesis/Dissertation
Requestor type	Academic institution
Format	Print
Portion	chart/graph/table/figure
Number of charts/graphs/tables/figures	2
The requesting person/organization	Amy St. John
Title or numeric reference of the portion(s)	Chapter 2, Figure 2.1, page 17 and Chapter 2, Figure 2.2, page 18
Title of the article or chapter the portion is from	Chapter 2, Figure 2.1, page 17 - Ranking of School-Level Factors Based on Scheerens and Bosker and Chapter 2, Figure 2.2, page 18 - Ranking of School-Level Factors Based on Marzano, 2000a
Editor of portion(s)	N/A
Author of portion(s)	N/A
Volume of serial or monograph	N/A
Issue, if republishing an article from a serial	N/A
Page range of portion	Page 17 and 18
Publication date of portion	2003
Rights for	Main product
Duration of use	Life of current edition
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For distribution to	Worldwide
In the following language(s)	Original language of publication
With incidental promotional use	no
Lifetime unit quantity of new product	Up to 499
Title	The Impact of Expanded Access and Increased Engagement and the Effect on Closing the Achievement Gap

Appendix E

Institutional Review Board Approval

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE:	January 3, 2018
TO:	Amy St John
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[1104447-1] The Impact of Expanded Access and Increased Engagement and the Effect on Closing the Achievement Gap.
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	January 3, 2018
REVIEW CATEGORY:	Exemption category # 2

Thank you for your submission of New Project materials for this research study. Lindenwood University Institutional Review Board has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office.

If you have any questions, please send them to IRB@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

Appendix F

Permission to Conduct Research – District

To: Amy St John

[redacted]

Date: November 3, 2017

Subject: Request to Conduct Research

Your request to conduct research proposal titled, Comparison of Growth Scores for Students Attending After School Remediation Program, submitted for consideration has been approved at the District level.

Feel free to contact [redacted] if you have questions or need additional information.

[redacted]

Appendix G

Research Information Sheet

LINDENWOOD

Research Information Sheet

You are being asked to participate in a research study. We are conducting this study to determine the difference in student achievement in reading and mathematics for criteria-eligible students who choose to attend an after-school program as compared to those who choose not to attend. In addition, data will be analyzed to determine the correlation between the amount of time students attend an after-school program for remediation and growth on i-Ready scale scores for reading and mathematics. i-Ready Diagnostic Assessment results will be compared between students who did and did not attend the extended learning time after-school program designed with a focus on remediation of standards specific to math and reading in grades two through five. The researcher will identify associations among variables. By reviewing the outcomes of this study, educators could use the same program design model to review student data, build curriculum to support student deficiencies based on Missouri Learning Standards, and monitor progress to determine how to close the student achievement gap. During this study, you will provide the beginning-of-year and middle-of-year i-Ready diagnostic data from the 2017-2018 school year for students in grades two through five. It will take about six months to complete this study.

Your participation is voluntary. You may choose not to participate or to withdraw at any time.

There are no risks from participating in this project. There are no direct benefits for you participating in this study. We will not collect any data which may identify you. We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data include members of the research team, qualified staff of Lindenwood University, and representatives of state or federal agencies.

Who can I contact with questions?

If you have concerns or complaints about this project, please use the following contact information:
Amy St. John [redacted]
Dr. Kathy Grover [redacted]

If you have questions about your rights as a participant or concerns about the project and wish to talk to someone outside the research team, you can contact Michael Leary (Director - Institutional Review Board) at 636-949-4730 or mleary@lindenwood.edu

Appendix H

Conditions for Maintaining Anonymity & Sharing Project Results

CONDITIONS FOR MAINTAINING ANONYMITY AND SHARING PROJECT RESULTS

I agree to maintain the anonymity of individual students, staff members and schools in any report(s) and in any publication(s), e.g., journal article(s), book(s), etc., which incorporate any information derived from the research conducted within the [redacted] if permission is granted to conduct the research described in this request. I verify the research will be conducted in compliance with all federal and state statutes and the policies of the Springfield Public Schools.

I agree to provide the Analytics, Accountability and Assessment department with a summary of the research results, complete documentation and information on the location of the complete research and, in the future, subsequent publications.

Signature of the Researcher — Date: 10-30-17

Signature of the Advisor — Date: 10-30-17

Appendix I

Permission to Reproduce Copyright Material – Kim Marshall

St John, Amy

From: Kim Marshall <kim.marshall48@gmail.com>
Sent: Tuesday, February 27, 2018 9:38 PM
To: St John, Amy
Subject: Re: Requesting Permission to Reproduce Copyrighted Material
Attachments: Marshall School Admin article.pdf

Amy,

See if this is enough detail for your purposes. I own the copyright to this summary, and would be happy to have you use it.

Best,

Kim

On Feb 27, 2018, at 10:31 PM, St John, Amy [redacted] wrote:

I just checked out your Marshall Memo website. It looks like a plethora of resources I wish I would have discovered sooner ;-)

I joined the site, but it indicates a possible 48 hours for the login. My advisor wanted me to see if the figure is in the memo or if I should continuing pursue the permission from School Administrator article?

Thank you in advance for your advice,
Amy

Amy St. John, Ed. S.
[redacted]

From: St John, Amy
Sent: Tuesday, February 27, 2018 4:17 PM
To: 'Kim Marshall'
Subject: RE: Requesting Permission to Reproduce Copyrighted Material

This is wonderful – thank you so much!

Amy St. John, Ed. S.
[redacted]

From: Kim Marshall [mailto:kim.marshall48@gmail.com]
Sent: Tuesday, February 27, 2018 4:14 PM
To: St John, Amy
Subject: Re: Requesting Permission to Reproduce Copyrighted Material

Amy,

Good to hear from you. I believe School Administration owns the copyright, but I'd be happy to send you my Marshall Memo summary of the article, which is pretty thorough and "fair use."

In addition, I've done a lot of other articles on classroom observations, which you can access at https://marshallmemo.com/marshall-publications.php

Best,

Kim Marshall

On Feb 26, 2018, at 11:33 PM, St John, Amy [redacted] wrote:

Requesting Permission to Reproduce Copyrighted Material

Dear Kim Marshall:

I am researching the impact of expanded learning time in relation to improving student achievement for my dissertation, [redacted] I am using the Mini-observations figure as part of the future research considerations to my dissertation. I am writing to ask your permission to include the following material:

Author: Kim Marshall & Dave Marshall
Title: "Mini Observations"
Issue: School Administrator
Date: December 2017
Figure: Mini-Observations

The material will be distributed/published as follows:

Purpose: Educational
Format: Dissertation

If you do not control copyright in the requested materials, I would appreciate any information you can provide about others to whom I should write, including most recent address if available.

Sincerely,
Amy

[redacted]

St John, Amy

From: Kim Marshall <kim.marshall48@gmail.com>
Sent: Tuesday, February 27, 2018 4:14 PM
To: St John, Amy
Subject: Re: Requesting Permission to Reproduce Copyrighted Material

Amy,

Good to hear from you. I believe School Administration owns the copyright, but I'd be happy to send you my Marshall Memo summary of the article, which is pretty thorough and "fair use."

In addition, I've done a lot of other articles on classroom observations, which you can access at https://marshallmemo.com/marshall-publications.php

Best,

Kim Marshall

On Feb 26, 2018, at 11:33 PM, St John, Amy [redacted] wrote:

Requesting Permission to Reproduce Copyrighted Material

Dear Kim Marshall:

I am researching the impact of expanded learning time in relation to improving student achievement for my dissertation, [redacted] I am using the Mini-observations figure as part of the future research considerations to my dissertation. I am writing to ask your permission to include the following material:

Author: Kim Marshall & Dave Marshall
Title: "Mini Observations"
Issue: School Administrator
Date: December 2017
Figure: Mini-Observations

The material will be distributed/published as follows:

Purpose: Educational
Format: Dissertation

If you do not control copyright in the requested materials, I would appreciate any information you can provide about others to whom I should write, including most recent address if available.

Sincerely,
Amy

Amy St. John, Ed. S.

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Amy taught high school business at Winnetonka High School for three years, followed by serving as the Career Education Coordinator and principal for the Career & Technical Education Center of North Kansas City Schools in Kansas City, Missouri, for six years. She then transitioned into the role of Director of Data Management and led district accountability efforts by making the complex simple. Key strategies included data literacy for leaders through the implementation of a data dashboard to report real-time, student-level, actionable data. Amy joined Springfield Public Schools in 2016 in her current position. As the Performance Analytics Director, she has the opportunity to work with district leaders, principals, and teachers.