

**A Quantitative Study of the Relationship Between Principals' Use of Time and Student
Growth**

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Abstract

The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics. With the knowledge of which actions have the greatest impact on student growth, principals can make strategic use of time to increase student achievement. The gap in the literature is that present research offers principals guidance on what type of leader to be but falls short in identifying what specific uses of time, if any, are most highly correlated with student growth. The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. Behavioral Theory provided the foundation for this study. This study was designed to determine if a correlation existed between the time that principals spent in classrooms or time principals spent interacting with teachers and student growth in reading and mathematics. This study examined the relationship between how Connecticut principals spent their time and how their 4th – 8th grade students grew on the Smarter Balanced Assessment during one school year. This study utilized purposeful sampling to obtain input from 89 of the 885 Connecticut principals utilizing a Google Form, sent to emails found on the State of Connecticut Department of Education's public site and examined the correlation with student growth data, retrieved from the same site. The data were analyzed using the Pearson product-moment correlation coefficient. A significant correlation between principals' time spent interacting with teachers about teaching and learning and student growth in mathematics was found.

Keywords: principals, time use, leadership, actions, student achievement

Dedication

This dissertation is dedicated to my incredibly supportive children, Hannah, Allie, and Colin, who always cheered me on, took on extra responsibilities at home, and made this doctoral journey feel meaningful. It is also dedicated to our beloved pups who kept me company while I wrote, sometimes for whole days at a time. I am grateful to my parents who instilled in me a love of learning and a commitment to success. I also must thank my incredible circle of strong, intelligent women, Anna, Christine, Lorrie, Pat, Isobel and Nancy, without whom I would not have even thought to begin this journey nor be able to complete it. They have been my mentors, role models, friends, and inspiration.

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Chapter 1: Introduction

Principals' actions have a significant impact on student achievement, yet most research about student learning conducted before the year 2000 sought to measure the relationship between teacher quality and student learning (Bush, 2021; Grissom et al., 2021). The role of the principal was largely ignored. There was a limited focus on leadership as a meaningful factor in schools before the year 2000 (Grissom et al., 2021). In the years since, research has begun to focus on the impact of effective principals. Hattie (2015) pointed out that since most everything in education works, the important question is to consider what works best. Hattie provided data to demonstrate that instructional leadership has the strongest effect size. While Hattie went on to describe the impact of instructional leadership, the research does not identify specific leadership actions. Rigby et al. (2020) found that the wrong leadership actions can detract from student achievement.

Given that principals' work has become more hectic and disjointed, it is even more imperative that principals know how best to have a positive effect on student learning (Hochbein & Meyers, 2020; Lee et al., 2022). Because principals must make difficult decisions about how to allocate their time, more research in this area is warranted. This quantitative, correlational study aimed to identify the most impactful use of a principal's time on student growth in reading and mathematics. Potential benefits of this study are that, if principals are aware of their impact and what they can do to impact student growth most positively, the potential exists to increase student learning.

Chapter 1 introduces the research. The background of the study provides the research context, including a brief review of the literature regarding educational leadership. This chapter includes the study's problem and purpose, research questions, hypotheses, theoretical

framework, definitions of terms, assumptions, scope and delimitations of the study, limitations, and a summary of the chapter.

Background of the Problem

The work of principals and teachers has grown over time and because principals' days are filled with important tasks, they must make decisions about how best to allocate their time (Hochbein & Meyers, 2020). Literature has established that leadership impacts achievement (Cotton, 2003; Dhuey et al., 2014; Grissom et al., 2018; Hallinger & Heck, 1998; Hattie, 2015; Leithwood et al., 2019; Maponya, 2020; Marzano et al., 2005; Rigby et al., 2020). Further, instructional leadership and transformational leadership have been identified as the two most impactful leadership styles, influencing achievement and overall school success (Bagwell, 2019; Grissom et al., 2021; Hattie, 2015; May & Supovitz, 2011; Robinson et al., 2008).

Instructional leadership and transformational leadership are broad categories of leadership behaviors that have overlapping definitions. Many specific actions are included in both definitions, blurring the lines between these two leadership styles. These categorical understandings of principal leadership are helpful, however, research that drills down into the specific actions within these styles will allow principals to make strategic choices about how to spend their limited time (Bagwell, 2019; Garry, 2021; Maponya, 2020; May & Supovitz, 2011; Yoon, 2016).

Statement of the Problem

The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). Most everything that principals do has an impact on student learning; the key is to identify which actions have the greatest impact (Hattie, 2015). The

gap in the literature is that present research offers principals guidance on what type of leader to be but falls short in identifying what specific uses of time, if any, are most highly correlated with student growth.

Purpose of the Study

The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. In the absence of this information, principals may continue to struggle to decide what to do with their limited time. The study contributed to the knowledge base by providing some information in answer to the question of how principals should spend their time to best impact student growth in reading and mathematics. Specifically, this quantitative study sought to identify which, if any, actions that principals spend their time doing are correlated with growth in student achievement in reading and math. This study examined whether there was a relationship between time principals spent in classrooms during instruction or time spent interacting with teachers directly and student growth in either reading or mathematics. Reading and math are measured by the Smarter Balanced Assessment (SBA), which is administered in the spring of each school year to Connecticut students in grades 3 – 8. The Connecticut State Department of Education has established growth targets for students, based on their scale scores. The change in students' scores from one spring to the next is compared to their growth target and reported as a percent of the target achieved (PTA) (Connecticut State Department of Education, 2016). As a result of this study, principals may know how best to invest their time. The results of this research will be shared broadly with Connecticut educators, teachers, principals, and supervisors.

Significance of the Study

Maponya (2020) studied five schools that went from low to high performing, examining

the actions of their principals, and found that “school principals are the vital instrument towards enhanced instructional delivery in their schools” (p. 183). What the five principals had in common was that they saw the academic achievement of their students as their core responsibility. Maponya found that instructional leadership had a significant positive impact on student achievement, however, Maponya, like many other studies, falls short of identifying specific behaviors within instructional leadership that are impactful.

This quantitative, correlational study was designed to examine which specific ways that principals spend their time have the strongest relationship with student achievement in reading and mathematics. The results add to the literature regarding the impact of principals on student learning. The significance of this study is that with more specific information about which principal actions increase student growth in reading and mathematics, principals can make strategic decisions about what to do with their limited time. In the absence of this information, principals may inadvertently limit the potential learning of their students. Further, the methods for evaluating the effectiveness of principals may be improved by considering new information that is learned about how principals impact student achievement.

Research Questions

Research questions are the problems that guide a study (Creswell & Guetterman, 2021). To guide the present study, four research questions were developed. The following research questions guided this quantitative, correlational study:

Research Question 1: What degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in reading in their schools?

Research Question 2: What degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in mathematics in their schools?

Research Question 3: What degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in reading in their schools?

Research Question 4: What degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in mathematics in their schools?

Hypotheses

In order to test the relationship between two variables, researchers create hypotheses. Hypothesis testing is used to evaluate the likelihood that a hypothesis is true. The null hypothesis assumes that any relationship between the variables is due to chance whereas the alternative hypothesis states that the relationship between the variables is not random. These two hypotheses are mutually exclusive (Coleman, 2018). The hypotheses for this quantitative, correlational study were:

H1₀: There is no statistically significant correlation between principals' time spent in classrooms during instruction and student growth in reading.

H1_a: There is a statistically significant correlation between principals' time spent in classrooms during instruction and student growth in reading.

H2₀: There is no statistically significant correlation between principals' time spent in classrooms during instruction and student growth in mathematics.

H2_a: There is a statistically significant correlation between principals' time spent in classrooms during instruction and student growth in mathematics.

H3₀: There is no statistically significant correlation between principals' time spent interacting with teachers and student growth in reading.

H3_a: There is a statistically significant correlation between principals' time spent interacting with teachers and student growth in reading.

H4₀: There is no statistically significant correlation between principals' time spent interacting with teachers and student growth in mathematics.

H4_a: There is a statistically significant correlation between principals' time spent interacting with teachers and student growth in mathematics.

Theoretical Framework

A theoretical framework is a blueprint for a study. It is based on existing theories and serves as the foundation for the research (Adom et al., 2018). The present study was guided by Behavioral Theory, introduced in 1940 by Kurt Lewin, who through his research concluded that leadership was not inherent as previously believed, but rather could be taught and influenced. Prior theories such as the Great Man Theory and Trait Theory postulated that leaders were born influential and were effective leaders because of their intelligence, energy, and moral force (Organ & Cawthon, 1996).

With the introduction of Behavioral Theory, and the understanding that leadership can be learned, studying the actions of leaders became of interest (Lewin et al., 1939; Roupnel et al., 2019). Studies have since demonstrated that educational leadership makes a difference and specifically, that principals matter (Dhuey et al., 2014; Grissom et al., 2018; Hallinger & Heck, 1998; Leithwood et al., 2010, 2019; Maponya, 2020; Neufeld, 2014; Rigby et al., 2020; Tan, 2018). Research has found that principal leadership has a direct impact on student achievement and other indicators of school success (Dhuey et al., 2014; Grissom et al., 2018; Leithwood et al.,

2019; Maponya, 2020). Because leadership can be learned and because leadership has an impact on student achievement, student achievement can be increased by strategically directing the work of school leaders, specifically principals.

Definitions of Terms

Definitions are provided for aspects of the study's dependent variable, student growth. These include other forms of measuring student learning as well as the testing system. Additional terms used in the study having context-specific meanings are also included.

Achievement is defined as “a one-time snapshot measurement of a student's academic performance in a subject area like ELA or Math. It is an indicator of how well a student or a group of students performed on the standards assessed by the test at a specific point in time” (Connecticut State Department of Education, 2016, p. 3). In this study, achievement refers to English/Language Arts and mathematics.

Instructional leadership is defined in many ways in the literature. Some of the most common themes that arise include a focus on instruction, professional development, clarity of mission, vision and goals, academic press, and management of resources. Most loosely, it can be described as focusing most on teaching and learning (Bagwell, 2019; Day et al., 2020; Grissom et al., 2021; Hattie, 2015; Marzano et al., 2005; Neufeld, 2014; Okilwa & Duarte, 2020).

Principals are “educational administrators who manage elementary, middle, and secondary schools. Principals establish student and teacher performance goals, set school policies in accordance with the wishes of parents and teachers, hire and supervise school personnel, and enforce rules and discipline students” (Auerbach, 2022, para. 1). Principals, in the context of this study, are the leaders of their Connecticut public schools. At times there are

other leaders in schools, however, *principals* in this study refers specifically and only to those holding the title.

Smarter Balanced Assessments are criterion-referenced tests, administered in the state of Connecticut, to all students in grades 3 – 8. These assessments are administered in the spring and assess students' mastery of the Common Core State Standards in English/Language Arts (ELA) and mathematics. They result in scale scores that reflect student achievement compared to standards (Connecticut State Department of Education, 2016).

Student growth is defined as the change in students' scores from one spring to the next compared to a predetermined growth target and is reported as a percent of the target achieved (PTA) (Connecticut State Department of Education, 2016). In the context of this study, the average percent of the target achieved was examined in reading and mathematics from Spring 2021 to Spring 2022.

Time spent in classrooms is defined operationally as time that principals were in classrooms during instruction, either to observe instruction formally or informally, be visible, or foster relationships.

Time spent interacting with teachers is defined operationally as time that principals spoke with teachers, either to prepare for or provide feedback on an observation, discuss instruction or student data, discuss student or parent issues, or foster relationships.

Transformational leadership is defined in many ways in the literature. At its essence, it is about leveraging relationships to promote change. Common themes include mission, vision and goals, relationships and capacity building, enabling others, monitoring student learning, and protecting instructional time (Day et al., 2020; Metz et al., 2019; Peddell et al., 2020; Robinson et al., 2008).

Assumptions

Assumptions are underlying beliefs that are accepted as true, or at least plausible and are an important element of a research study (Creswell & Guetterman, 2021). This quantitative, correlational study assumed that principal participants responded honestly to the questions posed in the survey. The results of the survey, while not anonymous, will be kept confidential and secure. The assumption was that principals' awareness of the steps taken to ensure confidentiality and security allowed them the confidence to respond honestly.

Another assumption of this quantitative, correlational study was about the accuracy of the dependent variable, student growth scores. The student growth data were retrieved from the Connecticut State Department of Education's (CSDE) public data site. One assumption was that the data were accurately reported on the CSDE website. Another assumption was that the reported scores accurately reflect student performance for the 2021 and 2022 school years. It was also assumed that the student outcomes were not affected by other factors that were not discussed in this study.

Scope and Delimitations

The scope of this quantitative, correlational study was an examination of public school principals' use of time and the potential correlation to growth in student achievement calculated from student scores on the SBA. Delimitations are the boundaries or limits that the researcher controls and selects (Theofanidis & Fountouki, 2018). The research was limited to public schools and principals in the state of Connecticut due to the availability of a consistent measure of student growth data across states. Principal participants were broadly solicited from all Connecticut schools that contain grades for which assessment data were available. The purposeful sampling method was selected to limit subjects based on predetermined criteria to

ensure that the principal was in his or her role during the same time period as the measured student growth. Results were interpreted with caution given that the study only reflected a subset of grades and only public schools in Connecticut. The data were examined to determine if the schools and principals represented in the sample reflected a similar range of growth to the population as a whole.

The selection of the variables, principals' use of time and student growth, also are delimitations of this quantitative, correlational study. First, of the many ways that principals spend their time, two were identified to be studied: time spent in classrooms during instruction and time spent interacting with teachers. The way in which the data were collected was another delimitation. Hochbein and Meyers (2020) identified many ways to collect data about how principals spend their time, which is the independent variable in this study. Data could have been collected anecdotally or over time, however, according to Lee et al., (2021), the best strategy will be the one that will yield the best results in the least intrusive manner. The dependent variables that were selected for this study were student growth in reading and student growth in mathematics. This is another delimitation of the present study in that other data, such as raw achievement scores, are available but this research was restricted to examination of student growth. The Connecticut State Department of Education produces achievement data in reading and mathematics, however, comparing the achievement scores is less meaningful than looking at matched cohort growth, which looks at the change in achievement over time compared to growth targets, for individual students (Connecticut State Department of Education, 2016).

Limitations

Limitations of a study are the potential weaknesses that are typically out of the control of the researcher (Theofanidis & Fountouki, 2018). One limitation of this quantitative, correlational

study is the timing of the data collection on principals' uses of time. Based on the dissertation flow and the timing of approvals, data about principals' use of time was collected in the fall of the school year following the school year in which student growth was measured. Principals reported, in hindsight, how they used time in the prior school year.

A second limitation of the present study is the impact of the COVID-19 pandemic. The need to manage COVID-related issues in the school setting likely had an impact on how principals used their time. Therefore, their time use during the duration of this quantitative, correlational study was likely not typical. Further, student growth during this time period may also not have been typical. It is important to review the results of this study with caution considering this. Another limitation of this study is the selection of a quantitative analysis of correlation which cannot determine causation (Theofanidis & Fountouki, 2018). Another limitation of this quantitative, correlational study is the sampling method which by design is purposeful, seeking only participants who meet specific criteria. This sampling method limits the generalizability of the data (Emmel, 2013).

To avoid influencing the results and inserting bias, the researcher must remain neutral throughout a study (Johnson & Christensen, 2019). In this quantitative, correlational study, objectivity is assured given that the study is quantitative and does not require interpretation. Student scores and principal self-reports of time are quantitative and required no interpretation and therefore are not a limitation of the study.

Chapter Summary

The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). The purpose of this quantitative, correlational study

was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. The study sought to discover what degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in reading and mathematics in their schools and what degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in reading and mathematics in their schools.

Principal leadership impacts student achievement and instructional leadership specifically, is the most impactful type of leadership (Cotton, 2003; Hattie, 2015). The literature reveals categorical behaviors that are elements of instructional leadership such as classroom observations, coaching teachers, building climate, and managing resources (Hallinger & Murphy, 1985; Horng et al., 2010). This quantitative study aimed to identify specific behaviors that are correlated with student growth, if those correlations exist.

The results of this quantitative, correlational study were intended to expand on the previous research by offering guidance about the actions that principals should seek to spend more of their time doing. This has the potential to drive the work of principals and therefore increase student achievement. The aim of this study was to offer principals evidence-based direction on how to spend their time to increase student growth in reading and mathematics. The following section, Chapter 2, will provide a thorough review of the literature including the theoretical framework and the significant literature detailing the impact of principals on student achievement and other school outcomes.

Chapter 2: Literature Review

School principals are primarily responsible for student safety and student learning; their workdays, however, are consumed by a multitude of tasks that limit the time that they can devote to student growth. Principals are forced to make choices about what to do and what not to do. The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. This literature review begins with a review of the Behavioral Theory of Leadership followed by a highlight of relevant literature. First, the important notion that principal leadership matters is explored. Principal leadership is typically discussed in terms of leadership styles; the two that garner the most support in the literature, instructional leadership and transformational leadership, are defined and explored in this study. Next, research supporting these two dominant leadership styles is discussed. Because leadership styles, by definition, represent broad categories of principal actions, research that gets more specific about what principals should do is explored next. A discussion of some of the barriers to and challenges for principal leadership follows next. Finally, the need for future study and a review of the ways in which principal impact has been studied follow. Because research has made clear that principals impact achievement, further research is needed to identify to which specific actions principals should devote their time (Dhuey et al., 2014).

Literature Search Strategy

The literature search focused on two major areas: reviewing leadership theories and identifying previous studies about the relationship between the actions of school principals and

student achievement. The researcher searched using the American College of Education database, Google Scholar, and a review of the citations in other peer-reviewed studies. Additionally, the researcher contacted the author of one study to obtain the full-text article as it was unavailable. Finally, the researcher used the inter-library loan program to obtain several articles that were not accessible through the American College of Education database. The researcher also used books from her collection for leadership and leadership theory history. The following search terms were used to obtain scholarly literature: *achievement, actions, administrators, behavior, behavior theory, behavioral theory, building administrators, building principal, education, effect, great man theory, growth, impact, instruction, instructional leadership, leaders, leadership, leadership behavior, learning, principal leadership, school, school administrators, school leaders, school principals, student achievement, student growth, students, tasks, theory, time, time allocation, time spent, trait theory, traits, transformational leadership, and use of time.*

Theoretical Framework

Behavioral Theory (Lewin et al., 1939) provided the basis for this quantitative, correlational study with its emergence in the 1940s that created the urgency to study leadership, given that it could be learned. Before the 1940s, the Great Man Theory and Trait Theory dominated the leadership literature. Both theories are based on the notion that leadership is innate and based on one's characteristics and that either one is born a leader or is not. The Great Man or Trait Theory was based on the belief that leaders were born, not made and were effective leaders because of their intelligence, energy, and moral force (Organ & Cawthon, 1996). Behavioral theory, first introduced in the 1940s, contradicted earlier theories such as the Great Man theory which proposed that leadership was inherent. In contrast, Behavioral Theory

suggested that a leader's actions determine his efficacy and can be learned (Allen, 2018; Organ & Cawthon, 1996). Behavioral Theory was an important departure because it meant that best leadership practices, once identified, can be learned and used to increase the effectiveness of leaders.

Kurt Lewin, often credited as the first to write about leadership as a function of leader behavior, conducted a study in the late 1930s in which he directed leaders to alter their behavior during different interactions with groups of students. Lewin found that when the adult group leader made intentional shifts in his leadership style and behaviors, he impacted the behavior of the followers (Lewin et al., 1939). Behavioral Theory was later examined in two seminal studies. The first study was conducted at Ohio State University where the Leader Behavior Description Questionnaire was used to identify common traits of leaders (Halpin, 1956). Halpin found that the study of leader behaviors is more valuable than the study of leaders. This finding was an important shift in thinking about leadership. From the study at Ohio State and a second study at the University of Michigan, it became increasingly evident that leadership matters, leadership can be learned, and leaders can be more effective when they choose the right things to do (Halpin, 1956).

Leaders are made not born therefore leadership skills can be learned (Lewin et al., 1939; Roupnel et al., 2019). Extensive further research has shown that educational leadership makes a difference and specifically, that principals matter (Dhuey et al., 2014; Grissom et al., 2018; Hallinger & Heck, 1998; Leithwood et al., 2010, 2019; Maponya, 2020; Neufeld, 2014; Rigby et al., 2020; Tan, 2018). Research has found that principal leadership has a direct impact on student achievement and other indicators of school success (Dhuey et al., 2014; Grissom et al., 2018; Leithwood et al., 2019; Maponya, 2020). Research has also found that principal leadership has

an indirect impact on student achievement and other indicators of school success (Hallinger & Heck, 1998; Tan, 2018). Because some leaders have greater impact on student achievement than others, research about how leaders behave has led to further definition of leadership styles.

Principal leadership styles are used to distinguish different approaches to school leadership. Many authors cite instructional leadership as the most effective leadership style (Hattie, 2015). Transformational leadership is also very prevalent in the literature and is also credited with having significant effect on a variety of indicators of school success. This guidance, however, is not easily translated into practice as it is confounded by the wide variety in the definitions of instructional leadership and transformational leadership, within the research. The definitions of instructional leadership and transformational leadership vary and are often broad or vague, including actions such as having a visible presence, setting goals for the school, visiting classrooms, supervising instruction, providing feedback to teachers, and coordinating the curriculum (Hallinger & Heck, 1998; Hallinger & Murphy, 1985; Horng et al., 2010).

More detailed guidance around what principals should do to improve student achievement is needed. In truth, principals are largely left on their own to determine what it means to be an instructional leader (Neumerski et al., 2018). Therefore, it is critical to understand which behaviors a school principal exhibits are most impactful. With clarity around which actions a principal can take that have the greatest impact on student achievement, principals can develop their leadership skills and make strategic decisions about how to spend their limited time (Cotton, 2003; Dhuey et al., 2014; Grissom et al., 2021; Leithwood et al., 2019; Marzano et al., 2005). Behavioral Theory (Lewin et al., 1939) provides evidence that leadership is learned and therefore, principals, whose impact is evident in the literature, can learn to increase their impact by learning what works (Bush, 2021; Grissom et al., 2021; Hattie, 2015).

Research Literature Review

Within the literature about principal leadership and its impact on student learning, leadership styles are examined and are used to provide categorical guidance to principals about their use and impact (Lynch, 2012; Northouse, 2015). Two leadership styles, transformational leadership (Kiranli Güngör & Aydın, 2019; Lynch, 2012; Peddell et al., 2020) and instructional leadership, have emerged in the literature as the two leading leadership styles for impact on achievement (Boyce & Bowers, 2018; Goldring et al., 2020; Grissom et al., 2021; Hui & Singh, 2020; Robinson et al., 2008). However, there is a significant overlap in the literature between leader behaviors included in the study of instructional leadership and transformational leadership (Grissom et al., 2021; Hattie, 2015; Lynch, 2012). In addition, some studies indicate that a blend of the two styles is optimal (Bellibaş et al., 2021; Day et al., 2016; Hitt et al., 2018; Kwan, 2020; Liebowitz & Porter, 2019; Nava et al., 2020). This literature review includes the areas of overlap between instructional leadership and transformational leadership, identifying specific behaviors that appear consistently in studies of both leadership styles, and highlights the need to further identify which specific behaviors principals should do more of. Figure 1 provides the logical progression of the foundation for this quantitative, correlational study as well as a general outline for the literature review.

Figure 1

Progression of Logic



Note. Research findings that build the foundation for this study.

Principal Impact

Principals have an impact on a variety of school outcomes and thus have both direct and indirect impacts. Principals' effects on student achievement are almost as great as the average of individual teachers. Principals' effects are often indirect and come about through a variety of things that principals do, such as hiring and developing teachers and managing the learning environment. While the impact of a teacher on one student is greater than that of the principal's impact, the principal's effect is larger in scope as its impact is on the whole school and therefore all of the students (Grissom et al., 2021). Through meta-analysis, Uysal and Sarier (2018) found that the effect size of school leadership is small but positive and therefore worthy of continued study. Bush (2021) asserted that leadership is the second most significant school-based variable that influences student outcomes. Of the student outcomes, student achievement has received much attention in the literature.

Principal Impact on Achievement

Extensive research has been done to establish clear evidence that principals impact student achievement (Dhuey et al., 2014; Grissom et al., 2018; Hallinger & Heck, 1998; Hattie, 2015; Leithwood et al., 2019; Maponya, 2020; Marzano et al., 2005; Neufeld, 2014; Rigby et al., 2020; Tan, 2018; Uysal & Sarier, 2018). Principals' contributions to student achievement are nearly as large as the average effects of teachers (Grissom et al., 2015). The principal's effect size is second only to the teacher (Neufeld, 2014). Not only does effective leadership have a positive impact on achievement, but misguided leadership can also detract from student achievement (Rigby et al., 2020).

Herrmann et al. (2019) and Rigby et al. (2020) sought to identify successful principal practices. Instead, they found actions that were not successful. Rigby et al. (2020) found that not

only do principals' actions have impact, a principal who influences teachers by doing the wrong things can negatively impact student achievement (Rigby et al., 2020). While much of the literature does encourage principals to focus on student data, Rigby et al. (2020) found that when principals over-emphasized standardized achievement data and focused on it while teachers were attempting to work on improving their practice, it had a negative impact on achievement.

Another action that was surprisingly associated with a negative impact was found by Herrmann et al. (2019) when they studied a professional development program for principals that was intended to improve principals' formal observations and feedback to teachers. Herrmann et al. found instead that the professional development program which was provided did not lead to increased student achievement and in fact led to fewer observations and feedback. Other studies though, did identify positive impacts on student achievement.

Studies have examined the relationship between principals' performance evaluations and student achievement. Grissom et al. (2018) examined the relationship between Tennessee principal evaluations and student achievement growth. The study concluded that year-to-year evaluations of principals showed that supervisors' ratings of principals were predictive of student achievement growth, with great consistency. A shortcoming of Grissom et al. is that it did not distinguish between aspects of the principal's leadership.

McCullough et al. (2016) similarly looked at the relationship between principals' ratings on their evaluations and their contributions to student achievement, studying more than 300 principals from Pennsylvania. Evaluation scores were significantly and positively correlated with principals' contributions to student achievement estimates. Contributions to math achievement were more highly correlated than achievements in other subjects. The results were driven mainly by evaluations of principals who led their schools for at least three years. These studies linked

principals' evaluations to student achievement which has implications for the use of student achievement data in principals' evaluations.

Grissom et al. (2015) cautioned that while there is evidence of principal impact on student test scores, using that in principals' evaluations would be confounded by several factors. Grissom et al. suggested that if student test score data were to be used in principals' evaluations, growth data that shows improvement during their tenure would be most fair. Other studies examined the relationship of principal actions to student achievement.

Two recent studies, Tan (2018) and Tonich (2021), both explored the indirect impact of principal leadership on student achievement and found a significant relationship. Tan's study included more than 10,000 principals and more than 250,000 students from 32 countries. Tan found that the principals' leadership had a significant effect on mathematics achievement, with the greatest impact on disadvantaged students. This impact was mediated through teacher morale and teacher autonomy. Similarly, Tonich studied 350 principals in elementary schools through high schools in Indonesia. Tonich sought a relationship between leadership and performance, through school culture. Tonich found that while there was a direct relationship between principal leadership and performance, the effect was greater when mediated through school culture. Tan and Tonich were not small studies, however, meta-analyses represent much larger data sets.

Meta-analyses have found that the effect size of school leadership on achievement is small but positive (Leithwood et al., 2019; Uysal & Sarier, 2018). In their meta-analysis, Marzano et al. (2005) found an average effect of .25 within the 21 areas of responsibility that they studied. Cotton (2003) similarly identified 25 areas of responsibility and concurred that research has consistently found a positive relationship between the behaviors of the principal and student academic achievement. There is great similarity between Marzano et al.'s and Cotton's

areas of responsibility. Both are foundational to the study of what works best in school leadership and the studies that followed. The areas of responsibility that Marzano et al. attributed with having a significant effect on achievement cross-leadership styles and are categorical more so than specific behaviors. Some of the responsibilities that appear in both Marzano et al. and Cotton are relationships, visibility, shared leadership, instructional focus, culture, communication, outreach, and recognition. In many ways, this describes most every aspect of a principal's work. Hattie (2015) pointed out that most everything works and can be correlated with student achievement; to try to find greater specificity, studies have started with high-performing schools and looked for patterns in the data.

Several studies have started their research by identifying high-performing schools and working backward to study the leadership in those schools and seek patterns of behavior (Bagwell, 2019; Dhuey et al., 2014; Huff et al., 2018; Maponya, 2020). Huff et al. (2018) sought to identify what would distinguish leaders' practices in more effective high schools from those in less effective high schools that serve large proportions of at-risk youth. Effectiveness was determined by using three years of student data and comparing the rate of improvement in student achievement among low-income and minority students and English language learners. Huff et al. found that two primary themes characterized the differences in their practices. First, leaders in higher value-added high schools were routine and consistent in monitoring instruction and providing feedback, leading to changes in teachers' practices. Second, higher value-added school leaders made more efforts to support personalized learning for students. Maponya (2020) also started with five high-performing schools that were previously considered low achieving and found that the school principal's actions were the determining factor in the achievement levels in their schools.

Similarly, Bagwell (2019) asked the question, “What do principals do in schools with high achievement?” The finding was that they focus on instruction, have conversations about data, and have an urgency about the importance of instruction. Dhuey et al., (2014) sought to establish that principals have a value-added effect on student achievement and determine what makes one principal better than another at raising test scores. Dhuey et al. used more than five million student data points from grades 4 through 8 in North Carolina and compared growth in math and reading to identify more and less successful principals. By comparing the principals to one another for characteristics such as what level of degree they had earned and from where and their years of experience as a principal they found that the match between principal and school was significant and that shifting principals can lead to positive effects. These studies that began with outcomes, sought patterns of behavior within successful settings. These findings add to the body of evidence to support the belief that principals impact student achievement.

Evidence has clearly shown that school leadership has a significant impact on student achievement. Therefore, further study to identify and leverage high-impact uses of time for principals is warranted (Dhuey et al., 2014; Grissom et al., 2018; Hallinger & Heck, 1998; Hattie, 2015; Leithwood et al., 2019; Marzano et al., 2005; Rigby et al., 2020). Given that “school principals are the vital instrument towards enhanced instructional delivery in their schools” (Maponya, 2020, p. 183), school leaders must be guided in how best to impact student achievement (Leithwood et al., 2010; Neufeld, 2014). These findings are further evidence of the importance of knowing what principals should and should not do and where their impact can be detected.

Principal Impact on Other Outcomes

Several studies examined the indirect effect of principal leadership on school outcomes.

Boyce and Bowers (2018) reviewed 109 quantitative studies and concluded that instructional leadership's impact comes through the mediating effect of teacher satisfaction, teacher communication, and teacher retention. Zahed-Babelan et al. (2019) found an indirect effect of instructional leadership on teacher engagement through culture, empowerment, and job characteristics. Liu and Hallinger found instructional leadership positively affected teachers' professional learning. Similarly, Thien et al. (2021) found an indirect contribution of instructional leadership to teachers' sense of self-efficacy and trust. Motivation was the mediating effect that Demirdag (2021) found as the link for indirect impact of instructional leadership. Ma and Marion (2021) also found that 50 principals' instructional leadership led to a positive learning climate, which led to teachers' sense of self-efficacy and trust. Özdemir et al. (2020) found a significant relationship between principals' instructional leadership and teachers' sense of self-efficacy and motivation. Francisco's (2019) findings were that transformational leadership has a positive effect on teacher self-efficacy. The studies discussed here are particularly meaningful considering Hattie's (2015) and Donohoo et al.'s (2018) findings that teachers' collective self-efficacy has one of the largest effects on student achievement. In addition to these teacher impacts, other broader outcomes have been studied.

Other studies have concluded that principal leadership leads to important positive effects on school culture, collaboration, and trust (Tonich, 2021; Wieczorek & Manard, 2018). Similarly, Çağatay et al. (2020) and Baptiste (2019) found that leadership has a significant effect on teachers' job satisfaction, organizational commitment, and organizational success. Liebowitz and Porter (2019) found a marginally significant relationship between principals' focus on instruction and increased levels of teacher well-being. The study does report, though, a significant positive relationship between principals' focus on instruction and teachers'

instructional practices (Liebowitz & Porter, 2019). Interestingly, Serin and Akkaya's (2020) study involving 418 teachers in Turkey argued that transformational leadership had a significant negative impact on teachers' motivation. Adarkwah and Zeyuan (2020) also found that transformational leadership negatively correlated with teacher motivation. Given these mixed findings about the impact of principal leadership on outcomes such as teachers' self-efficacy, motivation, engagement, and empowerment and school culture, collaboration, and trust, it is important to look more closely at what is most effective.

Most Effective Leadership Styles and Their Impact

Within the leadership literature, instructional leadership (Boyce & Bowers, 2018; Day et al., 2020; Grissom et al., 2021; Herrmann et al., 2019; Leithwood & Sun, 2018; Liu & Hallinger, 2018; Neufeld, 2014; Robinson et al., 2008) and transformational leadership (Lynch, 2012; Peddell et al., 2020) have emerged as the two styles mostly highly correlated with student achievement and school success. A refinement to the application of the two styles is offered as employing a blend of the two styles for increased impact (Bellibaş et al., 2021; Day et al., 2016; Hitt et al., 2018; Kwan, 2020; Liebowitz & Porter, 2019). Kwan (2020) defined instructional leadership as supporting and monitoring teaching and transformational leadership as building capacity and dedication. In her Hong Kong study, Kwan found that the degree of transformational leadership present within principals' instructional leadership style, determined the impact size of the principal. The conclusion Kwan reached was that it should not be an either/or proposition; instructional leadership is improved by the presence of transformational leadership behaviors. Understanding how principals can blend these two research-supported leadership styles is critical for leaders. Thus, a thorough more comprehensive examination of each is provided.

Elements of Instructional Leadership

Leadership literature distinguishes between existing leadership styles, identifying various styles or methods that exist in school leadership today. The definition of instructional leadership is not consistent, although there are core commonalities in how it is discussed in the literature. Within the broader heading of educational leadership, instructional leadership theory has been written about with great frequency, yet is not well defined (Marzano et al., 2005).

According to Marzano et al., (2005) instructional leadership has four dimensions: resource provider, instructional resource, communicator, and visible presence. While the definition of instructional leadership varies from study to study, commonalities exist. Largely, the realms of expertise fall into three domains: people, instruction, and the organization. These skill sets can be described across four key areas: engaging in instructionally-focused interactions with teachers, building a productive school climate, facilitating productive collaboration and professional learning communities, and strategically managing personnel and resources (Grissom et al., 2021). While much research has been conducted and many studies have differed in their description of what instructional leadership as a category might include, they have in common the finding that instructional leadership does have a small yet statistically significant, indirect effect on school effectiveness and student achievement (Hallinger & Heck, 1998).

The best instructional leaders demonstrate self-efficacy and believe that success and failure in student learning are a result of what teachers and leaders do or do not do (Hattie, 2015). Instructional leadership is often described as a combination of defining the school's mission, managing the instructional program, and promoting a positive school climate (Grissom et al., 2021; Lynch, 2012; Shaked & Benoliel, 2020). The definition was honed to include a focus on instruction, people, and the organization with four key drivers: engaging in instructionally-

focused interactions with teachers, building a productive school climate, facilitating productive collaboration and professional learning communities, and managing personnel and resources strategically (Grissom et al., 2021). Hattie (2015) describes instructional leadership as focusing on students, observing and supporting teachers with professional development, and high academic standards. Robinson et al. (2008) favor instructional leadership as most effective. Robinson et al.'s definition includes five dimensions: promoting and participating in teachers' learning and development, planning, coordinating and evaluating teaching and curriculum, setting and sharing school goals and expectations, strategic resourcing, and maintaining an orderly environment. Neufeld (2014) describes instructional leadership as setting vision and direction, developing staff, and managing teaching and learning.

In a research study that aimed to evaluate the literature on the concept of instructional leadership, Kiranli Güngör and Aydin (2019) posited that "instructional leadership is the understanding that belongs to school administrators who prioritize, monitor, and supervise instructions in schools" (p. 49). Also in that study, Kiranli Güngör and Aydin (2019) shared that Sisman's 1997 definition of instructional leadership included, "1. Identification and sharing of the school's objectives, 2. Administration of educational program and teaching process, 3. Assessment of teaching process and students, 4. Support given to teachers and their improvement, 5. Formation of regular teaching-learning environment and climate" (Kiranli Güngör & Aydin, 2019, p. 52). Okilwa and Duarte (2020) offer a similar model and include four key practices: setting direction, developing people, redesigning the organization, and managing instruction. Day et al. (2020) offered five similar key dimensions of instructional leadership.

Within the definitions of instructional leadership, a variety of principal actions can be examined. Teacher evaluation, ensuring professional development, communicating high

standards, instructional coaching, and letting data drive decisions are ways principals exhibit instructional leadership (Grissom et al., 2021; Hattie, 2015). Research has examined the impact of some of these actions categorically and individually. Some studies have categorized these actions as transformational and others as instructional. According to Robinson et al. (2008), instructional leaders focus on students by conducting observations, ensuring professional development, and holding high expectations for student learning. Given the varying definitions of and overlap between instructional leadership and transformational leadership, it is important to isolate specific actions that are impactful. Table 1 provides a synthesis of several of the varying definitions of instructional leadership.

Table 1*Comparison of Selected Definitions of Instructional Leadership*

Themes	Marzano et al. (2005)	Neufeld (2014)	Hattie (2015)	Bagwell (2019)	Okilwa & Duarte (2020)	Day et al. (2020)	Grissom et al. (2021)
Focus on instruction	Instructional resource	Managing teaching & learning	Observing teachers	Monitoring instruction in classrooms	Managing instruction	Planning, coordinating & evaluating teaching & the curriculum	Engaging in instructionally focused interactions with teachers
Professional Development		Developing staff	Supporting teachers with professional development	Supporting leadership development for teachers	Developing people	Promoting and participating in teacher learning & development	
Mission, Vision, Goals	Communicator	Setting vision and direction			Setting direction	Establishing goals & expectations	Building a productive school climate
Academic Press			High academic standards	Focus on instructional improvement			
Management of Resources	Resource provider				Redesigning the organization	Resourcing strategically	Managing personnel and resources strategically
Other	Visible presence		Focusing on students	Structures to promote collaboration		Ensuring an orderly and supportive environment	Facilitating collaboration & professional learning communities

The Impact of Instructional Leadership

Instructional leadership has been linked to effective outcomes and the literature does indicate high-leverage instructional activities. Those high-leverage instructional activities are teacher observation and evaluation, feedback and coaching, and the establishment of a data-driven instructional program (Grissom et al., 2021; May & Supovitz, 2011). For example, in work by Bagwell (2019), instructional leadership led to annual student growth and was attributed to a focus on instructional improvement, monitoring instruction in classrooms, structures to promote collaboration, and supporting leadership development for teachers. While these studies looked specifically at instructional leadership, others compared it to other leadership styles.

Several studies have compared leadership styles. Robinson et al. (2008) compared the instructional and transformational leadership styles and found an effect size of .11 for transformational leadership and .42 for instructional leadership. Within the study, Robinson et al. isolated five dimensions, one of which, promoting and participating in teacher learning and development, had an effect size of .84. More recently, Shatzer (2022) found that instructional leadership was more impactful than other leadership styles, having greater impact on teacher job satisfaction, yet still had an impact on achievement. Shatzer's definition of instructional leadership included monitoring student progress, protecting instructional time, and providing incentives to teachers and students. Further studies confirmed Robinson et al.'s earlier findings that instructional leadership was the most impactful style.

Shaked and Benoliel (2020) found that instructional leadership was the best style, layering in what they termed *boundary management* which meant growing others and staying on mission. Shaked and Benoliel's definition also included protecting time and being visible. Hui and Singh (2020) using the more widely written about definition of instructional leadership as

defining the school's vision and goal, managing the instructional program, and promoting a positive school climate, found a significant, positive effect of instructional leadership on the learning organization. Hui and Singh contended that instructional leadership can raise schools' outcomes by 20%. The studies above examined behaviors and resulting outcomes while some studies began with the outcomes and examined the behaviors that may have led to those outcomes.

Further research into instructional leadership started with successful schools and sought patterns of principal behaviors. Maponya (2020) concluded that instructional leadership is the key to success, working backward from five high-performing secondary schools that had been previously disadvantaged. Through a qualitative inquiry, Maponya found the commonalities between the five principals were "improvement of learner academic achievement, motivation and positive influence, instructional management, creation of a positive teaching and learning culture, learner support, parental involvement, and interchangeable usage of leadership styles" (p. 186). The findings from this quantitative, correlational study of five schools are confirmed in a meta-analysis by Grissom et al. (2021).

Grissom et al. (2021), in a report for the Wallace Foundation, through a significant meta-analysis, found that effective principals have instructionally-focused interactions with teachers, build a productive school climate, facilitate collaboration and professional learning communities, and are strategic with personnel and resource management. Grissom et al. (2021) purported:

The impact of replacing a below-average elementary school principal (i.e., one at the 25th percentile of effectiveness) with an above-average principal (i.e., at the 75th percentile) would result in an additional 2.9 months of math learning and 2.7 months of reading learning each year for students in that school (p. xiii).

While they do not explicitly label this as a particular leadership style, the skills and behaviors they included in their research are most closely aligned with instructional leadership.

Instructional leadership has also been studied in combination with other leadership styles.

The concept of distributed or shared leadership expands an additional aspect of the literature about the impact of instructional leadership. Principals are encouraged to value their people and promote strategic partnerships with other instructional leaders within their staff. Coaches, library teachers, department chairs, and instructional coaches can all be empowered to assume leadership roles in instructional leadership, in support of the principals' goals (Baker et al., 2020; Bush, 2021; Kaufman et al., 2020; Lewis, 2019; Umar et al., 2021; Woulfin & Weiner, 2019). Other styles and strategies have also been linked to an increased impact of instructional leadership.

Instructional leadership is supported in the literature when used in combination with organizational management strategies. Organizational management includes hiring staff, firing staff, budgeting, and creating a positive environment. Horng and Loeb (2010) and Sebastian et al. (2019) both contend that instructional leadership alone is neither realistic nor as effective as when combined with organizational management. In addition to these studies that look at instructional leadership in combination with other styles, transformational leadership is highlighted in the literature.

Elements of Transformational Leadership

Transformational leadership is discussed as leadership for change. According to Lynch (2012), transformational leadership "places relationships at the center of educational leadership. It encourages leaders to develop tools and strategies that encourage all stakeholders to participate in creating the mission and commit to the purpose of the school" (p. x). This model is based on

leaders having the charisma to influence staff and is favored by Lynch. Robinson et al. (2008) found that transformational leaders focus on teachers by setting a vision, creating common goals, and managing resources, providing teachers a high degree of autonomy. In Metz et al. (2019) transformational leadership is described as the combination of an ability to bring about change and the characteristics of vision, integrity, ethics, communication, respect, trust, and commitment (Marzano et al., 2005; Metz et al., 2019). The characteristics in Robinson, Metz, and Marzano align with other studies of transformational leadership, but are framed differently.

Adarkwah and Zeyuan (2020) provide four dimensions of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These four dimensions all appear in Marzano et al. (2005) as an element of their list of 21 areas of responsibility. Peddell et al. (2020) studied transformational leadership as a model of transformational leadership that focuses on how leaders create effective change through three areas of emphasis. The first area is alignment which requires that the leader be able to align staff with the vision for the desired change. The second area is capabilities meaning the degree to which leaders ensure that staff have the professional development, the tools, and the skills to implement the desired change. The final element is engagement which requires the leaders to motivate and inspire staff to participate in the change initiative. Peddell et al. (2020) found that common themes emerged in their study including “the need to develop an agreed vision, empowering staff through collaboration and customised professional learning, leading by example, using data to both motivate and guide change, and building positive, ‘transparent’ relationships to encourage teacher buy-in” (p. 145).

Peddell et al.’s (2020) findings, while like Lynch in the alignment or vision and the engagement or building positive relationships, overlap with the definition of instructional

leadership in the capabilities or empowering staff and using data. Adarkwah and Zeyuan (2020) provide a model for transformational leadership that overlaps both Peddell et al. (2020) and Lynch (2012) but does not contain specific elements of instructional leadership. Day et al. (2020) offered a core set of leadership practices within transformational leadership. Day et al.'s categories of practices are building a vision and setting direction, understanding and developing people, developing the organization, and managing the teaching and learning program (p. 15). These overlapping definitions are fundamental to the complications in the categorical research that strays from one consistent set of definitions of terms. Table 2 provides a synthesis of several of the varying definitions of transformational leadership.

Table 2*Comparison of Selected Definitions of Transformational Leadership*

Themes	Robinson et al. (2008)	Metz et al. (2019)	Day et al. (2020)	Peddell et al. (2020)
Mission, Vision & Goals	Setting vision & communicating goals	Communicating vision	Building a vision & setting direction	Developing an agreed upon vision
Relationships & Capacity Building		Building relationships and trust, transforming people & modeling desired behaviors	Building relationships & developing people	Building positive, transparent relationships, leading by example, and providing professional learning
Enabling Others	Managing resources & providing autonomy	Communication & collaboration	Developing the organization	Empowering staff through collaboration
Monitor Learning & Protect Instructional Time			Improving the instructional program	Using data to both motivate and guide change

The Impact of Transformational Leadership

The literature has demonstrated that transformational leadership is impactful (Marzano et al., 2005; Masry-Herzallah & Stavisky, 2021; Peddell et al., 2020). In a qualitative study of successful schools, Peddell et al. studied 16 principals to investigate what they did that caused significant improvement in their schools' testing results. Their responses included a variety of behaviors that are aligned with transformational leadership. Marzano et al. also indicated that transformational leadership was effective in their discussion of principals' behaviors, including promoting beliefs, increasing staff capacity, and engaging the staff through affirmation. Finally, Masry-Herzallah and Stavisky investigated successful leadership in Israel during the COVID-19 pandemic by interviewing 331 teachers. The research found a positive correlation between principals' transformational leadership style and online teaching success, mediated by the quality of communications in the school. These findings about the impact of transformational leadership intersect those of instructional leadership.

The Intersection of the Instructional Leadership and Transformational Leadership

The cited studies, which document the impact of an effective school principal, define instructional leadership and transformational leadership in different ways. Some studies describe leader behaviors in one style that other studies place in the other (Liebowitz & Porter, 2019). Some of the dimensions traditionally attributed to transformational leadership, that the research seems to attribute to both leadership styles, include setting a mission and vision, promoting a positive school climate, fostering collaboration, fostering relationships internally and externally, and exuding positivity (Hui & Singh, 2020; Liebowitz & Porter, 2019; Maponya, 2020; Shaked & Benoliel, 2020; Woulfin & Weiner, 2019).

Some of the leadership moves traditionally associated with instructional leadership are

now being attributed to both styles in the research. Examples of leadership dimensions that are now being attributed to both styles are setting group goals, providing intellectual stimulation, providing instructional support, monitoring data, providing teachers with professional development, and holding high expectations (Day et al., 2020; Leithwood et al., 2010; Peddell et al., 2020). These overlapping definitions suggest a shift in the understanding of the role of the principal as well as the body of research (Liebowitz & Porter, 2019). In the research, this overlap of the two styles is sometimes referred to as integrative leadership (Kwan, 2020). To recognize the ways that transformational leadership and instructional leadership differ, Day et al. (2020) suggested that the core tenet of instructional leadership is that the leader's primary purpose is to promote positive student outcomes compared to the transformational leadership style, which in the past, focused primarily on leveraging relationships for change. Day et al. (2020) suggested that a blended leadership model that makes student outcomes its focus while putting a high value on relationships is best.

The Impact of a Blended Leadership Style

Lynch (2012) provided a clear distinction between transformational leadership, which he defined as being based in relationships and charisma, and instructional leadership which he suggested includes defining mission, managing the instructional program, and promoting a positive school climate. Recent literature, however, is increasingly reflecting support for blending the two leadership styles of instructional leadership and transformational leadership and in fact, the definitions have become quite blurred. Research has shown that instructional leadership can be improved when combined with transformational leadership and that the resulting blend has more impact than either on its own (Bellibaş et al., 2021; Day et al., 2016; Day et al., 2020; Kwan, 2020; Peddell et al., 2020).

Day et al. (2020) identified a skill set for effective leadership that weaves together instructional leadership and transformational leadership. It includes:

defining the vision, values and direction, improving conditions for teaching and learning, restructuring the organization, enhancing teaching and learning, redesigning and enriching the curriculum, enhancing teacher quality, building relationships inside the school community, building relationships outside the school community, and establishing common values. (pp. 27-28)

Leithwood and Sun (2018) conveyed another blend of the two leadership styles, focusing on academic press, disciplinary climate, and teachers' use of instructional time. Similarly, Hitt et al. (2018) and Liebowitz and Porter (2019) identified a blended model of leadership, Hitt with seven competencies that have elements from transformational leadership and instructional leadership and Liebowitz and Porter with five categories that again reflect a blend. Leithwood et al. (2010) also promote a blended model that includes elements from both transformational leadership and instructional leadership that together, accounted for 43% of the variation in the data. The blending of the styles of instructional leadership and transformational leadership, while showing impact on student achievement, still represents broad categories of principal behaviors. Further identification of specific impactful leaders is necessary.

Specific Impactful Leader Behaviors

Hallinger and Heck (1998) referred to a gap in the literature as the *black box*, pointing out that while extensive research exists on the impact of school leadership, there is very little specific guidance on what to do and what not to do. In the literature, principals' participation in data-team meetings or in using data-driven practices has emerged as a specific impactful behavior (Bagwell, 2019; Garry, 2021; Maponya, 2020; May & Supovitz, 2011; Yoon, 2016). In contrast

though, Rigby et al. (2020) found that too much attention on student achievement data was impactful in a negative manner. Another specific leadership behavior identified as impactful is monitoring instruction and providing feedback to teachers (Fuentes & Jimerson, 2020; Garet et al., 2017; Grissom et al., 2021). Additionally, the literature offers some surprising leader behaviors that are not positively related to student achievement. For example, Lee et al. (2021) found that principals' use of time to interact with individual students while positively related to students' reading achievement, was not statistically significant. Grissom et al. (2013) found that not only do principals' walkthroughs not positively impact student achievement, but they also negatively predict growth. Other studies have identified a positive impact of principal behaviors.

Huff et al. (2018) studied leader practices in high schools that the researchers identified as more and less effective. Effectiveness was determined by using three years of student data and comparing the rate of improvement in student achievement among low-income and minority students and English language learners. The research study found that in the more effective schools, the leaders monitored student data and observed and provided feedback on instruction. Further, the principals in the more effective schools supported personalized learning experiences for students. Another very specific finding in Huff et al. is that the principals in more effective schools focused on routines that promoted adult-to-student relationships such as looping, clubs, and faculty visits to feeder schools. Interestingly, in the lower achieving schools, principals tended to focus on individual student connections, in comparison to systematic connection opportunities, and made it a priority to be visible in the hallways (Huff et al., 2018).

Hattie (2015) pointed out that most everything impacts student achievement and that what is important to know is what works best. Hattie found that among other things, some leadership behaviors yielded a significant, strong effect size. Some of the behaviors that

yielded the strongest effect size were developing the self-efficacy of teachers, privileging high-impact teaching and learning, having a clear vision of success, and communicating it to teachers and students, and insisting on maintaining appropriate levels of challenge. Marzano et al. (2005) analyzed many leadership behaviors. Many of them are categorical, however, with greater specificity he concluded that providing intellectual stimulation to teachers, keeping the school's goals present, and monitoring student data had a significant positive relationship to student achievement (Marzano et al., 2005).

Other studies centered around principals' use of time also had specific findings. Ayeni (2020) found a significant relationship between principals' time management strategies and student achievement. Neumerski et al. (2018) pointed out that time is a significant issue for principals and found that time spent on formal evaluations and coaching are both impactful. One thing that Herrmann et al. (2019) found didn't work was providing professional development to principals on how to conduct formal observations and provide feedback. In fact, time use logs from the principals in the study who participated in the professional development program reflected that participants observed teachers less frequently and gave less feedback (Herrmann et al., 2019). Further, Lee et al. (2021) found that interacting with individual students was not significantly correlated with student achievement. Studies of time highlight one of the barriers to principal leadership.

Barriers to Principal Leadership

The principalship has changed significantly over the years. As a result, expectations have changed and increased and the competing demands on a principal's time are significant. As a result, time and role diversity, pressure for academic results, isolation, and lack of knowledge about curriculum and instruction or content specificity greatly impact principals' ability to truly

lead their schools to success (Hallinger & Murphy, 1985; Martínez Ruiz, & Hernández-Amorós, 2020). Time demands are one barrier that has been given attention in the literature.

Wang (2021) described many barriers to principals' leadership. Work intensification is significant; principals are working hard and fast, handling an enormous volume of complex tasks and interactions. Principals fulfill a wide array of roles and have infinite responsibilities that surpass the limits of the school day (Wang, 2021). Studies of principals' use of time are complicated by the fact that principals often work well beyond their time in school to keep up with the demands of the role. Work time for school principals is continuously increasing and becoming more and more hectic and disjointed (Hochbein & Meyers, 2020; Lee et al., 2022).

Other studies confirm that the role of the principal is becoming unrealistic and unmanageable. The volume and complexity of the tasks, the infinite roles and responsibilities, and unrealistic demands lead to exhaustion and often the motivation to quit (Skaalvik, 2020; Wieczorek & Manard, 2018). Principal's days are often hectic, filled with diverse tasks and a broad array of responsibilities, long, and filled with spontaneous interruptions (Huang et al., 2020; Khan et al., 2015; Lee et al., 2022; Sebastian et al., 2018; Wallin et al., 2019). In addition to the barrier that time presents, other barriers are addressed in the literature.

Another barrier to the success of school principals is that they are not always trained in the areas for which they are responsible. This often happens in high schools where content expertise is critical. When principals lack knowledge about the curriculum and instruction, it impedes their leadership and is sometimes referred to as instructional mismatch in the literature. To address this, coaches, assistant principals, and department chairs can be strategically selected and job-embedded coaching can be utilized (Adams & Muthiah, 2020; Heffernan & Longmuir, 2019; Khan et al., 2020; Sharif, 2020; Thessin, 2019).

Diverse role expectations create competing priorities. Much of the research suggests that principals should be instructional leaders (Bagwell, 2019; Grissom et al., 2021; May & Supovitz, 2011; Robinson et al., 2008). Several studies have been done though, that demonstrate that principals are not able to devote significant time to instructional leadership, even when they know that it is what they should be doing (Freeston & Costa, 1998; Goldring et al., 2020; Hochbein & Meyers, 2020; Horng et al., 2010). Time and role diversity, pressure for academic results, isolation, and lack of knowledge about specific content and curriculum all interfere with principals' ability to impact achievement. Principals would benefit from more clarity about what they can do with limited time to impact achievement; further study is needed for this reason.

The Need for Further Study

Maponya (2020) studied principals from five schools that went from being previously low-performing to high-performing, under the leadership of the principals they studied. The conclusion that Maponya reached was that "school principals are the vital instrument towards enhanced instructional delivery in their schools" (p. 183). Maponya (2020) found that what the five principals had in common was that they saw the academic achievement of their students as their core responsibility.

If principals had unlimited time, further research would still be necessary, to further define the behaviors in Hallinger and Heck's (1998) *black box*, to identify the things to which principals should devote more time. Given that principals do not in fact have unlimited time and in fact have days that are overfilled, and unmanageable principals would benefit from knowing which tasks to which they need to devote more time to be more effective in their jobs (Hochbein & Meyers, 2020; Huang et al., 2020; Khan et al., 2015; Lee et al., 2022; Liebowitz & Porter, 2019; Wang, 2021; Wieczorek & Manard, 2018).

More research is also needed to manage the expectations of others, such as teachers, parents, and district administrators, which are frequently contrary to the research and often erroneous about what principals should do to have the greatest impact. Therefore, more work is needed to promote specificity behind the findings of Cotton (2003), Hattie (2015), Marzano et al. (2005), Robinson et al. (2008) and so many others. Despite the large body of research that defines the significant impact of instructional leadership, in a journal article that was absent any research, Higdon (2021) suggested that principals should spend their days making connections by walking around, subbing, and being present at lunch and recess. This contradicts the research about the impact principals have, especially Huff et al. (2018) which makes clear that Higdon's approach is not the answer. The existing body of research on principals' impact has been accumulated through a variety of approaches.

Approaches to Studying Principals' Impact

One frequently utilized method of studying principals' impact is through the examination of how principals spend their time in relationship to desired outcomes (Hochbein & Meyers, 2020). The present study examined how principals spend their time in relation to student growth in reading and mathematics. Lee et al. (2021) reported that the ways that principals use their time on categories of work have a significant impact on school success and student learning, making the study of time use worthwhile. Identifying the behaviors that comprise those categories of work would provide guidance to principals on how to spend their time. One method seen in the literature, to quantify how principals use their time is through direct observation (Huang et al., 2020). This is often done in combination with interviews (Huang et al., 2020). These methods are complemented by or replaced with self-report either through daily logs, end-of-year summaries, or random time sampling (Herrmann et al., 2019; Hochbein & Meyers, 2020; Huang

et al., 2020). In addition to studies that focus on the principal, other studies rely on others to report on the actions of the principal.

Another frequently relied upon approach to the study of principal impact is to survey teachers about the leadership style of their principal and compare those results to either student achievement or other desired outcomes. Several research tools are used throughout the literature. Metz et al. (2019) utilized Kouzes and Pozner's (2013) Leadership Practices Inventory with 110 principals to study the perceptions of teachers who worked under transformational principals and compare them to the principals' self-perceptions. Francisco (2019) and Adarkwah and Zeyuan (2020) utilized the Multifactor Leadership Questionnaire (MLQ), versions 5 and 6 respectively, in their studies of transformational leadership. Several other similar surveys about leadership are used in the studies and are reviewed in this quantitative, correlational study. They include the Instructional Leadership Behavior Questionnaire and the Principal Instructional Management Rating Scale.

Chapter Summary

Chapter 2 provided the theoretical framework that underpinned this quantitative, correlational study and reviewed the significant literature detailing the impact of principals on student achievement and other school outcomes. This chapter sought to define instructional leadership and transformational leadership and reviewed the literature that examined the impact of these two leadership styles. The literature review summarized studies that revealed that a blend of instructional leadership and transformational leadership led to impact worthy of further study. The chapter concluded with studies that identified specific principal behaviors that have impact, barriers to principal impact, and approaches to studying principal impact.

Current understandings about leadership are based on Behavioral Theory which suggests

that leadership is not an inherent trait that one either has or does not have, but rather is the combination of actions that can be learned (Allen, 2018; Halpin, 1956; Lewin et al., 1939; Organ & Cawthon, 1996). Much of the research in the literature supports the position that educational leadership matters and that it can impact student achievement (Cotton, 2003; Dhuey et al., 2014; Grissom et al., 2018; Hallinger & Heck, 1998; Hattie, 2015; Leithwood et al., 2019; Maponya, 2020; Marzano et al., 2005; Rigby et al., 2020). Emerging from the research on leadership is the notion that instructional leadership has the strongest relationship with student achievement, especially when combined with elements of transformational leadership (Bagwell, 2019; Grissom et al., 2021; Hattie, 2015; May & Supovitz, 2011; Robinson et al., 2008). Studies have attempted to define categories within instructional leadership, and some have identified specific actions that are most impactful (Bagwell, 2019; Fuentes & Jimerson, 2020; Garet et al., 2017; Garry, 2021; Grissom et al., 2021; Huff et al., 2018; Maponya, 2020; May & Supovitz, 2011; Yoon, 2016).

Because time is scarce and because there are many barriers to effective school leadership, more specificity about which actions have a significant, positive relationship with student achievement is needed. Further study is needed to address this gap in the literature. Chapter 3 addresses the research methods used in the study.

Chapter 3: Methodology

The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth as measured by the Smarter Balanced Assessment. Specifically, the problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). Connecticut schools measure student growth annually, in grades 4 – 8, using the Smarter Balanced Assessment. This study aligned the outcomes of the Smarter Balanced Assessment with principals' time use and examined whether a significant correlation exists.

Similar studies have shown that principals' actions can lead to or detract from student learning and the resulting growth (Dhuey et al., 2014; Grissom et al., 2018; Leithwood et al., 2019; Maponya, 2020). However, those studies have focused mostly on leadership styles rather than on specific actions (Cotton, 2003; Dhuey et al., 2014; Grissom et al., 2021; Leithwood et al., 2019; Marzano et al., 2005). This quantitative, correlational study was designed to add to the body of research by adding specificity to the understanding of which actions of principals can lead to increased student growth.

Research Questions and Hypotheses

To achieve the purpose of the study, the research questions for this quantitative, correlational study were as follows:

Research Question 1: What degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in reading in their schools?

Research Question 2: What degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in mathematics in their schools?

Research Question 3: What degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in reading in their schools?

Research Question 4: What degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in mathematics in their schools?

The hypotheses for the study's research questions are as follows:

H1₀: There is no statistically significant correlation between principals' time spent in classrooms during instruction and student growth in reading.

H1_a: There is a statistically significant correlation between principals' time spent in classrooms during instruction and student growth in reading.

H2₀: There is no statistically significant correlation between principals' time spent in classrooms during instruction and student growth in mathematics.

H2_a: There is a statistically significant correlation between principals' time spent in classrooms during instruction and student growth in mathematics.

H3₀: There is no statistically significant correlation between principals' time spent interacting with teachers and student growth in reading.

H3_a: There is a statistically significant correlation between principals' time spent interacting with teachers and student growth in reading.

H4₀: There is no statistically significant correlation between principals' time spent interacting with teachers and student growth in mathematics.

H4_a: There is a statistically significant correlation between principals' time spent interacting with teachers and student growth in mathematics.

Chapter 3 details the research methods and design used in the study. This chapter restates the purpose of the study, the research questions, and the hypotheses addressed by the study. A discussion of the study's design includes information about the study's population and sample, the instrumentation, methods of data collection and analysis, the reliability and validity of the study, and the steps to ensure an ethical study was carried out.

Research Methodology, Design, and Rationale

The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. To that end, data were collected on two variables, how Connecticut principals used their time and the percent of expected growth their students made in one year's time. The data were studied to see if any of the uses of principals' time correlated with student growth.

Methodology

This study was conducted utilizing a quantitative, correlational approach (Edmonds & Kennedy, 2017). The correlational approach, nonexperimental research using an observational approach with an explanatory design, was selected because the actions and student growth data can be correlated to identify any actions that show a strong relationship (Gavin, 2008).

Qualitative research was considered and should be reconsidered for future research, however, because time use is concrete and can be numerical, the quantitative approach was selected (Chen & Popovich, 2002).

Design

The purpose of this quantitative, correlational study was to examine the relationship

between principals' use of time and student growth as measured by the Smarter Balanced Assessment. Principals' uses of time are the independent variables for this study; average percent of targeted student growth in reading and mathematics were the dependent variables. This study was not designed to interpret any correlations as evidence of causality (Chen & Popovich, 2002). Additionally, because the sampling method was purposeful, generalizations need to be made with caution (Emmel, 2013).

Data about the independent variables, principals' uses of time, were gathered using a self-reported survey. The use of a self-reported survey was chosen as an efficient method to get a large sample population. The survey asked respondents to identify how much time they spent on specific tasks in a typical week, during the previous school year. In their chapter *A Framework for Evaluating and Choosing Principal Time-Use Measurement Strategies*, Camburn and Sebastian suggest that the best strategy will be the one that is most valid, least time-consuming to the participant, and least expensive (Lee et al., 2021).

Based on Camburn and Sebastian's 2021 analysis, this survey was administered as a Google Form, which has no associated financial cost and was as brief as possible, while still being thorough. Questions were included that allowed participants to articulate how they believe they should spend their time, in addition to how they actually spent their time, to explore the validity of the responses. It is possible that different results would be obtained by repeated surveying of principals for specific time-use data on randomly selected days; this approach was not selected for several reasons. First, this "dipstick" method would place an additional burden on participants by requiring them to respond to multiple surveys. Further, it would limit the pool of participants as likely some would respond on some occasions and not others. Finally, it would require that this study take place over an extended period of time (Lee et al., 2021).

The dependent variable data were collected from the State of Connecticut's public site for school data, Edsight: Insight Into Education (Connecticut State Department of Education, n.d.). The survey data and the published student growth data were examined with a t-test, to see if a correlation existed (Chen & Popovich, 2002). One of the ways that principals use their time showed a significant, positive correlation with student growth; this data will be useful to practicing school leaders who can make decisions about what to do and what not to do if principals wish to increase student growth. I carried out this research design and methodology and define my role in the next section of this chapter.

Role of the Researcher

For this quantitative, correlational study, my role was limited to the collection and examination of the data. I created the survey, with the input of several principals who served as subject matter experts, that examined principals' time use, based on prior experience in the role and an awareness of the time demands and roles of a principal. The survey was sent to all Connecticut principals in schools that included the grade levels for which growth data are available. According to Silverman (2017), researchers must be careful to avoid influencing potential or actual research participants. The potential participants were told that I am an assistant superintendent of schools. Some of the principals solicited for the study could know or have worked with me in the past, thus the email soliciting their participation made it clear that they did not have to participate if they preferred not to. Also, responses from my school district at the time of the survey were not included in the study.

Research Procedures

This quantitative, correlational study of how Connecticut school principals use their time and if their time use is correlated with student growth relied on data that the state of Connecticut

collects from all public schools. The Connecticut State Department of Education does not assess students who attend private schools. Students in grades 3 – 8, inclusive, participate in testing. This study relied on growth data, which calculates the change in students' scores from one spring to the next compared to a growth target and reported as a percent of the target achieved, therefore growth data are available in grades 4 – 8 with grades 3 – 7 serving as the baseline years. Growth data will be further explained as an element of instrumentation.

Population and Sample Selection

The population for this quantitative, correlational study was the 885 public school principals in Connecticut. Of those principals, responses from those who were principals in schools that contain any one of the grades 4 - 8, and who were in at least their second year in their current position, at the time of the survey were able to be used in this study. The sample was comprised of principals who returned the survey and met the above criteria. Utilizing a free, online sample size calculator, entering a population of 885, a desired confidence level of 95%, and a $\pm 5\%$ margin of error, it was determined that the ideal number of participants desired for the sample was 268 (see Appendix A). The calculator determined that 268 was the minimum number of necessary samples to attain a 95% confidence level and a $\pm 5\%$ margin of error (Chen & Popovich, 2002). The selection of participants was by way of the purposeful sampling method.

This quantitative correlational study relied on the purposeful sampling method which means that subjects were selected based on predetermined criteria (Vaughn et al., 1996) also referred to as criterion sampling (Sandelowski, 2000). Participants were recruited from the entire population of Connecticut public school principals; the necessary criteria were being in a school for which there is public growth data and being in at least their second year in their position. All respondents who met the criteria were included. Participants were solicited by a series of broad-

reaching emails (see Appendix B). The Connecticut State Department of Education provides the ability for anyone who wishes, to obtain email addresses for principals of Connecticut schools (see Appendix C). The email explained the scope of the research as well as offered to share the data. The emails contained an attachment with all aspects of informed consent (see Appendix D) (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). The email also contained a link to the survey (see Appendix E). The survey, a Google Form, collected an electronic affirmation of informed consent; it would not allow participants to take part in the survey without first acknowledging their informed consent.

Site permission was not required for this quantitative, correlational study because the dependent variable, student growth data, is publicly available in the aggregate by whole school and gathering it does not involve any individual interviews, contact, or requests. The data about principals' use of time was gathered by an electronic survey; there was no direct in-person nor verbal contact with any participants nor any visits to any sites. Participation for principals was voluntary. Informed consent was obtained by sharing a written description of the study, its purposes, and its scope with the potential participants. Participants were required to actively engage in data submission to participate so their information could not be used unless they chose to participate. Participants were able to receive a copy of their responses. Principals who worked in the school system where I worked at the time of the survey were excluded to avoid any conflict of interest or confounded data (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

Instrumentation

Two instruments were used to collect data and were matched to look for correlations between the two. The first was a survey of Connecticut school principals in schools that include

all or some of grades 4 – 8 (see Appendix E). The survey was matched with each school's growth data to examine whether any significant correlations in the data exist. The growth data were generated by the Connecticut State Department of Education (CSDE), as they are every year. The data are made available to the public in the late summer following the school year for which that growth is a reflection. Growth data are the gold standard for evaluating impact on student learning (CSDE, 2016).

Survey

The survey used in this quantitative, correlational study was designed after formulating the research objectives and hypotheses to gather the necessary information, with an awareness of the intended population who would participate in it, as suggested by Muijs (2004). Participants were asked to complete the survey and record the estimated amount of time that they spent on a limited list of specific actions during a typical week during the prior school year (see Appendix E). A definition of what is meant by typical was provided. The survey also explored participants' beliefs about the value of different time uses.

The survey was sent to principals in Connecticut public schools with any of the grades 4-8, in the fall of 2022. Data from all principals who met the inclusion criteria were included in the study. This survey was administered electronically using a free survey tool, Google Forms, and took approximately 10 – 15 minutes to complete. It was modeled after other instruments used in previous studies (Camburn et al., 2010; Freeston & Costa, 1998). This instrument was aligned with the research questions to produce data on the time principals spent on specific activities.

Connecticut Smarter Balanced Assessment

All Connecticut public schools are required to participate in Smarter Balanced Assessments every spring, for students in grades 3 – 8. This assessment was first implemented in

the spring of 2015 and was validated by comparing it to the legacy assessment, The Connecticut Mastery Test, as well as to the National Assessment of Educational Process (CSDE, 2014).

These criterion-referenced tests result in scores that reflect student achievement compared to standards. Growth data are the change in students' scores from one spring to the next compared to a growth target and reported as a percentage of the target achieved. Connecticut's growth model uses the matched student cohort change approach and can be thought of as a growth-to-standard approach. It is based on the Smarter Balanced vertical scale. The CSDE has established ambitious yet achievable growth targets for all Connecticut students based on actual Connecticut past student performance and publicly reports growth as the average percent of the target achieved (CSDE, 2016). The growth data, reported as the schools' average percent of target achieved, is the data point that was used to look for a statistically significant correlation with principals' use of time. Each data point is a single percentage score per content area per school.

Instrument Validation

To validate the survey, Subject Matter Experts were consulted. Muijs (2004) suggested piloting instruments by having a small group of people from the intended population read them and provide feedback, prior to using them in a study. The Subject Matter Experts were selected because of their roles as building administrators who participate in the activities that are included in the survey. Subject Matter Experts were asked to reply by email. After a week's time, having received promises of feedback but no actual feedback, I printed the survey and hand-delivered it to potential SMEs. Ultimately, four responded with feedback that was incorporated into the final draft of the survey (see Appendix F).

Data Collection

Data on the independent variable, principals' time use, was collected using a Google

Form, sent by email. According to Best and Krueger (2004), compiling responses online requires several steps. A researcher must first induce participation and collect submissions. Best and Krueger offer suggestions to increase response rates including personalizing contacts and providing prenotification as well as reminders. Once the responses are received, Best and Krueger offer advice for authenticating and appraising responses to ensure the integrity of the responses (2004). By way of debriefing, participants were asked if they would like to be contacted about the study and offered the ability to request a report on the study's findings.

Once reviewed, responses to the Google form were exported to an Excel spreadsheet. Data on the dependent variable, student growth on the Smarter Balanced Assessment (SBA) in both reading and mathematics, was retrieved from the searchable Connecticut State Department of Education public data warehouse, EdSight, as an average for the whole school combined, for each school that is represented in the study, based on the participation of the principal (see Appendix C). The metric that was used in this quantitative, correlational study is the "Average Percent of Target Achieved" which reflects the percentage of the growth target that was achieved by students in a school, on average (CSDE, 2016). Ultimately, the data provided by the principal was compared to the student growth data, obtained from the State of Connecticut database, to explore whether significant correlations existed. The data will be maintained on a password-protected computer for 3 years and then deleted.

To prepare the data, the principal time use data were reviewed closely for any time amounts that were illogical responses and that likely represented an entry error. Unreasonable responses were excluded. School and district names were carefully matched to be certain that the two data sets were accurately matched.

Data Analysis

The data from this quantitative, correlational study was analyzed in EXCEL and SPSS. The Pearson product-moment correlation coefficient was the method of comparison between the two sets of data. The SBA growth scores, reported as percentages of target achieved, are ratio data and the principal surveys also produced ratio data, achieving the necessary assumption for using Pearson's r (Frey, 2018). By computing the Pearson product-moment correlation coefficient, the relationship between the two variables was examined and allowed for discovery of any "prevailing tendency" (Logio et al., 2008). The "prevailing tendency", or significant correlation that was revealed, will be instructive to principals.

Purposeful response sampling was used from the population of all Connecticut principals. Spearman's r would have been considered as an alternate method of analysis if the data had not adhered to normal distributions (Chen & Popovich, 2002). Each use of time, interacting with teachers and being present in classrooms during instruction, that is included in the survey and reported in minutes, was tested for a significant correlation with the student growth measures. With the r value, a p value was calculated. A p value of less than or equal to the alpha level of .05 indicated a statistically significant correlation (Frey, 2018) between one use of time and the growth data and a rejection of the null hypothesis.

Reliability and Validity

The student growth data used in this quantitative, correlational study were generated and published by the Connecticut State Department of Education. The State has determined that the Smarter Balanced Assessment and the APTA are valid measures of student growth. It is possible that, because the two sets of student test data that were used to compute the APTA are from the Spring of 2021 and the Spring of 2022, in the wake of the COVID-19 pandemic, the data may

not be as reliable as it typically is. Student data were included for students who participated in both test administrations and did not exclude students who tested at home, which may introduce additional potential concerns about reliability. The Connecticut State Department of Education indicated that the growth data from 2021 to 2022 would in fact be valid and reliable, even considering the COVID-19 disruptions (A. Gopalakrishnan, personal communication, May 10, 2022).

The survey data were generated from an original survey (see Appendix E). One potential threat to the validity of the data is the possibility that respondents allocated more time to actions that they perceived as more valuable. Another potential threat to the validity of the data is the impact of COVID-19 on the typicality of the principals' use of time. Further, the principals' use of time data were collected in the fall of 2022 and required principals to remember and estimate how they spent their time in the spring of 2022.

Another limitation of this quantitative, correlational study was the sampling method which by design was purposeful, seeking only participants who met specific criteria. This sampling method limits the generalizability of the data (Emmel, 2013). The original research design sought 268 samples to attain a 95% confidence level with a $\pm 5\%$ margin of error. The actual sample size was 89 which maintained the 95% confidence level but increased the margin of error to $\pm 9.9\%$, which is a further limitation of this study. Because significant correlations are present in the data and prevailing tendencies appear (Logio et al., 2008), further research is necessary to expand upon this study. A potential threat to validity was objectivity and expectations of what the results might show. According to Weber, researchers must separate their beliefs and expectations from the empirical data and should essentially go silent in the analysis of the data (Weber, 1949, as cited in Douglas, 2011).

Ethical Procedures

Per the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979), all aspects of respect for persons and beneficence were adhered to. All potential and actual participants were treated with courtesy and respect. Informed consent for this quantitative, correlational study was provided along with the invitation to participate in the study (see Appendices D and B). The informed consent form was truthful and made clear that while leaders' actions would be linked to student achievement, no specific schools or school leaders would be identified in the research to avoid causing any professional interference. Confidentiality minimized any risk to research subjects. The informed consent was thorough and explained the rationale behind the study, in depth. All principals in schools for which the growth data could be gathered were invited to participate, thus rendering the sample of respondents fair.

Throughout the study, participants' identities were kept confidential. Data are reported on and discussed only in aggregate so as not to reveal school, principal, or district names and will be maintained for 3 years, in confidence, and then properly disposed. No study participants were under 18 and therefore did not require protection (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

Justice was ensured through fairness. There was no financial cost for participation in this study. Participants working in the researcher's school district at the time of the survey were not invited nor allowed to participate in the study. Potential participants were alerted to the researcher's professional title of assistant superintendent of schools. The results of the study were shared with all who wish to receive them. Further, no one had to participate if they worried that the research could negatively impact them. The aim of this study was for the betterment of

students given that it could provide increased awareness of the possible impact that principals can have on student growth. Data will be destroyed after 3 years by deleting all of the files and data.

Chapter Summary

The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. The study sought to discover what degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in reading and mathematics in their schools and what degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in reading and mathematics in their schools.

Principal leadership impacts student achievement and instructional leadership specifically, is the most impactful type of leadership (Cotton, 2003; Hattie, 2015, Leithwood et al., 2019). The literature reveals categorical behaviors that are elements of instructional leadership such as classroom observations, coaching teachers, building climate, and managing resources (Hallinger & Murphy, 1985; Liu & Hallinger, 2018; Horng et al., 2010). This study aimed to identify any specific behaviors that are correlated with student achievement if those correlations exist.

The results of this quantitative, correlational study are intended to expand on the previous research by offering guidance about the actions that principals should seek to spend more of their time doing. The results have the potential to guide principals in optimal time use and increase

student achievement. The aim of this study was to offer principals evidence-based direction on how to spend their time to increase student growth in reading and mathematics.

Chapter 3 outlined the methods by which the research was conducted, including the appropriateness of the quantitative correlational design, the sampling method, how data were collected and analyzed, and the steps that were taken to ensure the study was conducted in an ethical manner. The study aimed to contribute to the larger body of knowledge about how principals should spend their time to improve student growth. Chapter 4 will provide the results of the data analysis described in this chapter.

Chapter 4: Research Findings and Data Analysis Results

Principals' actions have a significant impact on student achievement, yet most research about student learning conducted before the year 2000 sought to measure the relationship between teacher quality and student learning (Bush, 2021; Grissom et al., 2021). The role of the principal was largely ignored. There was a limited focus on leadership as a meaningful factor in schools before the year 2000 (Grissom et al., 2021). Since then, research has focused on the impact of effective principals. Hattie (2015) pointed out that since almost everything in education has an impact, the critical question is to consider what has the most impact. Hattie provided data to demonstrate that instructional leadership has the strongest effect size. While Hattie described some of the impacts of instructional leadership, the research does not identify specific leadership actions.

The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment.

Chapter 4 includes a summary of the data collection and analysis procedures utilized in this study. A summary of the data collection methodology and descriptive statistics about the research sample are provided. They are followed by the results of the statistical analysis, which are presented with a discussion of how the results answer the research questions and hypotheses of this study. The chapter also discusses threats to reliability and validity that were present in this study.

Data Collection

The email addresses for all Connecticut principals were retrieved from the publicly available database EdSight, published by the Connecticut State Department of Education. The dependent variable data were also retrieved from the publicly available database EdSight, published by the Connecticut State Department of Education. Student growth data from all Connecticut public schools were downloaded to a Microsoft Excel spreadsheet.

The study sample of Connecticut school principals was obtained through multiple email invitations to participate in an electronic survey. The emails contained a description of the study (see Appendix B), informed consent (see Appendix D), and a link to the electronic survey (see Appendix E). Informed consent was confirmed in the survey with a question that required an affirmative response to participate in the survey. Data collection took place following IRB approval, obtained on September 12, 2022, during a 3-week window, from September 15, 2022, through October 5, 2022. The sample size was 89. The population was 885; therefore, the response rate was greater than 10%.

Responses were received from 107 Connecticut principals. Some responses needed to be discarded for one of three reasons. Responses were discarded if either the principal was not the principal during the school year in which the dependent variable data were generated, there was no available student growth data, or the response data were unreasonable (see Table 3). The resulting sample included 89 usable responses providing a 95% confidence level and a 9.9% margin of error.

Table 3*Survey Responses Received from Connecticut Principals*

Total responses received	School districts	Not the principal in the prior year	Data not available	Discarded responses	Usable response count	Male	Female
107	62	8	10	2	89	36	53

Note. Two responses were eliminated for two of the above reasons; 18 responses were eliminated in total.

Data Analysis and Results

To analyze the data, Excel and SPSS were used to calculate both descriptive and inferential statistics. Descriptive statistics provided here offer a comparison of how the growth data from the sample compares to the growth data from all Connecticut schools. Also included are how the principals in this study used their time last year as well as which of the ways they can spend their time, they value most. While relevant to all schools in Connecticut, such a comparison illustrates the comparability of the sample to the total population. To address the research questions, Pearson product-moment correlation coefficient was the method of comparison between the two sets of data. Statistical significance was evaluated at the alpha level of .05.

Descriptive Statistics

Principals in this study hailed from 62 of the 169 public school districts in Connecticut and represented 89 of the 885 public schools. Because purposeful sampling was used to generate the sample, the data were examined to consider how representative the sample was of the full population. The growth data from the schools in the sample were examined collectively, and the minimum, maximum, mean, and standard deviation were calculated. Growth data from the

schools in the whole population were retrieved from EdSight and the two are compared in Table 4 and visually depicted using a box and whisker plot in Figure 2.

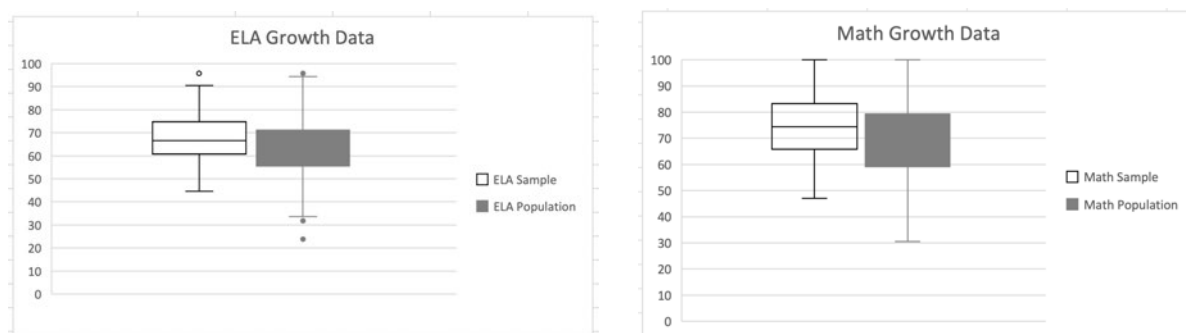
Table 4

Descriptive Data for Growth Scores in Sample and State

Growth	Minimum	Maximum	Mean	σ
Sample ELA	44.6	95.7	66.5	10.3
State ELA	23.9	95.7	63.3	11.1
Sample Math	47.0	100	73.4	11.8
State Math	30.5	100	69.0	14.3

Figure 2

Descriptive Data for Growth Scores in Sample and State



Note. The 89 samples obtained included the school with the highest growth but not the lowest.

Principals' use of time was the independent variable in this study. In the survey, principals were asked how much total time they spent in classrooms during instruction, on average, during a typical week, and then were asked to distribute that time across six possible reasons for being in classrooms, with the last reason being the catch-all "other". Principals were also asked how much total time they spent interacting with teachers, during a typical week. They

were also asked to distribute that time across eight possible reasons for being in classrooms, with the last reason being the catch-all “other” (see Tables 5 and 6).

Table 5

Average Time Principals Spent in Classrooms for Varying Purposes

In classrooms total	For formal observations	For informal observations for feedback	For informal observations for information	For visibility	For relationships	Other
6:34	1:11	3:54	2:51	3:26	2:33	0:48

Table 6

Average Time Principals Spent Interacting with Teachers for Varying Purposes

Interacting total	For pre- conference	For feedback	For instruction in general	Discussing student data	Discussing student behavior	Discussing student and parent concerns	For relationship	Other
14:35	2:30	2:07	4:10	2:24	3:09	2:26	3:06	1:40

When principals were asked to rank uses of their time from least to most valuable, using a set of six uses of time, most of the principals indicated that planning and participating in schoolwide teacher celebrations was the least valuable use of a principal’s time. Three of the uses: interacting with teachers about teaching, participating in professional learning, and observing instruction fall within most definitions of instructional leadership. From this set, 54 of 89 principals ranked teacher celebrations the least valuable (ranking 1) and another 26 ranked teacher celebrations as the second least valuable use of time. Notably, no principal ranked participating in schoolwide teacher celebrations as the most valuable use of time. A highly valued use of time according to 39 principals who ranked it their number 1 and another 24 who

ranked it second was interacting with teachers. The second most frequent choice of most valuable use of time from the selected options was interacting with students. Table 7 shows how the principals' ranked the value of each given use of their time. Because there was a forced selection, principals could not indicate if they found two uses of time equally valuable.

Table 7

Number of Principals and How They Ranked Each Use of Time

Ranking	Interacting with teachers about teaching	Interacting with students	P&P in teacher celebrations	P&P in student celebrations	P&P in professional learning	Observing instruction
Least 1	1	2	54	16	8	8
	2	5	26	42	8	6
	6	13	4	14	34	18
	17	18	1	7	18	28
	24	30	4	5	12	14
Most 6	39	21	0	5	9	15

Note. The three uses of time that are elements of instructional leadership were selected as the least valuable use of their time by 17/89 Principals.

Table 8 provides overall rankings of how this group of principals valued possible uses of time. Ranking was established by multiplying the number of principals by the rank value they selected, for each of the uses of times. The rankings match the number of principals who selected them as most valuable. Table 8 represents the values of the group as a whole and does not reflect the individual responses as in Table 7.

Table 8*Calculated Rankings of How Principals Value Uses of Time*

Use of time	Ranking
Interacting with teachers about teaching	6
Interacting with students	5
Observing instruction	4
Planning & participating in professional learning	3
Planning & participating in student celebrations	2
Planning & participating in teacher celebrations	1

Inferential Statistics

This study proposed to use the Pearson product-moment to determine correlation. The assumptions required to use Pearson are both variables are linearly related, either interval or ratio, and bivariate normally distributed (Frey, 2018). There must also be related pairs and no outliers. Both variables are linearly related and ratio data. The normal distribution was evaluated by comparing the means and medians in each of the sample data sets as well as by examining skewness and kurtosis. The means and medians are similar in each set and skewness and kurtosis approach zero (see Table 9). Further, both Kolmogorov-Smirnov and Shapiro-Wilk tests of normality were performed in SPSS and both required the acceptance of the null hypothesis, indicating that the samples for math growth scores and ELA growth scores were normally distributed; if the significance in the tests of normality were $<.05$, it would require the rejection of the null hypothesis, indicating that the data are not normally distributed (Wagner & Gillespie, 2019). Only data with related pairs were utilized in this study and there were no significant outliers.

Table 9*Evidence of Normal Distribution of the Samples*

	Mean	Median	Skewness	Kurtosis	KS	SW
ELA Scores	66.5	66.5	.09	-.15	.20	.40
Math Scores	73.4	74.4	-.28	-.46	.20	.29

Note. KS = Kolmogorov-Smirnov; SW = Shapiro-Wilk.

Because the data were normally distributed, the Pearson product-moment correlation r was calculated in Microsoft Excel and used to address all four research questions. Correlations were calculated and then tested for significance by calculating the p -value. These correlations led to the acceptance of three of the null hypotheses and the rejection of one null hypothesis.

Research Questions and Hypotheses

To achieve the purpose of the study, the research questions and hypotheses for this quantitative, correlational study were as follows:

Research Question 1: What degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in reading in their schools?

H1₀: There is no statistically significant correlation between principals' time spent in classrooms during instruction and student growth in reading.

H1_a: There is a statistically significant correlation between principals' time spent in classrooms during instruction and student growth in reading.

To address research Question 1, the quantity of time that principals reported spending in classrooms was correlated with their school's Average Percent of Target Achieved (growth score) in ELA. The findings of the parametric Pearson product-moment correlation were not statistically significant, with $r = .11$, $p = .29$, not providing evidence that the quantity of time that

principals spent in classrooms was significantly correlated with student growth in reading. Due to the lack of a statistically significant correlation, there was evidence to fail to reject the null hypothesis.

Research Question 2: What degree of correlation, if any, exists between the time that principals spend in classrooms during instruction and student growth in mathematics in their schools?

H2₀: There is no statistically significant correlation between principals' time spent in classrooms during instruction and student growth in mathematics.

H2_a: There is a statistically significant correlation between principals' time spent in classrooms during instruction and student growth in mathematics.

To address research Question 2, the quantity of time that principals reported spending in classrooms was calculated in minutes and correlated with their school's Average Percent of Target Achieved (growth score) in math. The findings of the parametric Pearson product-moment correlation were not statistically significant, with $r = -.01$, $p = .96$, not providing evidence that the quantity of time that principals spent in classrooms was statistically significantly correlated with student growth in math. Due to the lack of a statistically significant correlation, there was evidence to fail to reject the null hypothesis.

Research Question 3: What degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in reading in their schools?

H3₀: There is no statistically significant correlation between principals' time spent interacting with teachers and student growth in reading.

H3_a: There is a statistically significant correlation between principals' time spent interacting with teachers and student growth in reading.

To address research Question 3, the quantity of time that principals reported spending interacting with teachers was correlated with their school's Average Percent of Target Achieved (growth score) in ELA. The findings of the parametric Pearson product-moment correlation were not statistically significant, with $r = .17$, $p = .12$, not providing evidence that the quantity of time that principals spent interacting with teachers was statistically significantly correlated with student growth in reading. Due to the lack of a statistically significant correlation, there was evidence to fail to reject the null hypothesis.

Research Question 4: What degree of correlation, if any, exists between the time that principals spend interacting with teachers and student growth in mathematics in their schools?

H4₀: There is no statistically significant correlation between principals' time spent interacting with teachers and student growth in mathematics.

H4_a: There is a statistically significant correlation between principals' time spent interacting with teachers and student growth in mathematics.

To address research Question 4, the quantity of time that principals reported spending interacting with teachers was correlated with their school's Average Percent of Target Achieved (growth score) in mathematics. The findings of the parametric Pearson product-moment correlation were statistically significant, with $r = .26$, $p = .01$, providing evidence that there was a statistically significant positive correlation between the quantity of time that principals spent interacting with teachers and student growth in math. Due to the statistically significant correlation, the null hypothesis was rejected.

Additional specificity was ascertained concerning the two uses of time explored in the research questions and which uses of time principals felt were most valuable. Table 10 includes the correlations between specific reasons for principals' presence in classrooms and student

growth in reading and mathematics, the correlations between specific reasons for principals' interacting with teachers and student growth in reading and mathematics, and the correlations between how highly principals ranked uses of time and student growth in reading and mathematics.

Table 10*Pearson Correlation Data*

	Correlations	
	ELA growth score	Math growth score
Time spent in classrooms for varying purposes	0.11	-0.01
Formal observations	0.03	-0.10
Informal observations to provide feedback	0.03	-0.08
Informal observations to be aware of curriculum	0.05	0.03
Visibility	-0.15	-0.01
Socializing and growing relationships	-0.09	0.01
Other	-0.16	-0.18
Time spent interacting with teachers for varying purposes	0.17	0.26 *
Conducting a pre-conference	0.03	0.00
Providing feedback on instruction	0.05	0.07
Discussing instruction in general	0.17	0.19
Discussing student data	0.10	0.18
Discussing student behavior	0.01	0.09
Discussing student and parent concerns	0.08	0.14
Socializing and growing relationships	-0.09	0.09
Other	-0.10	0.04
Value placed on observing instruction	-0.01	-0.07
Value placed on interacting with teachers about teaching	0.11	0.13
Value placed on interacting with students	0.00	-0.07
Value placed on planning and participating in professional learning	-0.01	0.11
Value placed on planning and participating in teacher celebrations	-0.14	-0.12
Value placed on planning and participating in student celebrations	0.02	0.01

* $p < 0.02$

Reliability and Validity

Internal validity relates to the validity of inferences drawn about the relationship between the variables in a study and can be impacted by threats related to the participants and the procedures (Creswell & Guetterman, 2021). The dependent variable, student growth data, has been determined to be valid, according to the Connecticut State Department of Education (A. Gopalakrishnan, Chief Performance Officer, personal communication, May 10, 2022). The independent variable, principals' use of time, was collected using an electronic survey. Participants in this study were asked to recall their use of time during the prior school year, which was greatly impacted by the COVID-19 pandemic. Their use of time, as well as their recollection of it, may have been impacted. Another possible threat to internal validity was the principal's attribution of time to tasks that they perceived as more valuable. To explore the relationship between principals' values and their use of time, the correlation r and significance p were calculated. There was a weak, positive, not significant correlation between how highly principals ranked the value of interacting with teachers and how much time they allocated to it ($r = .18, p = .09$). There was a stronger positive, significant correlation between how highly principals ranked the value of observing instruction and how much time they allocated to it ($r = .21, p = .05$). From this though, it cannot be determined if principals actually spent more time on actions they valued more or attributed more time to them. Future research to repeat the results obtained here would improve the validity of the results of this study.

External validity relates to the generalizability of the relationships in the study to other people or settings (Creswell & Guetterman, 2021). Threats to external validity include the narrowness of the sample population. One way to mitigate the threats is to make participation in the study as easy as possible. The survey for this study was sent to all Connecticut principals

making it convenient for participants to complete. This study included a sample of 89 participants providing a 95% confidence level and a 9.9% margin of error. Two school districts required that the study obtain approval from their own IRB and therefore principals from those two districts did not participate. While these were two larger urban settings, there were other large, urban districts that did not impose that additional layer of permission and there were participants from large and small urban, suburban, and rural districts. Another threat to validity is that high schools in Connecticut do not participate in the testing used in this study, thus generalizations about the relationship between how principals above grade 8 or outside of Connecticut should use their time should be avoided.

Reliability is a measure of consistency and is dependent upon the items in a research instrument, variety in the implementation of the instrument, and the participants (Creswell & Guetterman, 2021). If an instrument and the study in which it is used are to be considered reliable, the study should be replicable (Creswell & Guetterman, 2021). Two instruments were used in this study; one was an annual assessment of student achievement, administered to all public-school students in the state of Connecticut every spring, that is determined to be reliable by the Connecticut State Department of Education. The Time Use survey implemented in this study was reviewed by subject matter experts and revised for clarity to address reliability.

Chapter Summary

This chapter provided a summary of the data collection methods and challenges and descriptive statistics from the study. The chapter described the principals who participated in the study and provided statistical information about how the sample and population growth data were similar. Ways that principals reported using their time were broken down categorically, as was the value that principals placed on the ways they spend time. The research questions were

evaluated based on the data. Using Pearson's r , the study failed to reject the null hypothesis for three of the research questions. The null hypothesis was rejected for the fourth research question because a significant, positive correlation ($r = .26, p = .01$) was found, indicating a relationship between the amount of time principals spent interacting with teachers and student growth in mathematics. The chapter concluded with a discussion of validity and reliability. The next chapter will include further analysis of the data, a link to the literature, conclusions, recommendations, and implications for leadership.

Chapter 5: Discussion and Conclusions

The problem is that Connecticut school principals face time allocation challenges impacting their ability to ensure student growth in reading and mathematics (Grissom et al., 2013, 2015; Hochbein & Meyers, 2020). The purpose of this quantitative, correlational study was to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. Time use data were collected by way of a Google Form from 89 Connecticut principals in the fall of 2022.

The research questions that guided this study involved determining if a statistically significant correlation existed between principals' time spent in classrooms during instruction and student growth in reading or mathematics and principals' time spent interacting with teachers and student growth in reading or mathematics. Using the Pearson product-moment test of correlation, the null hypothesis was accepted for three of the four research questions. The Pearson product-moment test of correlation identified a positive, statically significant relationship between the amount of time principals spent interacting with teachers and student growth in mathematics. Principals who spent more time talking with teachers led schools in which students made more growth in mathematics. Therefore, the null hypothesis (H_0) was rejected. Results of this study add to the body of research that demonstrates that principals' leadership has an impact on student growth and attempts to aid in determining specific leadership behaviors that are most impactful.

Chapter 5 includes key findings with interpretations, conclusions, and their connections to the literature and a review of the limitations of the findings. The chapter also includes recommendations for future research and recommendations for principals. Finally, the chapter includes leadership implications from this study for those who hire and support principals,

followed by a chapter summary.

Findings, Interpretations, and Conclusions

The results of the data analysis detailed in Chapter 4 provided the information to address the research questions and hypotheses for this study. Overall findings indicated a significant correlation between principals' time spent interacting with teachers and student growth in mathematics. Further analysis of correlations in the data raises questions for future study in the context of this study's theoretical framework and its place within the existing literature.

Findings

This study's findings show that principals who spent more time interacting with teachers led schools where students made more growth in mathematics affirms the research that there is a relationship between a principal's instructional leadership and achievement. This result aligns with the findings in Tan (2018) that principals' leadership had a significant effect on mathematics achievement. Tan's study included more than 10,000 principals and more than 250,000 students from 32 countries. This study's findings are also congruent with the findings in Bagwell (2019) that indicate principals who focus on instruction have conversations about data and have an urgency about the importance of instruction-lead schools with high achievement. Huff et al. (2018) found that leaders in higher value-added high schools were routine and consistent in monitoring instruction and providing feedback that leads to changes in teachers' practices. This study supports that finding as well. Many other studies detailed in Chapter 2 demonstrate the relationship between principals' monitoring instruction, providing feedback to teachers, and student achievement (Fuentes & Jimerson, 2020; Garet et al., 2017; Grissom et al., 2021).

Other relationships in the data, while not statistically significant, emerged as suggested

areas for further study. Within the broad category of “Interacting with Teachers”, the strongest correlations existed between “discussing instruction” and “discussing student data”. Also, notable and worthy of further study are the relationships that emerged in the “values” data. The value principals placed on “interacting with teachers about teaching” had the strongest positive correlation with student growth in both reading and mathematics and conversely, the value placed on “planning and participating in teacher celebrations” had the strongest negative correlation with student growth in both reading and mathematics.

Interpretations

This study did not find a statistically significant relationship between the time that Connecticut elementary and middle school principals spent in classrooms during instruction during the 2021-2022 school year and student growth in reading or mathematics. While most of the studies detailed in Chapter 2 support instructional leadership, few refer specifically to being present in classrooms as a driver of student achievement. Those that do, as in Huff et al. (2018), couple monitoring instruction with providing feedback to teachers. Because time spent in classrooms can provide information that leads to discussions concerning instruction, perhaps this use of time, while not statistically significant on its own, has value that shows its value in the time spent interacting with teachers. Huff et al. point out that brief walkthroughs are negatively associated with student achievement and that the value of observations lies in the extended discussions.

This study did not find a statistically significant relationship between the time that Connecticut elementary and middle school principals spent interacting with teachers and reading but did find a statistically significant relationship between the time that Connecticut elementary and middle school principals spent interacting with teachers and mathematics. In Huff et al.

(2018), principals who had a clear understanding of high-quality curriculum and instruction and interacted consistently with teachers through observations and feedback conversations led higher-performing schools. The present study aligns with Huff et al. and contributes to the literature by affirming that principals' interactions with teachers correlate with student achievement.

The finding within the "values" data that principals who placed more value on "interacting with teachers about teaching" had the strongest positive correlation with student growth in both reading and mathematics is particularly relevant to this study that took place during a school year that was impacted by COVID-19. There were additional demands on principals' time such as contact tracing and quarantine notifications that may have interfered with principals' preferred uses of time. Perhaps principals who value time spent interacting with teachers would do more of it in a year that was more typical.

The findings within the "values" data that principals who placed more value on "planning and participating in teacher celebrations" had the strongest negative correlation with student growth in both reading and mathematics suggests that principals who don't see their primary role as instructional leaders are misguided. Principals who place more value on teacher celebrations may not truly know their potential impact and the importance of being an instructional leader. Further research on the beliefs and values of principals would be helpful to our understanding of how principals' mindsets guide their practices and impact student learning.

Conclusions

The results of this study showed a positive relationship between principals' time spent interacting with teachers and student growth in mathematics and affirms the research that has found that principals impact student achievement. In the context of the theoretical framework,

because leadership can be learned (Allen, 2018; Lewin et al., 1939; Roupnel et al., 2019), because principals impact achievement (Bush, 2021; Grissom et al., 2021; Hattie, 2015), and because instructional leadership is a favored leadership style, (Bagwell, 2019; Neumerski et al., 2018; Tan, 2018) it is critically important that additional research be conducted to further isolate specific actions within instructional leadership that are associated with student growth. With that information, principals can make informed choices about how to spend their limited time. This study added to the body of research that examines the relationship between principals' actions and student achievement.

Limitations

This study was limited to elementary and middle schools in the state of Connecticut. The sample consisted of 89 principals who reported their time use, in reflection, on the previous school year. The size of the sample allowed for a $\pm 9.9\%$ margin of error which is a limitation of this study. Additionally, the data, collected from principals in the fall of 2022, asked for their time use during the 2021-2022 school year due to the limitations of the dissertation timeline. The scope of the study limits generalizability to high schools and schools outside of Connecticut.

The validity of the principal time-use data could be strengthened by collecting it at the time that it is occurring. The validity of the research could also be strengthened by repeating this study in a school year that is not impacted by COVID-19 school closings, contact-tracing, and quarantines that likely impacted how principals used their time. To further improve validity, a wider sample of school districts that included more of the lowest-performing districts could be sought. Because the student growth data for this study was collected by the Connecticut State Department of Education, there was no chance of influencing the data, thereby maintaining objectivity.

To improve the reliability of the principal time-use data, the survey questions about time-use can be improved for clarity. Principals were asked how much total time they spent categorically in two areas with follow-up questions asked for greater specificity. While all numerical, the form did not require principals to allocate the total time across those specific time uses. For greater reliability, the questions could be altered to require the specific uses of time to sum the total time spent within the category.

Recommendations

Principals will continue to have to make decisions about the best ways to spend time during the school day. The literature review in Chapter 2 revealed the need to provide greater specificity and direction about the most impactful uses of principals' time within the broader styles of instructional and transformational leadership. Additional research that seeks this specificity, across a broader scope of schools, is recommended. Research that reveals more information about what a positive relationship with student growth does not have would also provide important guidance to principals.

This study revealed that principals' values warrant future study. While not statistically significant, there was a pattern that suggested that principals who valued interactions with teachers worked in schools with greater student growth and those who valued teacher celebrations worked in schools with lesser student growth. Additional research to further explore the relationship between principals' values about their time use as part of their role as school leaders is recommended.

Implications for Leadership

Public school principals will continue to be the leaders of student learning and asked to improve academic outcomes for students. Therefore, it is of vital importance that principals are

aware of the impact that they have on student growth and knowledgeable about the practices that are most highly associated with increased achievement. Programs that prepare teachers to advance to the role of principal should focus principal aspirants on the research about their impact. Principal licensure exams and programs should make it a requirement that principals know their potential impact. Administrators who supervise and support principals should also be aware of the research and use it in their work with their principals.

Administrators who hire principals should use their knowledge of this research to select principals who demonstrate an understanding of their impact and who place a high value on time spent interacting with teachers about instruction. The literature about transformational leadership and servant leadership has led many practicing principals to believe that their role is to support teachers and keep them happy. The literature reviewed in Chapter 2 and expanded by the present study makes clear that principals who focus on instruction lead schools with higher levels of student achievement. Well-designed interview questions should be crafted to reveal candidates' beliefs about their role.

Conclusion

Chapter 5 provided an overview of the previous chapters in this study. The problem examined in this study, the purpose of this study, and this study's research questions and results were summarized. This study revealed one statistically significant correlation between principals' time use and student growth in mathematics. Other weak correlations, both positive and negative, were present within the data, providing limited evidence of a relationship. Albeit those weak correlations suggest the need and direction for future research.

This chapter discusses the limitations of this study along with recommendations to improve the reliability and validity of this research in the future. To improve generalizability,

recommendations were made to repeat this research in a school year that is not so directly impacted by COVID-19 and to conduct the time-use data collection in real-time. Improving the survey questions to prompt principals for greater accuracy was also recommended.

While this study revealed only one statistically significant correlation between principals' time use and student growth, Chapter 2's literature review highlighted a significant body of research that makes it clear that principals do impact student learning and instructional leadership and transformational leadership lead to greater impact. The responsibilities of principals have increased over time and because principals' days are filled with important duties, principals must make decisions about how best to allocate their time (Hochbein & Meyers, 2020). The literature has established that leadership impacts achievement (Grissom et al., 2018; Hattie, 2015; Leithwood et al., 2019; Maponya, 2020; Rigby et al., 2020). Instructional leadership and transformational leadership have been identified as the two most effective leadership styles (Bagwell, 2019; Grissom et al., 2021). Knowledge of the research detailed in this study will allow principals to make strategic choices about how to spend their limited time and increase student growth (Bagwell, 2019; Garry, 2021; Maponya, 2020).

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Appendix A

Sample Size Calculator

You can use this free sample size calculator to determine the sample size of a given survey per the sample proportion, margin of error, and required confidence level.

You can calculate the sample size in five simple steps:

1. Choose the required confidence level from the dropdown menu
2. Input the margin of error
3. Input the proportion of the total population (%)
4. If required, specify the population size
5. Click on the "Calculate" button to generate the results.

Online Sample Size Calculator

Confidence Level (α):	95% ▼	
Margin of Error (e):	10 %	
Population Proportion (p):	50 %	
Population Size (N) (optional)	885	
Calculate Reset		

Results

Your recommended sample size is: **87**

The sample size (n) is calculated according to the formula: $n = \frac{z^2 \cdot p \cdot (1 - p) / e^2}{1 + (z^2 \cdot p \cdot (1 - p) / (e^2 \cdot N))}$

Where: $z = 1.96$ for a confidence level (α) of 95%, p = proportion (expressed as a decimal), N = population size, e = margin of error.

$z = 1.96$, $p = 0.5$, $N = 885$, $e = 0.1$

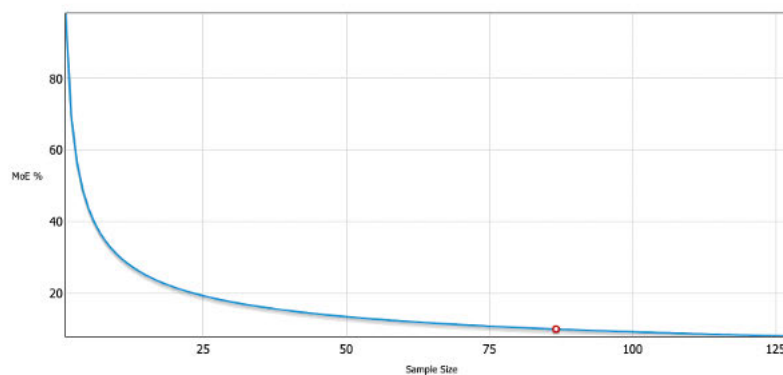
$n = \frac{1.96^2 \cdot 0.5 \cdot (1 - 0.5) / 0.1^2}{1 + (1.96^2 \cdot 0.5 \cdot (1 - 0.5) / (0.1^2 \cdot 885))}$

$n = 96.04 / 1.1085 = 86.638$

$n \approx 87$

The sample size (with finite population correction) is equal to 87

Margin of Error vs. Sample Size



Appendix B**Recruitment Letter**

September 2022

Dear Principal,

I hope that this email finds you well and enjoying a successful start to your school year. I am an assistant superintendent of schools in a Connecticut school district and have been a Connecticut educator for 30 years.

During those 30 years, I have heard many opinions about what a principal's role is and how principals should spend their time. I have also read the research about which leadership styles are correlated with student achievement.

As an element of my doctoral program at the American College of Education, I am conducting research for my dissertation study. My study is designed to gain greater detail about which actions, within successful leadership styles, are most highly correlated with student growth.

I would be grateful to you if you would be willing to complete a brief survey that will ask you about your time use during the 2021 - 2022 school year. I will pair your responses with your school's SBAC growth data from the spring of 2022 and calculate the degree of correlation, if any. Once the data are paired, your name, your school's name and your district's name will be removed from the study.

I recognize that it is quite likely that your use of time during the 2021 - 2022 school year may not have been typical or as you would have preferred, due to the COVID-19 pandemic. That's okay. This study will examine the data to see if there is a correlation between the amount of time that you did spend and the student outcomes and that can be accomplished, even if your time use wasn't typical for you.

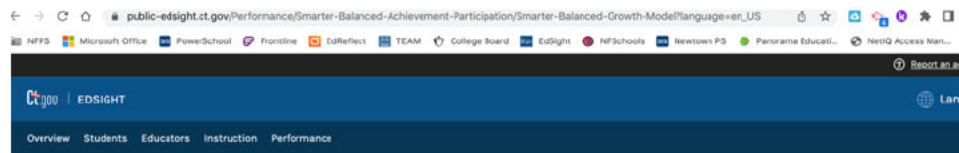
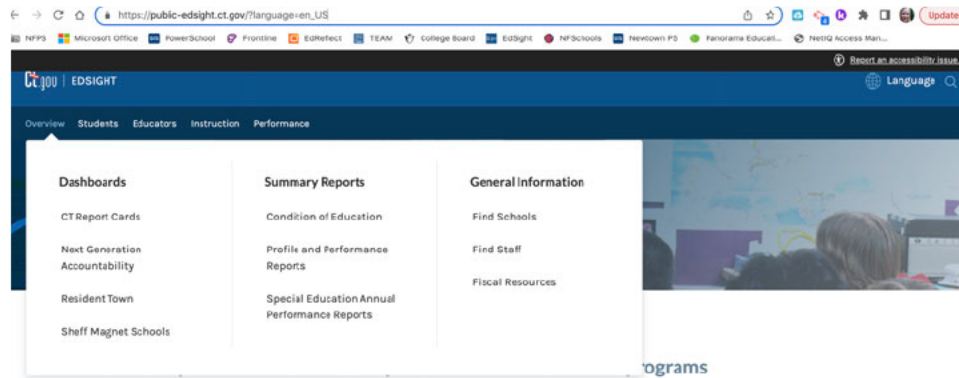
Attached to this email is a document that further describes the study and may be helpful to you in determining if you will participate. If you have any questions that you'd like to discuss prior to deciding if you will participate in the study, please respond to this email. If you are willing to participate, please [click here](#) to access the survey.

If you would like to receive a summary of the study and its results, please respond to this email.

Thank you so much for your service to our Connecticut students and thank you for considering adding to our body of knowledge about how principals should spend their time to increase student growth.

Very truly,
Julie Luby
Doctoral Candidate

Appendix C

EdSight: Connecticut's Public Data Source**Smarter Balanced Growth Model**

Additional Reports: [Smarter Balanced Achievement](#) | [Growth Trajectory Tool](#) | [Smarter Balanced Rough Cohort](#) | [Performance vs. Growth Bubble Plot](#)

See [related links](#).

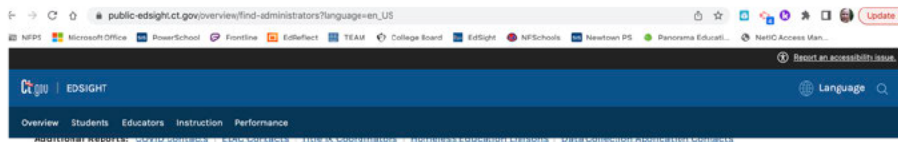
Select Grade: ☒ All Grades Combined ☐ All Grades ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

Year: District: Schools: Subject: Filter By:

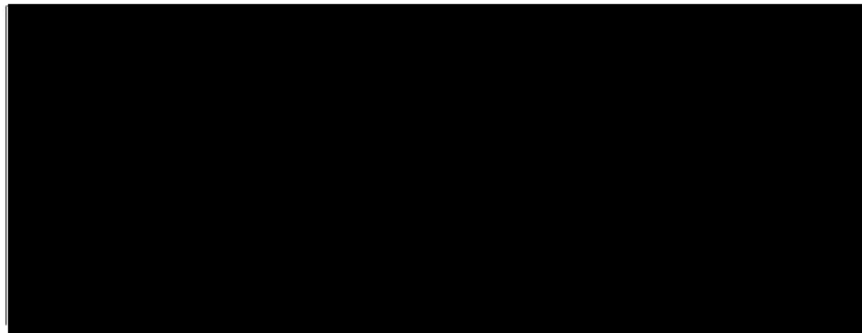
Smarter Balanced Growth Report, Trend
 School District, ELA and Math, All Grades Combined, All Students

[Export CSV File](#)

District	School	Subject	Growth Rate					Average Percentage of Target Achieved				
			School Year					School Year				
			2015-16	2016-17	2017-18	2018-19	2021-22	2015-16	2016-17	2017-18	2018-19	2021-22
		ELA	61.7%	38.4%	48.6%	49.8%	65.7%	74.6%	61.2%	72.2%	71.6%	80.0%
		Math	52.1%	45.6%	44.9%	39.9%	59.4%	78.4%	70.1%	69.2%	61.9%	80.7%
		ELA	50.5%	34.3%	54.9%	39.2%	45.2%	69.2%	47.8%	72.6%	56.2%	62.9%
		Math	62.0%	49.3%	59.5%	51.7%	61.0%	80.6%	58.3%	74.7%	67.6%	76.0%



See [related links](#).



Appendix D

Informed Consent

Prospective Research Participant: Read this consent form carefully and ask as many questions as you like before you decide whether you want to participate in this research study. You are free to ask questions at any time before, during, or after your participation in this research.

Project Information

Project Title: A Quantitative Study of the Relationship Between Principals' Use of Time and Student Growth

Researcher: Julie Luby

Organization: American College of Education

Email:

Telephone:

Date of IRB Approval:

Please note that this research study has been approved by the American College of Education Institutional Review Board. The IRB approved this study on September 12, 2022. A copy of the approval letter will be provided upon request.

Researcher's Dissertation Chair:

Dr. Susan Reutter

Organization and Position:

American College of Education, Adjunct Faculty,
Department of Leadership and Administration

Email:

susan.reutter@ace.edu

Introduction

I am Julie Luby, a doctoral candidate at the American College of Education. I am doing research under the guidance and supervision of my Chair, Dr. Susan Reutter. I will give you some information about the project and invite you to be part of this research. Before you decide, you can talk to anyone you feel comfortable with about the research. If you have questions, email or call me prior to completing the survey, and I will explain. If you have questions later, feel free to ask me then.

Purpose of the Research

The purpose of this quantitative, correlational study is to examine the relationship between principals' use of time and student growth, as measured by the Smarter Balanced Assessment. Conducting this quantitative study may add to the body of knowledge about the best uses of principals' time.

Research Design and Procedures

The study will use a quantitative methodology and correlational research design. A survey will be disseminated to public school principals in Connecticut, in schools that have at least one of the grades 4 – 8. The study will be comprised of participants who participate in the survey. The survey can be accessed by clicking the link in the email that you received from me.

Participant selection

You are being invited to take part in this research because of your experience as a principal who was in their current position last school year, which is the criteria for this study.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate. If you choose not to participate, there will be no punitive repercussions.

Right to Refuse or Withdraw

Participation is voluntary. At any time, if you wish to end your participation in the research study, you may do so by sending me an email explaining you are opting out of the study. There will be no repercussions for leaving the study.

Procedures

We are inviting you to participate in this research study. If you agree, you will be asked to answer questions in a Google survey. The type of questions asked will range from a demographical perspective to direct inquiries about the topic of your time use last year.

Duration

The survey portion of the research study will require approximately 15 - 20 minutes to complete.

Risks

The researcher will ask you to share time use and professional values information. You do not have to answer any question if you don't wish to do so. You do not have to give any reason for not responding to any question.

Benefits

While there will be no direct financial benefit to you, your participation is likely to help us find out more about the most impactful uses of principals' time. The potential benefits of this study will be to guide principals on how to have the greatest impact on student learning.

Confidentiality

I will not share information about you or anything you say to anyone outside of the researcher. During the defense of the doctoral dissertation, data collected will be presented to the dissertation committee. The data collected will be kept in a locked file cabinet or encrypted computer file. Any information about you will be coded and will not directly identify you as the participant. Only I will know what your number is, and I will secure your information on a password protected computer.

Sharing the Results

At the end of the research study, the results will be available for each participant. It is anticipated that I will publish the results so other interested people may learn from the research.

Questions About the Study

If you have any questions, you can ask them now or later. If you wish to ask questions later, please feel free to contact me. This research plan has been reviewed and approved by the

Institutional Review Board of American College of Education. This is a committee whose role is to make sure research participants are protected from harm. If you wish to ask questions of this group, email IRB@ace.edu.

Certificate of Consent (*The first question on the survey will ask you to acknowledge this consent.*)

I have read the information about this study. I acknowledge why I have been asked to be a participant in the research study. I have been provided the opportunity to ask questions about the study, and any questions have been answered to my satisfaction. I certify I am at least 18 years of age. I consent voluntarily to be a participant in this study.

PLEASE KEEP THIS INFORMED CONSENT FORM FOR YOUR RECORDS.

Relationship Between Principals' Time Use & Student Growth

The purpose of this quantitative, correlational study is to examine the relationship between principals' use of time and student growth in reading and mathematics. Your responses are truly appreciated.

[Switch account](#)

* Required

Email *

Your email

I have read the information about this study. I acknowledge why I have been asked to be a participant in the research study. I have been provided the opportunity to ask questions about the study, and any questions have been answered to my satisfaction. I certify I am at least 18 years of age. I consent voluntarily to be a participant in this study. *

☐ Yes, I consent.

☐ No, I do not consent.

Next

Page 1 of 5

Clear form

Appendix E

Survey

Relationship Between Principals' Time Use & Student Growth

The purpose of this quantitative, correlational study is to examine the relationship between principals' use of time and student growth in reading and mathematics. Your responses are truly appreciated.

* Required

1. Email *

2. I have read the information about this study. I acknowledge why I have been asked to be a participant in the research study. I have been provided the opportunity to ask questions about the study, and any questions have been answered to my satisfaction. I certify I am at least 18 years of age. I consent voluntarily to be a participant in this study. *

Mark only one oval.

- ☐ Yes, I consent.
- ☐ No, I do not consent.

Questions about you and your school

3. For what Connecticut school district do you work? *

4. At which school do you work? *

5. What grades does your school include? *

Check all that apply.

- ☐ Pre-K
- ☐ K
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10
- ☐ 11
- ☐ 12

6. What is the enrollment of your school? *

7. Are you currently the principal of this school? *

Mark only one oval.

- ☐ Yes
- ☐ No

8. Were you the principal of this school last year? *

Mark only one oval.

- ☐ Yes
- ☐ No

9. What is your gender? *

Mark only one oval.

- ☐ Male
☐ Female
☐ Other
☐ Prefer not to say

Questions about the time you spent in classrooms for a variety of purposes.

10. On average, how much total time did you spend in classrooms during instruction, during a typical week last year? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

11. How much of that time that you spent in classrooms during instruction last year was primarily for the purpose of conducting formal observations? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

12. How much of that time that you spent in classrooms during instruction last year was primarily for the purpose of conducting informal observations for the purpose of providing feedback to a teacher? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

13. How much of that time that you spent in classrooms during instruction last year was primarily for the purpose of conducting informal observations for the purpose of adding to your awareness of curriculum implementation and teaching practices? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

14. How much of that time that you spent in classrooms during instruction last year was primarily for the purpose of being visible to students and staff? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

15. How much of that time that you spent in classrooms during instruction last year was primarily for the purpose of being social and/or to develop and maintain relationships? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

16. How much of that time that you spent in classrooms during instruction last year was primarily for another purpose? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

Questions about the time you spent interacting with teachers

17. On average, how much total time did you spend interacting with teachers, during a typical week last year? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

18. How much of that time that you spent interacting with teachers was primarily for the purpose of discussing instruction that you were planning to observe? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

19. How much of that time that you spent interacting with teachers was primarily for the purpose of providing feedback on their instruction? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

20. How much of that time that you spent interacting with teachers was primarily for the purpose of discussing instruction that was not connected to an observation? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

21. How much of that time that you spent interacting with teachers was primarily for the purpose of discussing student achievement data? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

22. How much of that time that you spent interacting with teachers was primarily for the purpose of discussing student behavior? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

23. How much of that time that you spent interacting with teachers was primarily for the purpose of discussing student or parent concerns? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

24. How much of that time that you spent interacting with teachers was primarily for the purpose of social and/or personal conversation and relationship development? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

25. How much of that time that you spent interacting with teachers was primarily for another purpose? *

(Please enter your best estimate of the average # of hours and minutes you spent weekly - round to the nearest half hour)

Example: 4:03:32 (4 hours, 3 minutes, 32 seconds)

Questions about what you feel are the most valuable ways a principal can spend time

26. Rank the following uses of your time from 1 - 4, with 1 being the least valuable, and 4 being the most valuable, way that you can spend time, within the given choices. *

Mark only one oval per row.

	Observing classroom instruction unobtrusively, as part of a planned formal observation for which you will provide feedback to the teacher	Observing classroom instruction unobtrusively, as part of an unplanned informal observation for which you will provide feedback to the teacher	Observing classroom instruction unobtrusively, by stopping in for a short unplanned visit, for a reason other than providing feedback	Visiting a classroom to participate in a class activity and/or to interact with students
1 (least valuable)	☐	☐	☐	☐
2	☐	☐	☐	☐
3	☐	☐	☐	☐
4 (most valuable)	☐	☐	☐	☐

27. Rank the following uses of your time from 1 - 4, with 1 being the least valuable, and 4 being the most valuable, way that you can spend time, within the given choices. *

Mark only one oval per row.

	Interacting with teachers to provide feedback about their teaching	Interacting with teachers about student data	Interacting with teachers about student and parent issues	Interacting with teachers about non-school related topics
1 (least valuable)	☐	☐	☐	☐
2	☐	☐	☐	☐
3	☐	☐	☐	☐
4 (most valuable)	☐	☐	☐	☐

28. Rank the following uses of your time from 1 - 6, with 1 being the least valuable, and 6 being the most valuable, way that you can spend time, within the given choices. *

Mark only one oval per row.

	Planning and participating in schoolwide student celebrations	Planning and participating in schoolwide teacher celebrations	Planning and participating in professional learning	Interacting with teachers about teaching	Interacting with students	Observing instruction
1 (least valuable)	☐	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐	☐
3	☐	☐	☐	☐	☐	☐
4	☐	☐	☐	☐	☐	☐
5	☐	☐	☐	☐	☐	☐
6 (most valuable)	☐	☐	☐	☐	☐	☐

This content is neither created nor endorsed by Google.

Google Forms

Appendix F

Subject Matter Expert Recruitment Letter and Feedback

Luby, Julie [redacted]
to [redacted] Sun, May 1, 11:14 PM ☆ ↩ ⋮

Hello there!

I'm hoping that you might have the time to help me with my dissertation research.

I created the attached survey as a research instrument for my study. I created the questions to support my overarching research questions and hypotheses.

Ultimately, I intend to correlate responses from principals with their SBAC growth scores to see if a relationship exists.

I need to get Subject Matter Expert feedback on my survey, as an element of my dissertation. As a building administrator, you qualify to be a Subject Matter Expert.

That means, I need you to read it and then email me feedback on it. I am required to include your feedback email, without your name, in my dissertation.

You do not need to take the survey yourself.

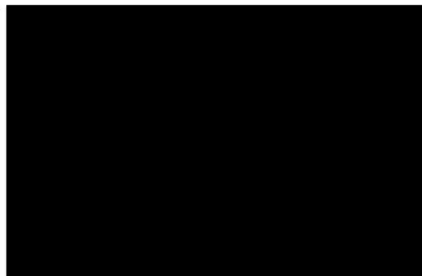
You are reviewing the survey for content validation only and suggesting revisions, as you feel it is appropriate.

It would be very helpful to know if the questions are clear enough for you to know what is being asked and that you are able to answer.

I would be so grateful to you for doing this! Thank you in advance if you are able to!

So much thanks,
Julie

--
Julie Luby
Assistant Superintendent of Schools
[redacted]



Misuraca, Alyce [redacted]@newfield.edu> Tue, May 10, 10:39 AM
to me ▼

Dear Julie,

After reading over your survey, I would suggest the following feedback to help with clarity of the participant,

- identify the descriptions of each of the sections in your intro so people have a glimpse of the content while answering the questions
- Address the last two years with the mention of COVID as the time in classrooms may have been impacted due to disruptions in routines.
- Make sections for questions - categorize
 - Observing during instruction
 - Talking with teachers
 - Time...

I hope you find this helpful.

--
Alyce Misuraca
[redacted]

 **Rebecca, Scott** 
to me ▾ Wed, May 11, 9:17 PM ☆ ↩ ⋮

Questions 9 and 10 are the same.

#9 - Would a set of ranges (ie. 1.5 hours - 2.5 hours per week; 2.5-4.0, etc.) be better to choose from rather than trying to determine a time?

#11 - Could this be written as a percentage of the evaluations that were conducted? (i.e. a person did 10 formal observations out of 35 total = about 29%)

#12 - Same as above (i.e 25/35 = about 71%)

Am I correct to believe that each time you ask, "How much of that time..." is reflective on the total time given in that particular section (i.e the first question of each section...#9/10, 17?) or is it asking for time based on the question before? In some case this question works, but in others it may infer the question directly before (i.e. Does #19 go with #18 or #17?)

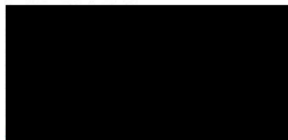
I think you may need to clarify that you want the questions to relate to the overall time or in each case it keeps breaking the time down into smaller segments. (Hard for me to explain in writing.)

Can the ranking questions be set up differently? Not sure if they can, but there may be another way to rank them (dropdown?)

Just my thoughts.....feel free to ask me what I meant if I wasn't clear.

Good luck!

Scott, Rebecca



 **Mike, Cheryl** 
to me ▾ Sat, May 14, 11:01 AM ☆ ↩ ⋮

Just a few thoughts. Overall the questions are clear and concise.

I would include the purpose of your study at the top of your survey or google form as well. I would also say how many questions versus the word brief. This is a longer survey at 30 questions. It's going to take some work for people to calculate hours for an entire year.

I wonder if a range of minutes for the averages will get more participation. For me would have to calculate the hours and minutes I may stop there and not take it.

Hope this helps.



Allyson [redacted]
to me

Sat, May 14, 11:54 AM ☆ ↶ ⋮

Hi Julie,

I really appreciated taking a look at your survey. I felt like this survey was very clear and easy to understand and answer the questions. Your survey is organized well and will be easy for building leaders to respond. I really appreciated the last few questions that challenges a leader to really think about their priorities. While each option was important the way in which a leader responds will give you a lot of insight into how they prioritize teaching and learning.

Allyson

