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was prepared under the direction of the candidate's Dissertation Committee. It is accepted by
the committee members in partial fulfillment of the requirements for the degree of Doctor of
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CORRELATED STUDY OF SCHOOL ADMINISTRATORS' TRANSFORMATIONAL
LEADERSHIP AND STUDENTS' ACADEMIC ACHIEVEMENT

by

Shao-Hui (Christina) Lin

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ABSTRACT

The direct relationship between school administrators' leadership style and student achievement is inconclusive. Some previous research studies suggest a positive influence of transformational leadership on organizational culture and staff motivation (Ahmad, Abbas, Latif, & Rasheed, 2014; Chen & Baron, 2006; Eriksson, By, & Jonsson, 2016; Quin, Deris, Bischoff, & Johnson, 2015). Further study of the assumed correlation between essential factors of transformational leadership and student academic performance growth as evidenced on the newly implemented California state student performance assessment, is important for understanding leadership style impact on student achievement. This study examines whether a significant relationship exists between school administrators' transformational leadership style and student growth on one required annual set of English Language Arts and Mathematics state assessments. A quantitative correlational study was designed to investigate leadership style using inventory data from the Multifactor Leadership Questionnaire-Form 6S (Kirkbride, 2006; Ozaralli, 2003; Tejeda, Scandura, & Pillai, 2001) and three years of school assessment results. The researcher surveyed school administrators from a large urban district in California. Both leadership and assessment data were tested utilizing the Spearman correlational analysis.

Findings of the study indicate no or limited correlation between school administrators' transformational leadership styles and students' academic performance on the California state assessment. The results imply a complexity of school administrators' work in sufficiently leading to enhancing student academic achievement. The researcher recommends that future studies with more holistic approaches using larger sample groups can strengthen this study's findings and offer a more comprehensive perspective of the school leadership style relationship to student achievement.

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CHAPTER 1

Introduction to the Problem

The research problem of the study resides in the assumption of school leaders' strong influence on student achievement. For the past four decades, the American public school system has experienced continual educational reforms intending to transform the existing school structures and practices to raise the nation's quality of education (Siljander, Kontio, & Pikkarainen, 2017). Such efforts include the publication of *A Nation at Risk: The Imperative for Education Reform* from the National Commission on Excellence in Education in 1983, the enactment of the *No Child Left Behind (NCLB)* Act in 2002 by the US Department of Education, which was reauthorized as the *Every Student Succeeds Act (ESSA)* in 2015 (Blad, 2016). The ESSA remains its annual standardized assessment requirement inherited from its predecessor, the NCLB, but based on a new set of common core curriculum standards.

Due to the recent implementation of California's new common core standards and computer-adaptive assessment in California, limited studies were found regarding the leadership relationship with the Smarter Balanced Assessment Consortium (SBAC) assessment. Some prior research studies endorsed transformational leadership to motivate staff and create a sustainable change to result in positive performance outcomes (Bass, 1999; Biswas, 2009; Detert, & Burris, 2007; Herold, Fedor, Caldwell, & Liu, 2008). A research gap was apparent when the problem remained unanswered about the relationship between the school administrators' transformational leadership and student achievement outcomes, particularly on the state assessment. This dissertation study aims to investigate the principals' leadership factors in correlation with the SBAC testing. The intention is to extend scholar and practitioner understanding and knowledge of relationships between various leadership style factors and the state assessment results with a

revolutionary attempt to measure student achievement growth instead of the overall academic performance level outcomes. Besides broadening theoretical comprehension and empirical research in educational leadership, the researcher desired to provide valuable information and guidance for education leaders to contemplate strategies to pursue student academic success effectively while continuously supporting their teachers to cope with the accelerating changes in 21st-century education. The findings shall also become critical for progressing and evaluating leaders, especially when many site administrators are considered responsible for improving student academic performance (Sahlberg, 2007).

Background, Context, History, and Theoretical Framework

Principals are being held accountable for student achievement outcomes (Sahlberg, 2007). The U.S. Department of Education encourages local educational agencies to revamp their leadership evaluation to include student academic performance, such as the state assessment. The National Comprehensive Center for Teacher Quality, (2012) investigated the principal evaluation criteria nationwide. They found more than 33 states have passed the legislation requiring the district to adopt an administrator evaluation system to encompass the student achievement data. Based on the California Teacher and Principal Evaluation Survey, designed and administered by the California Department of Education, 79% of districts use student achievement data as partial or primary evidence for principal evaluation (White, Makkonen, Vince, & Bailey, 2012). Principals are continuously expected to lead effectively while experiencing similar challenges due to changing state curriculum standards and state assessments. Vaill (1996) described such a circumstance as in the permanent white water, in which a complex, rapidly changing, and turbulent environment leaders are trying to manage in the organization. It is a daunting and stressful situation when the individual attempts to operate within the society's macro-system. He

also suggested permanent white water tended to generate novel issues and cause recurrence, which appears to be massive chaos and full of uncertainties that needed to be rectified and redirected through leadership.

Smarter Balanced Assessment

California recently adopted the Smarter Balanced Assessment under the Every Student Success Act (ESSA) provision. The assessment blueprint is constructed based on the Common Core State Standards (CCSS) for English language arts and mathematics to measure public school students' annual academic progress from grades three to eight and grade 11 (CDE, 2018). California began to administer the Smarter Balanced Assessment in 2015 after conducting a pilot in 2013 and field testing the exam in 2014 (Smarter Balanced Assessment Consortium, 2018). The Smarter Balanced Assessment is a summative computer adaptive exam with performance tasks aligned with the CCSS to track student progress toward mastering the state standards, emphasizing the development of 21st-century skills integrated into the subject content standards (CDE, 2018).

Transformational Leadership

Educational practitioners, policymakers, and researchers have always had a vested interest in the relationship of the various leadership elements and the improvement of student performance (Sun & Leithwood, 2012; Witzier, Bosker, & Krüger, 2003). The transformational leadership approach has been significantly discussed to enhance motivation to promote organizational change to optimize student learning (Heck & Hallinger, 2010). Burn (1978) first advocated a conceptual theory of viewing leadership as a process for leaders to inspire and motivate their followers to achieve higher motivation and morality. He recognized the essential qualities of transformational leadership as the leader's aptitude to stimulate and propel others'

self-awareness to strive for a shared purposeful vision and organization mission. His theory set the cornerstone of Bass and Avolio's (1990) work to identify the leadership style's essential elements further to influence the followers to create value authentically. The four major components identified were inspirational motivation, idealized influence, individualized consideration, and intellectual stimulation. Sprouting from Bass and Avolio's conceptual framework, numerous researchers continued investigating the leadership style's relationship with organizational change culture, individual motivation, and performance outcomes (Sashkin, 1995; Yukl, 1994). Their findings implied a positive impact of transformational leadership on shifting the organizational culture, enhancing the individual's capacity, and increasing staff motivation, which indirectly influences the performance results (Kotter & Heskett, 1992; Kouzes & Posner, 1995).

Theoretical Framework

This quantitative study is based on Bass and Avolio's (1990) theoretical framework of the transformational leadership theory as the concept map shown in Figure 1. It enunciates a leadership model and strategy to engender the behaviors and actions to cultivate organizational culture and reform necessary for a progressive achievement outcome (Burton & Peachey, 2009). Prior studies indicated transformational leaders were influential in inspiring and motivating teachers with enormous support to focus on a shared vision to achieve eminent student academic success (Abu-Tieh, Khasawneh, & Al-Omari, 2009; Chegini, 2010; Quin, Deris, Bischoff, & Johnson, 2015). Burn (1978) explicated the concept of transformational leadership, which was recognized as a moral pursuit to connect the followers for higher purpose and commitment (Pepper, 2010). Transformational leaders embody the values and drive the actions through relationship and inclusiveness. These leaders build the comradery of the members to pursue the

team's best interests beyond their own (Bass, 1985; Burn, 1978). Transformational leadership has

demonstrated effects on employee's work performance (Ng, 2017). It offers the followers

valuable reasoning and meaning to maximize their efforts and potentials for higher achievement

(Grant, 2012). Although Burn's descriptive research initially centered on the political arena, it

became the cornerstone of other scholarly studies in the fields of business or education (Stewart,

2008).
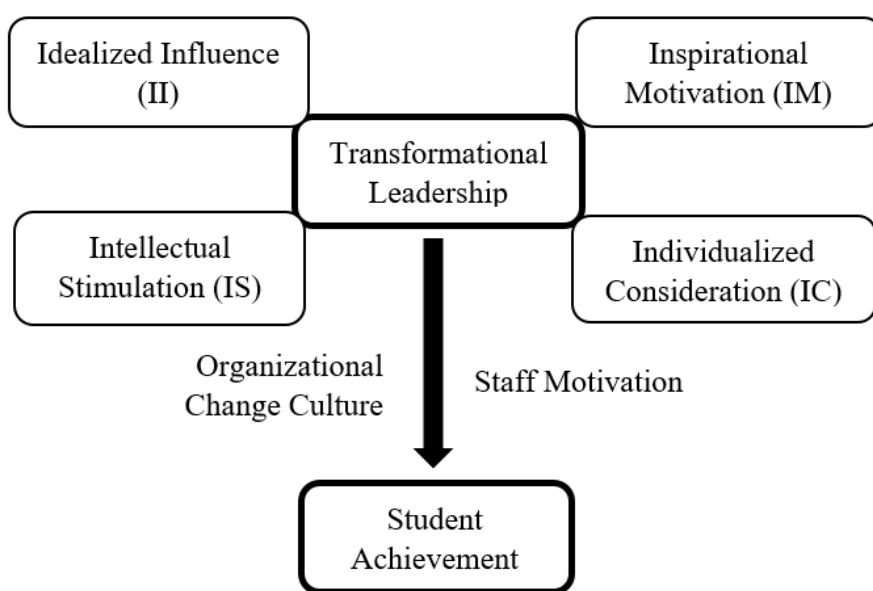
Figure 1. 1. Research Design Theoretical Framework Concept Map Created by the Researcher.

Statement of the Problem

California's effort to reinvent its antiquated curriculum and adopt an innovative

assessment tool to measure its progress and better prepare its students facing the evolving world

is commendable and imperative (Smarter Balanced Assessment Consortium, 2018). School

leaders are currently experiencing a plethora of trials to continuously ensure student achievement

in the accelerating time of 21st-century education. More than ever, teachers are seeking the

guidance of effective leadership to cope with the paradigm shift of teaching and learning in

education to propel their impetus for an optimal result. Principals are also being held accountable for the overall school effectiveness, including the student academic performance on state testing. The research problem resides in the assumed influence of principals' leadership on student achievement. Can such a supposition endure an empirical examination with scientific evidence to argue its case, especially with a recently adopted state assessment and curriculum standards? If so, are there any leadership factors more influential than the other?

Both Chen's (2015) and Hallunger's (2018) studies indicated progressive attention on the leadership's approach and its relationship with student achievement during the paradigm shift of the 21st-century. Previous researchers also noted that various leadership styles would have imposed different degrees of influences on student learning outcomes and suggested the leadership inextricably impact student performance either directly or indirectly (Dutta & Sahney, 2016; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Leithwood & Poplin, 1992). These studies suggested the leaders' influence on their followers and the institution's culture manifested the change and reform necessary to improve the organizational performance.

Prior studies have given strong evidence of the influence of essential transformational leadership elements on fostering a progressive organizational culture to increase motivation and promote changes to enhance performance (Ahmad, Abbas, Latif, & Rasheed, 2014; Chen & Baron, 2006; Eriksson, By, & Jonsson, 2016; Quin, Deris, Bischoff, & Johnson, 2015). However, the relationship between these leadership factors and student academic achievement remains uncertain and indirect while these site leaders are continuously being depended on by their staff and held accountable for the outcomes (Antonius, 2013; Hallinger & Heck, 1998; Leithwood & Jantzi, 1990; Witziers, Bosker, & Krüger, 2003). Besides, since the state's curriculum and assessment were newly implemented, minimal leadership studies have been

conducted using the current state assessment data, which measures the growth instead of the overall achievement level results. A research gap is apparent to summon examining the relationship between the leadership styles, particularly for the California principals and their SBAC testing results. The findings will deepen the educators' understanding and knowledge concerning the new adoption to develop sufficient future actions to increase the collective organizational efficacy and continuously ensure student success during the exponential time in 21st-century education.

Purpose of the Study

The purpose of this quantitative correlational study is to explore the relationship between principals' transformational leadership and students' academic performance. The researcher initially proposed to focus on California principals with a core purpose to highlight the research problem among her peer educators who are facing similar challenges of leading their staff to navigate through the evolving 21st-century education. These principals were put in charge of assisting their staff to unpack the unfamiliar common core state standards and were held liable for the continuous improvement of the recently adopted computer-adaptive state assessment as well. However, due to the impact of COVID-19 on schools and local educational agencies, many districts were denying all research study requests to mitigate the pressure their stressful staff was possibly experiencing during this unprecedented time. After consulting with her dissertation chair, the researcher received School of Education Executive Director approval to modify her research population to only the school administrators, including principals and assistant principals of her district, and with a similar student demographic composition as the county. The researcher also extended her study to analyze three years of data of the participating schools and leaders to increase the sample size for strengthening the power of statistical examination (Nayak,

2010). The researcher anticipates her empirical study can attract financial assistance and attention from the district office and local educational foundations to increase their support for future leadership professional development and academic research to empower and benefit education leaders in her region.

The purpose of this study is to elevate the knowledge and understanding of the relationship between school administrators' transformational leadership factors and their school's state testing scores since most of them are currently leading the task to improve student achievement of their sites. The researcher intends to offer crucial empirical evidence from this study for future studies based on transformational leadership's theoretical suppositions. The main goal is not to determine whether or not the school administrators' transformational leadership behaviors affect student achievement. Instead, she hopes first to explore, investigate, and discover if there is a relationship between the two. Besides, the researcher believes that inquiring the scientific evidence of the school administrators' leadership factors on student achievement will help policymakers and other officials construe adequate evaluation systems for the site leaders and offer sufficient support to engage and empower them to thrive. The researcher wishes to expand the study's applied learning to benefit all other educators to continuously ensure student achievement during the exponential time of 21st-century education.

Research Questions

The theoretical framework of transformational leadership implies the argumentation of leaders' ability to motivate and inspire members with a common vision and values engendered through collaboration and relationship building to cultivate a sustainable organizational culture for problem-solving and creative thinking to result in an optimal performance outcome. The researcher is interested in discovering the correlation between the two variables of the

administrators' leadership style and student academic performance on the new state assessment to attempt to answer the following research question:

What is the relationship between the school administrators' transformational leadership style and their students' test scores on the state assessment in English Language Arts and mathematics in this California district? The hypotheses for the research question are:

H_01: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in English Language Arts on the California state assessment.

H_{a1}: There is a significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in English Language Arts on the California state assessment.

H_02: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in mathematics on the California state assessment.

H_a2: There is a significant relationship between the school administrators'

Rationale, Relevance, and Significance of the Study

The success in Finland's education has received much attention since the publication of the Organization for Economic Co-Operation and Development's Programme for International Student Assessment (PISA) in 2000 (Schatz, 2015). Finland students consistently scored among the top nations in this assessment, while countries like the United States face the increasing challenge of students with low academic performance and growing achievement gaps. Sahlberg (2007) explained the critical elements of a supreme education in the following statement,

Unlike many other education systems, consequential accountability accompanied by high stakes testing and externally determined learning standards has not been part of Finnish education policies. The insight is that Finnish education policies intend to raise student achievement based on ideas of sustainable leadership that place a strong emphasis on teaching, learning, and intelligent accountability. It encourages schools to craft optimal learning environments and implement educational content that best helps their students reach their academic goals.

Limitations and Delimitations

Previous research studies implied the connection, whether directly or indirectly, between leadership behaviors and student achievement (Dutta & Sahney, 2016; Leithwood, Louis, Anderson, & Wahlstrom, 2004). Since the purpose of the study is not to investigate the effect but to explore the relationship between the administrators' leadership qualities and student academic performance results on the state testing, the researcher considers quantitative correlation research most adequate to unfold the association between leadership behaviors and the student academic successes on the standardized assessment. Unlike a qualitative study attempting to provide a way to examine complex social entities with manifold essential variables in comprehending a real-life phenomenon (Merriam, 1998), the researcher's purposive quantitative research design resides its limitations and delimitations, which may impact the reliability of the study's validity.

The purposive sampling approach imposes a generalizability issue due to its lack of statistical representation. The findings are unlikely to be representative of a broader community. However, the selection of the nonprobability sample can be justifiable. The mythology intricately aligns with the research purpose (California State University, Northridge, n.d.) as the targeted

population becomes representative based on the researcher's essential subjective consideration (Cook, 2015). Secondly, self-reported data collected from the administrators' leadership style questionnaires also contains its limitations. The information can rarely be verified independently and often preserves bias and assumptions that shall be distinctly alerted. These potential risks include the preference of self-selective memory and attribution to positive elements, exaggerating the negative ones, and the participants' telescoping capability to recall (Price & Murnan, 2004). Lastly, the factors that impact student achievement are multifaceted and complex. The leadership influence is often considered indirectly through school culture and staff motivation (Supovitz, Sirinides, & May, 2010). Therefore, a research study investigating only the relationship between the administrators' leadership style and student test scores on a new state assessment posits an intrinsic constraint. Future multi-methods research to investigate various student achievement contributors with a diverse assortment of participants is needed to result in a comprehensive understanding and inquiry of knowledge regarding the efficacy of school leaders.

Conclusion

The direct impact between leadership and student achievement is inconclusive (Antonius, 2013; Hallinger & Heck, 1998; Leithwood & Jantzi, 1990; Witziers, et al., 2003). However, a critical component to elevate student performance remains sure to warrant an influential leadership to motivate all stakeholders with a shared inspiring vision of a unitary focus on teaching and learning. It cultivates a culture of innovations with the enhancement of intelligence to meet the needs of our students. This study is significant because it attempts to close the knowledge gap by investigating the relationship between the administrators' leadership style and

the new state testing and, more importantly, the opportunity to examine theoretical knowledge

through the pragmatic field experience.

CHAPTER 2: LITERATURE REVIEW

Introduction to the Literature Review

The purpose of this study is to investigate the effects of the school administrators'

transformational leadership dimensions on student achievement. The introduction of the

literature review chapter will encompass an overview of the research topic, including the

significance, problem statement, and organization of the study. It will further discuss the

essential components of transformational leadership and various theories, such as the social

cognitive, conservation of resources, and affective events theories. The research and

methodological literature will be reviewed based on these theoretical parameters to construe and

develop a deeper understanding of the effects of the transformational leadership factors on

organizational culture change, motivation, and innovation to enhance student achievement in

21st-century education. The chapter will also comprise a synthesis and a discourse of the

methodological issues and critique from previous research to offer a comprehensive and laterally

prevalent review of the study.

The Study Topic

The leadership study to procure the qualities and critical components of the leadership

style to improve student performance outcome has always been a focal point to accrue the

collective efforts from policymakers as well as scholars in the field (Sun & Leithwood, 2012;

Witzier, Bosker, & Krüger, 2003). The transformational leadership approach is one of the

leadership styles that has been significantly discussed for school reform to enhance student

performance outcomes (Heck & Hallinger, 2010). The transformational leadership approach was

also found widely associated with school reform and culture change by motivating and inspiring

the stakeholders with a shared vision to promote collaborative efforts for better student

achievement results (Valentine & Prater, 2011). The study will review both theoretical and empirical literature on transformational leadership's essential elements and their impacts on student achievement.

The Context

Students' skills and competencies to participate fully and effectively in the accelerating evolving world are continually changing. In the 21st -century education, school leaders face unique challenges to prepare their students for the jobs that do not currently exist and sustain continuous student achievement in a globalized, technologically advanced environment. Educators are expected to equip their students with 21st-century skills to develop students' competencies to communicate and work collaboratively with others and think critically and creatively while solving problems and facing the information overload issues in the digital age (California Department of Education, 2019). Educators must gear up their students for the future with the advanced tools that may not have been invented with skillsets to solve the issues they cannot anticipate (Beers, 2009). The educational system shall advance at a progressive pace to keep up and meet millennial learners' needs. Teachers are counting on influential educational leaders to scout out a successful pathway to espouse the paradigm shift of their instructional practices and teaching pedagogies to enhance student academic performance continuously.

The Significance

The study to examine whether or not the essential elements of transformational leadership can effectively impact student achievement is significant. The findings will guide a sound recruitment decision to enhance leadership effectiveness and offer a blueprint for building current administrators' capacity to improve student academic performance effectively. Although previous research indicated a cohesive alignment of the leadership style in cultivating

organizational culture by motivating and engaging stakeholders with a shared vision to strive for a purposeful outcome, these studies showed minimal evidence to conclude a direct

Impact on student achievement. By examining relevant scholarly research with pragmatic empirical findings regarding the impacts of transformational leadership factors on student achievement, educational institutions can efficiently recruit and develop their school administrators. The study is significant because, in addition to filling the knowledge gap of the leadership impact on the new state assessment, the researcher hopes her findings can guide local educational agencies to develop strategies for the recruitment and the professional development of their school administrators. School leaders must equip with the competencies and skillsets needed to foster a thriving environment to lead their staff to result in a desirable student achievement outcome regardless of the challenges these leaders face in the exponential time of 21st-century education.

The Problem Statement

The research problem resides in the "assumed" influence of principals' leadership on student achievement. Leadership is a process that leaders create to socially influence followers to intentionally achieve institutional goals, both emotionally and behaviorally (Omolayo, 2007). Various leadership styles interact and impact the organization and achievement outcomes differently (Nahavandi, 2002). However, the current leadership studies' problem was the absence of empirical evidence that is directly related to its impact on employee's performance outcomes (Sharma, Aryan, Singh, & Kaur, 2019). For example, in education, principals were held accountable for improving student achievement by the local governing agency and the schools' communities. Although the research generally found evidence of transformational leadership style on the process outcome such as organizational culture and teacher motivation, its direct

influence on student achievement remained equivocal as an implication and assumption (Liebowitz & Porter, 2019).

The Organization

Chapter 2 includes the following sections: Introduction to the Literature Review, Conceptual Framework, Review of Research Literature and Methodological Literature, Review of Methodological Issues, Synthesis of Research Findings, Critique of Previous Research, and Summary. Utilizing the academic search engine on Concordia University Libraries, more than 100 articles were first reviewed using key terms such as transformational leadership, school reform, student achievement, principal leadership, and student achievement in 21st-century education. Among them, 53 articles were selected for a thorough inspection based on their relevancy to the dissertation research project of the transformational leadership effects on student achievement. In this literature review chapter, the researcher will elaborate and buttress the conceptual framework to posit the research study. The researcher will then investigate the development of the leadership style to define and discuss the significant elements of transformational leadership and permeate its connection to school leadership effectiveness's qualities to effectuate positive student performance. Additionally, the chapter will also synthesize and summarize the findings from the prior theoretical and empirical studies to construct the argument of discovery and advocacy of the research study on the effects of transformational leadership on student achievement.

The literature review was conducted through a mindful and thorough evaluation process. The researcher selected articles most relevant to her research problem: the effects of transformational leadership on student achievement. Many articles and related research studies were carefully examined and analyzed for this study. Table 1.1 presented a summary of studies

by topics. Sixty-four articles were used in the literature review, including the definition, theory, background, principal components, and the various effects of transformational leadership style, student achievement, methodological issues, and critiques.

Table 1. 1

Summary of Studies by Topics

Topic of Examination	Peer-Reviewed Articles	Dissertation & Thesis	Online Sources
Overview and Framework of Transformational Leadership	10	2	
Definition and Development of Transformational Leadership	3	2	1
Major Dimensions of Transformational Leadership	12	1	2
Effects of Transformational Leadership	8	0	1
Leadership Impacts on Student Achievement	10	1	2
Methodological Issues	2		2

Critique	3		2
Total	48	6	10

Conceptual Framework

The research study is based on the conceptual framework of significant transformational leadership components that enunciates a leadership model and strategy to engender the behaviors and actions to cultivate organizational culture and reform necessary for a progressive achievement outcome (Burton & Peachey, 2009). Prior studies indicated transformational leaders were influential in inspiring and motivating teachers with enormous support to focus on a shared vision to achieve notable student academic success (Abu-Tieh, Khasawneh, & Al-Omari, 2009; Chegini, 2010; Quin, Deris, Bischoff, & Johnson, 2015). Burn (1978) explicated the concept of transformational leadership, which was recognized as a moral pursuit to connect the followers for higher purpose and commitment (Pepper, 2010).

Transformational leaders embody the values and drive the actions through an inclusive relationship to build the members' comradery to pursue the team's best interests beyond their own (Bass, 1985; Burn, 1978). Transformational leadership has demonstrated effects on employee's work performance (Ng, 2017). It offers the followers practical reasoning and meaning to maximize their efforts and potentials for higher achievement (Grant, 2012). Although Burn's descriptive research initially centered on the political arena, it became the cornerstone of other scholarly studies in business or education (Stewart, 2006). Therefore, the proposition of the dissertation research is based on the conceptual models of critical transformational leadership factors. It examines whether these significant elements can sufficiently contribute to competent

school administrators' leadership to amend and align the follower's extrinsic engagements and intrinsic stimulus for higher productivity and achievement results.

Definition and Development

Transformational leadership was originated from Burn's (1978) research of viewing leadership as a process in which both leaders and followers support one another to "higher levels of morality and motivation" (p. 20). He began to define a transformational leader as the one who recognized the followers' inner strengths and was able to ignite the self-awareness of the individual by motivating the team member with inspiring and meaningful vision and purpose. Bass (1985) later attempted to compare and measure transformational leadership with other leadership styles and postulate transformational leaders who were more capable of influencing their followers' perceptions authentically to create values and achieve. His assessment method was later enhanced and modified with an extensive range of a more comprehensive leadership model to identify the four critical elements of the transformational leaders' behaviors. The four essential components are *Inspirational Motivation, Idealized Influence, Individualized Consideration,* and *Intellectual Stimulation*. The four I's continue to advocate the leadership theory's psychological mechanisms to influence the followers' beliefs to enhance the performance (Bass & Avolio, 1990). Stemmed from these significant elements, many substantial research efforts were devoted to extending the transformational theory. For example, Sashkin (1995) identified a visionary leader's characteristics and behaviors with self-efficacy to enhance job performance. Yukl (1994) continued to develop the leadership style by defining transformation leadership as a process to affect changes by building a member's commitment to organizational goals and shared objectives. In other words, transformational leaders could effectively transcend the joint efforts of followers to a joint mission to attain the collective

serendipity for the individual and the organization as a whole. Kotter and Heskett (1992) focused on the leader's ability to change the organizational culture, and Kouzes and Posner (1995) emphasized the leader's behaviors on challenging the status quo and capacity building. Therefore, to develop a deeper understanding of the leadership model, it is vital to intricate our discussion grounded on these four essential transformational leadership elements.

Major Components of Transformational Leadership

Although Bass's research (1998) comprised predominantly in business, its extended applications consisted of various organizations involving the studies of transformational leaders' approaches and characteristics in a school setting to foster changes necessary to enhance performance (DuBrin, 1998). Based on Burn's study, Bass and Avolio (1994) studied the leadership behaviors and attributes to propose the *Multifactor Leadership Questionnaire* (MLQ), to measure the four dimensions of leadership style, which were categorized as the Four I's, *Inspirational Motivation* (IM)*, Idealized Influence* (II)*, Individualized Consideration* (IC)*,* and *Intellectual Stimulation* (IS). Inspirational motivation refers to the followers' confidence and commitment to the value and vision of the organization. Idealized influence is concerned with the admiration and appreciation of the team members toward leadership. Individualized consideration relates to the emotional and external support the leaders offer to attend and care for their unique needs to develop a robust relationship. Lastly, intellectual stimulation pertains to the leader's effort to ignite and enhance the staff's ability to problem-solve and think critically to endeavor challenges (Hinkin & Tracey, 1999). In other words, transformational leaders consist of the attributes and behaviors, which focus on identifying a clear vision to motivate and inspire their staff with considerable personalized support and resource to stimulate the talents of the

individual for higher achievement and success (Bass, 1985; Ng, 2017; Seltzer & Bass, 1990; Walter & Bruch, 2009).

Inspirational Motivation

The inspirational motivation element suggests that transformational leaders can articulate and effectively communicate their appealing vision to inspire and motivate their followers with high expectations and purposeful goals to strive for an optimal performance outcome. The social cognitive theory supports the domain, emphasizing the team members' self-efficacy and confidence to strengthen their beliefs and enhance their abilities to strive for a higher success (Bandura, 2006; Stajkovic & Luthans, 1998). Ng's (2017) study discussed self-efficacy as the mechanism to mediate transformational leadership's effects on job performance to endorse his hypothesis. The theory suggests that transformational leadership's inspirational motivation factor can enhance the employees' cognitive belief for higher self-efficacy to result in more significant performance outcomes. Ng's study also concluded favorable evidence for the inspirational motivation mechanism for job performance.

Transformational leadership also focuses on the inclusiveness and cohesiveness of its practices. Transformational leaders instill pride and engage team members through a shared vision and decision-making process to achieve higher energy and attain more substantial commitment from the individuals (Dionne, Yammarino, Atwater, & Spangler, 2004). This type of administrative approach can be viewed as a boisterous resource from the transformational leaders, especially to espouse the followers' emotional and psychological demands to develop a sense of ownership to accomplish the institutional objectives (Dust, Resick, & Mawritz, 2014). Hobfoll's (2002) conservation of resources theory supports the effect of transformational leadership in that aspect. Based on his theory, the more resources the individual receives, the

higher the possibility of achieving the goals to optimize their well-being (Wright & Hobfoll, 2004). In other words, transformational leaders can offer tangible and spiritual assistance to improve their staff's work performance by actively advocating the teamsmanship and building common objectives among their members to align the personal success with the organization's overall achievement.

Scholars explained motivation using the self-determination theory, which encompasses the premise of human transformation through the synergy of individual directed development and social learning. It is categorized as an *autonomous motivation* and *controlled motivation* (Ryan & Deci, 2000; Sheldon & Elliot, 1999). *Autonomous motivation* refers to the pursued action taken coherently with the individual's implicit nature, including both the identified motivation and intrinsic motivation (Judge, Beno, Erez, & Locke, 2005). Identified motivation is when the individual prosecutes activities that align with one's values and purposes, and intrinsic motivation is the drive to act based on inherent pleasure and interest (Gagne & Deci, 2005). *Controlled motivation* pertains to the proceeding action triggered by a firm belief and commitment to fulfill and exercise. It includes the external motivation, which one's behavior is based on the outward eventuality such as financial rewards or peer recognition, and introjected motivation, which the performance is functioning to preserve one's pride and defend his or her ego (Deci & Ryan, 2000; Gagne & Deci, 2005). Based on such theoretical concepts, transformational leaders engender both autonomous and controlled motivation by inspiring and embodying a meaningful purpose of the shared vision with affluent empathy and support to foster a positive environment to build camaraderie and strengthen the commitment for not only the accomplishment of oneself but also the organization as a whole.

Idealized Influence

Yukl (1994) associated the concept of idealized influence with the charismatic leadership theory, which was found a significant quality shared by influential change leaders, especially during the time of crisis. The idealized influence domain refers to the transformational leader as a role model who earns the trust and respect from their staff, so they voluntarily emulate and follow their leaders (Hinkin & Tracey, 1999). By demonstrating integrity as one's core value and displaying high ethical behaviors, transformational leaders set high expectations for others. They are willing to take risks with their staff to engender great camaraderie among the team to encroach obstacles and accomplish their shared goals (Stone, Russell, & Patterson, 2004). Also, leaders who characterized with idealized influence qualities increase the job satisfaction of their employees (Breaux, 2014)

In conclusion, by embodying values and modeling high moral standards behaviors, transformational leaders with the accent of idealized influence earn respect from their followers. Therefore, they can cultivate a positive culture and ingrain a growth mindset of the individual they are trying to lead and the organization that desperately needs the change for continuous improvement.

Individualized Consideration

Transformational leaders act as mentors and gear their attention to meeting the followers' needs in a supportive manner to maximize the individuals' potentials (Avolio & Bass, 2002; Bass, 1998). These leaders also demonstrate a high degree of concern and empathy toward the needs of their team members. Behling & McFillen (1996) propagated the empowerment of transformational leadership through individualized consideration when leaders are invested in increasing the staff's capacity with on-going assistance and support.

Affective events theory can explain the influence of individualized consideration to generate the positivity of the individual and the work environment to promote higher job performance (Weiss & Cropanzano, 1996). The theory shapes a psychological model that their emotions significantly impact human behaviors to suggest a strong correlation between workers' job satisfaction and performance (Ashton-James & Ashkanasy, 2005). Such affirmative energy can be contagious and transferable among the followers and multiply the optional affective experiences and positive effects in an organization (Bono, Foldes, Vinson, & Muros, 2007). The positive and enjoyable feelings also help develop a sense of meaning and purpose of their work and strengthen workers' affective commitment to thrive for organizational accomplishment (Kluemper, Little, & DeGroot, 2009).

Intellectual Stimulation

Transformational leadership encourages innovative ideas to promote critical thinking for problem-solving. Leaders continuously challenge assumptions and solicit new approaches and creative solutions to resolve their issues (Avolio & Bass, 2002). They also promulgate risk-taking and foster an active learning environment for ingenious independent minds to sprout and develop (Hinkin & Tracey, 1999). There shall be no criticism of the follower's attempts to rectify the situation by breaking away the existing norms and patterns. Instead, mistakes are tolerated and considered part of knowledge acquisition and attainment (Ng, 2017).

Sahin (2011) explained that staff and their leaders work collaboratively to construct creative ideas through risk-taking and experimentation. Through encouraging their followers as a progressive thinker to actively participating in the problem-solving process, team members become engaged followers who are better innovators because they are better prepared psychologically and most likely to seek out resources for enhancement and improvement (Ng,

2017). Grounded in the conceptual framework to support the four critical dimensions of transformational leadership, in the next section, the researcher will illuminate her review of the significant effects of these vital transformational leadership constituents in 21st-century education.

Review of Research and Methodological Literature

This research and methodological review session will posit the relationship of the essential transformational leadership qualities to its effectiveness, especially in improving student achievement. In the 21st -century education, our school system demands revolutionary leaders with skills and competencies to enhance the team members' capacities through an inspiring shared vision. These influential school leaders motivate others to step out of their comfort zone to embrace innovative ideas for problem-solving and continuous achievement. Transformational leadership has been among the most extensive leadership topics studied by researchers during the past several decades based on its citation evidence (Antonakis, Bastardoz, Liu, & Schriesheim, 2014). Judge and Bono (2000) also discussed the five dimensions that positively correlated to transformational leaders' characteristics. The five major factors are leader's openness to innovative experience for changes, their conscientiousness to motivate others to actively engage in actions to achieve the organizational goals, their possession of extraversion, introversion, and agreeable personalities to foster a positive and encouraging environment for learning as well as their ability to maintain emotionally stable for others to model to encroach.

The spotlight of transformational leadership was also due to the strong evidence of the positive effects of the leadership style on organizational culture, change, and performance outcomes (Barrick, Thurgood, Smith, & Courtright, 2014). In education, a school leader's role

has been progressively intricate and convoluted as the change of the political and societal nature. In contrast, these leaders continue to be held accountable for various school accomplishment matrix (Ross & Gray, 2006). In this segment of the literature review, the researcher will discuss and review the effects of transformational leadership on organizational culture, change, motivation, and student achievement, further elaborating on the challenges and impacts of principal leadership in modern-day education.

Organizational Culture and Change

There is an integral and collateral relationship between the development of the corporate culture and leadership capacity. Organizational effectiveness relies on its leaders' strategic planning and cultural building (Bass & Avolio, 1993). Tactical cooperation helps the leaders apply pragmatic procedures and practices to create and exercise the organization's vision. On the one hand, the culture of the organization can promote and propel the vision, but on the other hand, to drive and influence of leader's vision as well.

Culture and Organizational Effectiveness

Researchers suggested an essential understanding of organizational effectiveness through transformational leadership (Bass & Avolio, 1992). Lim (2008) reviewed related literature articles and examined the connections between transformational leadership and the sports organization's culture and effectiveness. He viewed organizational culture as ingrained beliefs prevalently shaped and inclusively shared by its members to standardize and regulate the group's norms of demeanors. Transformational leaders encourage members' active involvement through corresponding appreciation and substantial supports, influencing followers' perceptions to conceive the organizational vision as their own (Bryman, 1992). His literature review research implied that transformational leadership's theoretical framework was pivotal to nurturing a

positive organizational culture to strengthen staff commitment and increase an organization's effectiveness. He also connoted the transformational leader's ability to foster a supportive and committed organization culture, which effectively increase the productivity of the employees was vital and compulsory for any organization to maintain its competitiveness in the rapidly changing world as we are living currently (Barney, 1986; Lim, 2008).

Knowledge and Innovation

García-Morales, Lloréns-Montes, and Verdú-Jover (2008) recognized the gap between the leaders' knowledge and the change necessary to effectively improve the organization's performance. They believed leaders must enhance their competencies to incorporate their theoretical learning into practical use to foster creativity and innovation to achieve organizational success and improvement. They developed a conceptual model to investigate the interrelations between the transformational leadership variables and organizational change performance, particularly in knowledge and innovation. They tested the model utilizing data from a variety of organizations in Spain. The research project was partially funded by the Spanish Ministry of Science and Research.

The research team first drew up a structured questionnaire after interviewing consultants, scholars, and CEOs in the field regarding the leadership strategies and challenges in organizational change and improvement. A sample of CEOs from 900 various business enterprises, including food, construction, farming, and manufacturing services, were randomly selected to receive the survey questions. They also made phone contacts and visited several CEOs to explain the purpose of the study and ensure the confidentiality of the research project and offer a customized comparative report for the individual company to encourage their participation. The 45% response rate resulted in 408 valid samples for data analysis. A

comparison of the respondents' characteristics and non-response ones was examined to eliminate the possible data bias. The chi-square and t statistics also indicated no significant differences between the early and late responding samples or among respective businesses in this study.

Yulk (1999) urged continuing empirical studies to analyze the connection between leadership styles and organizational change as well as performance. García-Morales, Lloréns-Montes, and Verdú-Jover (2008) aimed to investigate the effects of knowledge and innovation to mediate the connection between organizational performance and transformational change leadership. The contributions of their findings were to offer an empirical study to verify that transformational leadership positively affected the development of organizational knowledge and the building of organizational culture, which allowed the stakeholders to discover more adequate solutions for problem-solving (Nonaka & Takeuhi, 1995). Their study also inferred transformational leadership approaches enhanced the assimilation of the organizational capacity building for knowledge transfer to promote the change needed to improve performance (Kogut & Zander, 1996).

Change and Reform

Quin, Deris, Bischoff, and Johnson (2015) used Kouze and Posner's (2003) Leadership Practices Inventory (LPI) to survey teachers from ten school districts in Southern Mississippi. LPI was utilized to assess the various principals' leadership approaches based on a ten-point Likert-scale with 1 for almost never to 10 for almost always. Kouzes and Posner's *Five Practices of Exemplary Leadership* were measured in this study. The five domains of leadership practices were developed based on the framework of transformational leadership (Kouzes & Posner, 2007). They are *modeling the way*, *inspiring a shared vision*,

challenging the process, enabling others to act, and *encouraging the heart*. The quality

Distribution Index (QDI) of state testing was employed to analyze performance outcomes.

The study's hypothesis was grounded on Kouzes and Posner's (2007) position that

transformational leaders could create exemplary changes and significant reform in an

organization. Prior research also showed that transformational leadership was sufficient to

transform the individual and the organization's culture (Pepper, 2010). The quantitative study

was conducted by collecting 92 valid teacher survey data online. A comparative design was

applied to determine the divergences among the groups. Descriptive statistics and t-test were

adopted to examine the data from both low and high-performing schools. The results indicated

that principals in the top-performing schools consumed more of Kouzes and Posner's exemplary

leadership practices than the low performing schools. Among all, the inspiring shared vision and

challenging the process had the most impact on changing the organizational culture to obtain

higher achievement outcomes. Quin, Deris, Bischoff, and Johnson (2015) also recommended the

transformational leadership model for the leadership preparation course and the district's

professional development programs to empower leaders to exercise successful school reform to

achieve optimal student achievement.

Motivation

Prior studies implied that transformational leadership induced substantial influence on

staff morale and attitudes. The leadership attributes are mainly related to the idealized influence,

one of the four I's of transformational leadership dimensions. The leadership style was highly

recommended to generate enthusiasm and foster an optimistic demeanor and motivation to

increase job satisfaction and a trusting relationship in coping with a rapidly changing

environment (Eriksson, By, & Jonsson, 2016; Moe, Pappas, & Murray, 2007).

Job Satisfaction

Chen and Baron (2006) conducted a descriptive survey study on 175 full-time faculties from nine junior colleges offering a nursing program in Taiwan. Their findings endorsed a positive correlation between idealized influence and work satisfaction. Chen and Baron studied the job satisfaction of the nursing program faculty members from nine schools in Taiwan. The purpose of their study was to examine the staff members' perceptions of their directors' leadership styles about their job satisfaction. They conducted correlational descriptive research utilizing a modified version of MLQ customized for the participants. The self-administered questionnaires were created after piloting a convenience sample of 15 staff members to refine the survey questions to avoid ambiguity and accommodate members' monolithic background in a nursing education setting. Eleven junior colleges with 5-year nursing programs were initially selected with one refusal for participation. Two schools with less than ten full-time staff members were also eliminated from the study. A statistical power analysis and a multiple regression formula, (J. Cohen, personal communication, September 8, date 1987) were used to determine the adequate sample size for a minimum error probability statistical analysis. A total of 244 questionnaires were mailed to participants based on the staff directory listed on the school website with 175 valid returned responses for the Statistical Package for the Social Science (SPSS) analysis. Their findings indicated the directors who demonstrated the higher tendency of transformational leadership behaviors received a higher job satisfaction rating from their staff.

The Four I's and Motivation

Ahmad, Abbas, Latif, and Rasheed (2014) investigated the effects of transformational leadership on staff motivation in Pakistan's telecommunication business. Their hypotheses were based on the association of the employee's motivation with the critical transformational

leadership elements, the four I's, *Inspirational motivation, Idealized influence, Individualized consideration,* and *Intellectual stimulation.* Questionnaires using a five-point Likert-scale were mailed to a random sample of 400 employees from private and public telecommunication companies. Two hundred ninety-four valid responses were collected for further data analysis. There were three sections of the self-administered survey. They were leaders' transformational leadership behaviors, staff motivation, and the demographic information of the participants.

Researchers utilized SPSS to administer descriptive statistical analysis to examine the means and standard deviation of transformational leadership's essential elements. A correlation matrix was developed to explain the connection between staff motivation and critical leadership qualities. Their result indicated a prevalent and positive relationship between transformational leadership and staff motivation. The findings confirmed their hypotheses of charismatic leaders who displayed transformational leadership aptitudes with a clear vision and inspiring meaningful purpose could effectively communicate, support, and, most fundamentally, motivate their staff at work (Shamir, House, & Arthur, 1993).

Trust and Motivation

Eriksson, By, and Jonsson (2016) undertook a case study to investigate the impacts of transformational leadership on trust and motivation for knowledge sharing to benefit the organization from the completive advantage. The designed mixed-method research included a quantitative study on the data from the survey questionnaire completed by the employees and qualitative data from interviewing the leaders, which allowed the researchers to compose holistic perspectives to result in a more adequate and proper analysis through a comprehensive triangulated view. The mixed-method approach was also recommended for a single company case study to reduce the risk of bias (Ghauri & Grønhaug, 2002).

Three administrators from three different teams were arranged for the interview through the company's human resource department. The interview questions were sent to the respondents before the interview, scheduled in the interviewee's office for greater comfort and interruption risk control. The semi-structured interview questions were based on the MLQ questionnaire on the four major elements of transformational leadership in addition to questions designed based on the conceptual framework of trust and motivation (Bass & Avolio, 1990; Bass & Riggio, 2006; Lin, 2007; Osterloh & Frey, 2000).

The respective staff of the three interviewee's teams was selected for the quantitative survey study. A five-point Likert-scale Google Form questionnaire was created based on the interview questions and sent to the 22 employees who worked in the three interviewees' teams. 95% return rate with 21 responses was received from the data analysis participants to conclude that support, empowerment, and commitment were the most significant factors for trust-building. Also, praise, empathy, challenges with encouragement, and feedback led to higher motivation. Both trust and motivation contributed to a positive relationship for promoting organizational knowledge sharing to increase the individual's capacity and the organization (Lee, Gillespie, Mann, & Wearing, 2010; Usoro, Sharratt, Tsui, & Shekhar, 2007).

Student Achievement

To ensure an efficacious, adequate, and proficient educational system to procure sufficient student academic and intellectual achievement is one of the primary purposes of schooling, which also rationalizes the public investment accountability measures in our schools (Bertolini, Stremmel, & Thorngren, 2012). Previous research studies have revealed that interconnected and intricate constituents impacted student performance. These factors involve the student's microsystem, interactive experience mesosystem, the broader community

exosystem, and the macrosystem of the culture and climate (Bronfenbrenner, 1979). Many of these variables are out of a school's control. Some studies suggested the family and individual characteristics have four to eight times more influence on student achievement than the school setting (The RAND Corporation, n.d.). However, as educators, we continue to thrive for strategies and practices to enhance student learning. Some research suggested that quality teaching mattered the most to student achievement (McCaffrey, Lockwood, Koretz, & Hamilton, 2003; Rowan, Correnti, & Miller, 2002). Other research evidence claimed that leadership was inextricably linked to student performance either directly or indirectly (Dutta & Sahney, 2016). Leithwood, Louis, Anderson, and Wahlstrom (2004) propagated that leadership was second to the instruction associated with student learning among all school-related factors. They also believed leadership was the catalyst for school reform and became even more prominent when needed the most. Leadership affects the staff's commitment, beliefs, and school climate to influence the teacher's instruction and students' learning cohesively.

Teacher Commitment and Beliefs

Ross and Gray (2006) examined the principal's indirect influence on student achievement through the collective capacity of teacher's commitment and beliefs. Prior research implied that principal leadership's direct impact on student achievement was minimal (Leithwood, Jantzi, & Steinbach, 1999; Witziers, et al., 2003). However, other previous studies also recognized the indirect association of the leadership's impact on student achievement through school climate, organizational culture, and reform to enhance teaching and learning (Hallinger, Bickman, & Davis, 1996; Supovitz, et al., 2010). The purpose of their study was to develop a deeper understanding of the pathway to student success by examining the connection between school leadership and its mediating effects on teacher beliefs.

The research team examined various interactive correspondent relationships, including the paths between leadership, teacher commitment, and student achievement. All elementary teachers in two Ontario districts were invited to participate in this study, with 3,042 teachers from 205 schools. Six-point Likert survey items from previous research were created to gather teachers' perspectives regarding the transformational leadership approaches of their principals, collective teacher efficacy, and commitment studies (Goddard, Hoy, & Hoy, 2000; Leithwood, Aitken, & Jantzi, 2001; Ross & Gray, 2006). The provincially mandated assessment was utilized to measure student academic achievement. Ross and Gray (2006) employed a multiple regression statistical path analysis to evaluate the relationship's dependent and independent variables. They inputted the information to SPSS and used the Analysis of Moment Structures (AMOS) 4.0 to generate a variance-covariance matrix for their investigation (Arbuckle, 1999). They also adopted a rotation estimation or called cross-validation technique to assign district schools into two groups randomly. Their findings showed that the schools of leaders with a higher level of transformational leadership exhibited a greater degree of collective teacher efficacy, commitment to a shared vision, and student learning. The enhancement of transformational leadership approaches also posited a significant contribution to overall student achievement.

School Climates

Allen, Grigsby, and Peters' (2015) study aimed to investigate the linkages between transformational leadership, school climate, and student academic performance. Researchers gathered the survey data from a group of a purposeful sample of six principals in addition to a convenience sample of their respective teachers in a small suburban district in Texas. Bass and Avolio's (1995) MLQ-5X was adopted to assess teachers' perspectives of their principals' transformational leadership characteristics. School climate was measured by the *School Climate*

Inventory-Revised (SCI-R)*,* developed by the University of Memphis' Center for Research in Educational Policy to investigate both the administrators' and the teachers' views on school climate. This 49-item survey inventory examined the school climate encompassing the following seven areas, order, leadership, environment, involvement, instruction, expectations, and collaboration. The SCI-R was validated for K-12 schools (Center for Research in Educational Policy, 2002). The Texas Assessment of Academic Readiness (STAAR) data, which was designed to assess the grade-level content and skill competencies, was used to measure student academic performance (Texas Education Agency, 2014b). Allen, Grigsby, and Peters's study concluded a statistically significant positive relationship between transformational leadership and school climate. However, no strong association of student achievement linked through either transformational leadership or school climate. The result implied and encouraged more future studies examining the principal's leadership impacts on student achievement to determine the factors to effectively and productively increase student learning and performance results.

Integrated Model

It is essential to enhance the understanding of different variables between the leadership characteristics and school performance, as the principals are held accountable by both local and state agencies for their students' overall success. Boberg and Bourgeois (2016) examined an integrated transformational leadership model through the lens of the following three mediators, teacher capacity as collective teacher efficacy (CTE), teacher's extra effort as organizational citizenship behaviors, and student engagement. The quantitative study utilized multiple data sources from a convenient sample of southern-central American public charter schools. Fifty-one schools with 569 teachers and 5,392 students were involved in this study. The teacher survey was based on Sun & Leithwood's (2012) Transformational School Leadership (TSL) scale,

which included their perceptions of the principals' transformational leadership behaviors. Goddard's (2002) CTE Short Form was used to investigate their beliefs on collective teacher efficacy. DiPaola and Hoy's (2005) organizational citizenship behaviors scale was selected to determine the teacher's perceptions of the staff's cooperative efforts for supporting the school. A five-point Likert-scale student survey was designed to measure student involvement in various school activities. Both the reading and mathematics standardized tests were encompassed to evaluate academic performance.

The data was analyzed using SPSS 22, and the research team calculated mean rater reliabilities to warrant the aggregation regarding the intra-class correlation coefficients. Their findings indicated CTE and student engagement mediated the effects of leadership. It also suggested an integrated transformational leadership model emphasizing leadership behaviors to support instructions could optimize its impact on student achievement.

Principal Leadership in 21st-Century Education

With an increasing expectation on the principal's leadership to enhance teaching and learning to ensure high quality of education for raising student achievement in the 21st-century education, school leaders are now beginning to be noted for their mounting responsibilities and vital role in education (DeVita, 2010). The Wallace Foundation spent more than a decade of extensive research on educational leadership. One of their most recent reports revealed a remarkable discovery of an empirical connection between principal leadership and student achievement. It stated,

Education research shows that most school variables, considered separately, have at most small effects on learning. The real payoff comes when individual variables combine to

reach critical mass. Creating the conditions under which that can occur is the job of the

principal. (Wallace Foundation, 2011, p. 2)

Cotton (2003) also summarized a substantial body of contemporary research studies to

conclude 26 common traits shared by highly effective principals to impact student achievement.

She claimed the most thriving principals were the visionary and transformational leaders who

developed a deliberate focus and collective mission with the staff and school community on

instructional enhancement.

As society has evolved, more complex responsibilities that exceed beyond ensuring our

students' foundational literacy and numeracy competencies were posed upon our school leaders.

Besides being held accountable for the students' intellectual development, school leaders in our

current era face the daunting challenges of meeting the needs of culturally diverse learners.

Additionally, they must also care for all members' social and emotional wellness in their school

community while enduring the disequilibrium and scarce resources due to budget constraints

(Ferrandino, 2001). More than ever, American schools demand more courageous and skilled

school administrators lead effectively in 21st-century education.

Leadership Matters

A six-year research project conducted by Louis, Leithwood, Wahlstrom, and Anderson

(2010a) claimed for the following statement,

> To date, we have not found a single case of a school improving its student achievement
>
> record in the absence of talented leadership. Why is leadership crucial? One explanation
>
> is that leaders have the potential to unleash latent capacities in organizations. (p. 9)

The research team administered an in-depth research literature review organized based on

the framework emanated from the organizational psychology and sociology empirical studies,

which presumed the essential variances as staff performance, capacity, motivation, commitment, and the work environment and societal influence (Rowan 1996). Ten interdependent variables were explicated for the investigation of the linkage and correlation between these elements. The ten parameters were: 1) State leadership, policies, and practices, 2) District leadership, policies, and practices, 3) Student/Family background, 4) School leadership, 5) Other stakeholders, 6) School condition, 7) Teacher, 8) Classroom conditions, and 10) Student learning.

Their findings implied the state and district leadership, policies, and practices interoperated with one another but directly impacted school leadership behaviors and teaching practices and what happened at school and within the classroom. However, school leadership demonstrated a secure connection with the school, classroom, and teacher condition. Its perimeter involved the culture building, planning and improvement of the school, professional development, and capacity enhancement of the teachers, in addition to the content and progress monitoring of instruction, which engendered a direct impact on student learning besides the background of the student/family.

Louis, Leithwood, Wahlstrom, and Anderson (2010a) defined leadership was as "establishing agree-upon and helpful directions for the organization in question, and doing whatever it takes to prod and support people to move in those directions: (pp. 9-10). They contributed to the effects of leadership on student achievement to the leadership influence on strengthening the professional community. They encouraged school leaders to propel their direct influence by increasing teachers' motivation, engagement, capacity, and commitment to foster a crystal clear focus on instructional strategies and practices to improve student learning to result in more exceptional student performance accomplishment.

Challenges

Since 1984, Metropolitan Life Insurance Company and Harris Interactive conducted an annual teacher and principal survey to reveal our educators' voices who work closest to our students. In 2013, the research team carried on a study on the topic concerning the challenges of our school leaders in facing the issues of the change of leadership role, resource and budget shortage quandary, staff motivation and job satisfaction, and the implementation of 21st-century common core standards, curriculum, and teaching pedagogies (Metropolitan Life Insurance Company & Harris Interactive Inc., 2013). They surveyed approximately 1,000 teachers and 500 principals in American K-12 public schools using qualitative and quantitative methods. The data were weighted based on the demographic variables to represent the entire population's appropriate proportions adequately. Five field experts in instruction, common core standards, and educational leadership were consulted to develop the survey questions. The purpose of the study was to procure the points of view from experienced educators. They worked closely with our students and were held accountable for their achievement results while dealing with the rising expectations and constrained resources to strengthen the performance outcomes.

Their findings showed that meeting the needs of the diverse learners and parent involvement in their students' education were the most substantial challenges for school leaders. Teachers and principals also considered fostering rigorous instructional strategies and practices to effectively adapt to the paradigm shift of 21st-century learning was also difficult and demanded continuous professional development and sufficient resource and support to address such a concern. 89% of principals and 74% of teachers assumed the principals to accept full responsibility for school improvement and student achievement. Three-quarters of the principals felt a significant change in their role compared to five years ago. They implied that their work

has become too convoluted and overwhelming, which led to severe stress and anxiety toward the profession. Their study also suggested a decline in teacher job satisfaction by 23% since 2008, with only 39% of teachers felt very satisfied with their work, the lowest percentage of the last 25 years. Overall, principals and teachers had very similar perspectives of the leadership challenges in our current education, especially in responding to the implementation of 21st century Common Core Standards.

Leadership for 21st-Century Education

The conceptual understanding and definition of educational leaders have evolved from the administration, management, and now, leadership (Bush, 2011). Such transformation resulted in the increasing interest in the research of educational leadership and managerial practices in the past decade (Hallinger, 2018; Oplatka & Arar, 2017) concerning the impacts of technology integration and globalization to stimulate the accelerating changes in education (Friedman, 2016; Kunnas, 2019). The educational system must prepare and develop their 21st-century leaders with comprehensive professional knowledge, ample competencies, and adequate characteristics to sustain the success of their institutions (Smith & Addison, 2013).

Smith and Addison (2013) examined a district's educational leadership program to design a series of workshops to train future educational leaders with the expertise and skills essential for 21st-century school leadership. The district created a leadership academy to prepare the participants for our current school leaders' complex responsibilities. The architecture of the program was based on Sergiovanni's (2001) framework, which focused on leaders' ability to develop purposeful and meaningful shared vision and commitment of their staff with an emphasis on relevant, pragmatic strategy and planning development as well as the expansion of their capacity on curriculum and instruction. Although the results of the district's experimental

effort to create the *new leaders* will take years to reveal, the research team has planned to follow its progress and report its findings periodically. The initial study aimed to investigate the participants' perspectives of the program design model to prepare for an encompassing study of its impacts on student success later in the entire research project.

A total of sixteen participants were selected for the leadership academy. All of them either enrolled in or possessed a master's degree in educational leadership. A survey regarding their perceptions of the training received in the program was given online. The results confirmed the majority of the participants agreed that the program had prepared them with a deeper understanding of analyzing essential school data to make an informed decision. The findings also indicated that the program offered them the curriculum and teaching resources necessary to elevate their ability to support and lead effectively.

Ogola, Sikalieh, and Linge (2017) investigated the impacts of intellectual stimulation leadership approaches on work performance among the top 100 small and medium businesses in Kenya. Using Bass and Avolio's (1994) MLQ questionnaire, data were collected from 226 managers out of 553 potential participants and analyzed using Pearson's chi-square, multiple regression correlation methods. The result showed a significant correlation between intellectual stimulation leadership behaviors and job performance. It suggested that a leader's encouragement and advocacy for divergent thinking to cultivate a climate of learning and creativity for innovations and intellectual stimulation could positively influence the employees' achievement outcome in the modern digital world we are currently living in.

Review of Methodological Issues

Quantitative and qualitative studies are the two major methodological approaches for researchers. The quantitative method is commonly utilized to measure and test certain

phenomena' hypotheses to generalize a conclusion beyond coincidence. The qualitative tactic is applied to explore and discover the unknown as well as deepen the understanding of the nuances relevant to the research problem (Hammarberg, Kirkman, & Lacey, 2016). Leadership researchers have widely adopted the quantitative method. However, qualitative studies are highly recommended to develop a more comprehensive perception and discernment of a complex and intricate circumstance (Bryman, Stephen, & Campo, 1996; Conger, 1998). Although there were vehement strengths and contributions to the researchers' methods, it is necessary to consider methodological issues in the peer-reviewed articles for this chapter to construe a reasonable standpoint and avoid the possible flaw in designing the researcher's study.

Quantitative

Scholars employ a quantitative method for scientific inquiry to examine the theoretical propositions (Antonakis & Day, 2018). Researchers are facing imperative methodological challenges while conducting a quantitative leadership study. A common difficulty resides in the quantitative study is often presented as a nested data sample analysis (Hanges, & Shteynberg, 2004).

Klein and Kozlowski (2000) emphasized the significance in the analysis levels from various sampling sources to validate the findings, particularly in a more extensive constitution. However, educational leadership empirical studies employed their data frequently from a nested and hierarchical structure. The approach could be running the potential risk of violating the assumption of independence of errors when the participants' responses might be similar since they were all working for the same organization and experiencing a similar institutional culture. The results might vary if a truly random sample was adopted.

In the articles reviewed for the chapter, the nested structured issue could be found in multiple research studies, even internationally, and crossed business sectors. Abu-Tineh, Khasawneh, and Al-Omari (2009) studied the practices of transformational leadership models. They investigated the data from more than 550 school teachers in 1000 public schools, and the data were analyzed based on the participants' relationship with the leader and organization. Ahmad, Abbas, Latif, and Rasheed (2014) studied transformational leadership's influence on staff motivation in the Pakistan telecommunication business. The more than 400 sample participants were again from the same associating teams or departments even across private and public telecommunication business organizations. In both cases, a triangulation analysis is necessary to increase the research results' credibility and validity.

The principal's school staff became the respondents of the questionnaires designed to examine the leadership style of their principal and his or her impact on some type of factors relevant to school manners. All participants in this school worked under the same principal. All involved principals were part of the same organization, which conducted a nested sample selection even though the principals and staff were randomly selected. Hanger and Dickson (2004) discussed the problematic issue caused by the nested sample data, with the main concern focusing on justifying aggregation measurement procedures. Researchers attempted to use either an aggregated or disaggregated approach to properly test the hypotheses with samplers from a similar background or environment to help address the issue. The aggregate technique involved the use of correlation and regression among all variables. However, the degrees of freedom could be questionable since the findings were based on the group results. On the contrary, the disaggregated method devotes its attention to the individual data instead, which allows a greater

degree of freedom can be considered with the increased statistical power over the aggregate one (James & Williams, 2000).

Limitations are evident for both aggregate and disaggregated approaches. For example, multi-levels of hypotheses, such as measuring both leaders and teachers' impact on student achievement, cannot be operated using the aggregate method. Ignoring the statistical assumption of error independence is problematic while using the disaggregated method due to the nested data, leading to a false conclusion of the research study.

Qualitative

Researchers apply a qualitative approach to study phenomena abundant in a holistic, integrative, and contextual nature to acquire more significant insights into the complex and sophisticated manners. However, qualitative research remained scarce in leadership studies regardless of its ample contextual dimensions in the scholar realm (Conger, 1998). Out of all empirical articles reviewed for the dissertation study, the qualitative method was adopted in less than a quarter of the research materials. The majority were in conjunction with the quantitative approach as a part of either a mixed or multiple research method schemas.

Qualitative studies were often criticized for the pre-rational suppositions and authority bias due to the design of the research matter (Antonakis, Schriesheim, Donovan, Gopalakrishna-Pillai, Pellegrini, & Rossomme, 2018). In other words, the information can be feasibly manipulated intentionally or unintentionally by the researchers to be either recognized or ignored during the operation of observation and interpretation. Fiske (1995) described that the investigator might notice only the evidence that he or she was searching for even though the conflicting data were apparent concurrently. In that case, the data could be used to fabricate the reality that might favor the examiner's proposition, a "self-fulfilling prophecy stemming from

expectancy-based information processing" (Antonakis et al., 2018, P. 55). A triangulating research method design is necessary to calibrate, compare, and analyze all evidence to affirm the researcher's conclusion from a qualitative format (Maxwell, 1996). A majority of the researchers who adopted a qualitative approach in the literature reviewed for this paper also applied additional quantitative methods to rectify the limitation concern of a single method design in order to corroborate their research findings to draw a veracious conclusion adequately.

Synthesis of Research Findings

The study of Shamir, House, and Arthur (1993) revealed a positive relationship between transformational leadership and staff motivation as well as confirm the charismatic leadership for staff motivation. Chen and Baron (2006) concluded their findings to endorse a positive correlation between idealized influence and work satisfaction. Ross and Gray (2006) found that school leaders with a higher level of transformational leadership exhibited a greater degree of collective teacher efficacy, commitment to a shared vision, and student learning. Lin's study (2007) concurred charismatic leaders to increase staff motivation at work. Usoro, Sharratt, Tsui, and Shekhar (2007) recommended a transformational leadership style to generate enthusiasm to foster an optimistic demeanor and motivation to increase job satisfaction and a trusting relationship in coping with a rapidly changing environment. Moe, Pappas, and Murray's (2007) findings propagated a transformational leadership style that was highly recommended to generate enthusiasm and foster an optimistic demeanor and motivation to increase job satisfaction and a trusting relationship in coping with a rapidly changing environment. Lim (2008) literature review research implied the theoretical framework of transformational leadership pivotal to nurture a positive organizational culture as well as strengthen staff commitment and increase the effectiveness of an organization. García-Morales, Lloréns-Montes, and Verdú-Jover (2008)

offered an empirical study to verify that transformational leadership positively affected the development of organizational knowledge and the building of organizational culture. It allowed the stakeholders to discover more adequate solutions for problem-solving. Lee, Gillespie, Mann, and Wearing (2010) concluded that both trust and motivation promoted organizational knowledge sharing.

Louis, Leithwood, Wahlstrom, and Anderson (2010a) implied the state and district leadership, policies, and practices interoperated with one another but imposed a direct impact on school leadership behaviors and teaching practices and what happened at school and within the classroom. The study of Metropolitan Life Insurance Company & Harris Interactive Inc. (2013) indicated that the most substantial challenges for school leaders were to meet the needs of the diverse learners and increase parent involvement in education. Smith and Addison's study (2013) confirmed that deepening the leaders' understanding and their abilities to analyze essential school data helped make informed decisions and offer them the curriculum and teaching resources necessary to elevate the principal's skills to support and lead successfully. Ahmad, Abbas, Latif, and Rasheed's (2014) findings indicated a prevalent and positive relationship between transformational leadership and staff motivation. Quin, Deris, Bischoff, & Johnson (2015) showed how principals in the top-performing schools consumed more of Kouzes and Posner's exemplary leadership practices than the low performing schools. Allen, Grigsby, and Peters (2015) concluded a statistically significant positive relationship between transformational leadership and school climate. Eriksson, By, and Jonsson (2016) concluded that support, empowerment, and commitment were the most significant factors for trust-building, while praise, empathy, challenges with encouragement and feedback led to higher motivation. Boberg and Bourgeois' (2016) findings showed the effects of leadership mediated by CTE and student

engagement. Lastly, the result of Ogola, Sikalieh, and Linge's study (2017) suggested a significant correlation between intellectual stimulation leadership behaviors and job performance.

Two significant conclusions were drawn from the research studies relevant to the leadership effects, particularly in improving performance outcomes (See Appendix A). First, the findings indicated the essential elements of transformational leadership are impactful on cultivating organizational culture and initiating changes as well as enhancing staff's motivation for better work performance (Ahmad, Abbas, Latif, & Rasheed, 2014; Chen & Baron, 2006; Eriksson, By, & Jonsson, 2016; García-Morales, Lloréns-Montes, & Verdú-Jover, 2008; Lim, 2008; Quin, Deris, Bischoff, & Johnson, 2015). Secondly, the positive school climate encompassing firm commitment led by effective transformational principals to focus on teaching and learning can encroach challenges and enhance student achievement in 21st-century education (Allen, Grigsby, & Peters, 2015; Boberg & Bourgeois, 2016; Louis, Leithwood, Wahlstrom, & Anderson, 2010a; Metropolitan Life Insurance Company & Harris Interactive Inc., 2013; Ogola, et al., 2017; Ross & Gray, 2006; Smith & Addison, 2013).

Leadership Qualities to Mediate Student Achievement

Transformational leadership is defined as a leadership style to influence changes by motivating and enhancing team members' commitment through shared vision, values, and inclusive decision-making process (Bass, 1984; Burn, 1978; Yukl, 1994). The essential elements of transformational leadership, the four I's, inspirational motivation, idealized influence, individualized consideration, and intellectual stimulation, become the cornerstones to bolster a steadily progressive movement toward not only successful but sustainable organizational changes for improvement. Lim's (2008) study confirmed that transformational leadership's

theoretical framework could foster a positive culture with high expectations and purposeful objects to motivate and procure greater commitment. It elevated the members' self-efficacy and confidence, supported by social cognitive theory, to result in higher performance outcomes. His conclusion was concordant with the facet satisfaction model, which explained the internal or external factors galvanized by the leaders to ignite the individual's motivation and led to high satisfaction at work (Dartey-Baah & Harlley, 2010; Lawler, 1973).

Studies from García-Morales, Lloréns-Montes, and Verdú-Jover (2008), as well as Quin, Deris, Bishoff, and Johnson (2015), elaborated the essences of idealized influence and intellectual stimulation of the transformational leadership characteristics. These factors cultivated an organizational culture to embrace and encourage innovation, critical thinking for problem-solving. The constructive contribution of transformational leaders' influence on the fulfillment of higher job satisfaction also coincided with the conclusion espoused by Chen and Baron's (2006) research concerning the leadership impact on work satisfaction in addition to the reassurance of the study by Ahmad, Abbas, Latif, and Rasheed (2014) in a non-educational setting. Eriksson, By, and Jonsson (2016) further enunciated a significant effect of the transformational leadership approach on generating trust and higher achievement motivation. Their conclusion was underpinned by the charismatic leadership theory of the embodiment of ethical values to build trust and relationship for trust and relationship building along with the affect events theory, which explained an individual's effort to thrive for greater satisfaction from the accomplishment (Weiss & Cropanzano, 1996; Yukl, 1994).

Integrated Transformational Leadership for Student Achievement

The literature review indicated that researchers have not yet concluded a direct leadership impact on student achievement, as suggested in Allen, Grigsby, and Peters' (2015) study.

However, there is no double that leadership does matter. Its indirect influence through school climate and organizational reform to focus on the support and development of teaching and learning is prevalent and affirmed by the prior empirical studies propagated by Louis, Leithwood, Wahlstrom, and Anderson's (2010a) research. These scholars urged transformational principals to nurture a school climate to promote high-quality teaching and learning to effectively enhance student achievement, as the claim shared by Boberg and Bourgeois (2016).

Cotton (2003) recognized the significance of an integrated transformational leadership model to endorse an integrated transformational leadership approach with a strong emphasis on instructional practices and strategies to improve performance outcomes. The literature also implied that transformational principals' qualities helped to shelter a trusting, caring, and collaborative relationship to focus on the capacity building to maximize the individual's potentials. These principals inspired, motivated, and encouraged the team members to challenge and encroach the obstacles, especially in the area of meeting the needs of the diverse learners in order to achieve the shared vision that all stakeholders were committed to (Louis, Leith, Wahlstorm, & Anderson, 2010a; Metropolitan Life Insurance Company & Harris Interactive Inc., 2013). Ogola, Sikalieg, and Linge (2017) further reverberated the power of innovation and learning in order for a principal to lead effectively and sufficiently in 21st-century education. Besides, in order to optimize the student achievement result, as recommended by Smith and Addison (2013), continuous professional development, especially in curriculum and instruction to enhance the skills and competencies of the transformational principals is essential and indispensable to prepare our leaders for successfully overcoming the challenges in the rapidly accelerating 21st-century education.

Critique of Previous Research

The literature articles reviewed in this chapter offer comprehensive information and ample data to construe the theoretical framework. It also provides a variety of empirical studies to explicate the characteristics and dialectical effects of transformational leadership. However, because of its contradictory findings and outcome inconsistency among the studies, the direct correlation between the leadership style and student achievement remained unsettled and was questionable. Barker (2007) found an unclear consequence of the leadership's impact on student achievement from his literature review study. Allen, Grigsby, and Peters (2015) discovered no evidence of a relationship between transformational leadership and student academic performance. Other studies such as Leithwood and Mascall (2008), as well as Quin, Deris, Bishoff, and Johnson (2015), claimed a substantial leadership effect directly on student performance when others discovered a minimal or marginal effect closely related to student academic success. (Antoniou, 2013; Hallinger & Heck, 1998; Mulford, 2013; Ross & Gray, 2006; Louis, Dretzke, & Wahlstrom, 2010b; Witziers, et al., 2003). Although the literature review upheld a consistent and robust inference of transformational leadership on increasing staff motivation and catapulting positive cultural changes in an organization, without a complementary focus in instruction, the encroachment between the leadership style and student achievement was rare to ascertain a direct connection of the two.

The nested structure in leadership studies mentioned in the methodological issues section earlier is another area of concern. Such nature in the leadership research studies makes the investigation rather challenging to conduct a factor analysis with multiple layers of constitutes within groups when all data collected belongs to a similar culture or organization. Also, Bass and Avolio's (1994) Multifactor Leadership Questionnaire (MLQ) was widely adopted to assess the

leadership approaches among the articles reviewed. The method was criticized for its incapability to establish a clear distinction among the essential dimensions within or among various leadership styles that the instrument was designed to measure (den Hartog, Van Muijen, & Koopman, 1997; Tracey & Hinkin, 1998). As a result, it increases the probability of an argumentative assumption, while the research study's hypothesis was to either confirm or deny a precise association between the leadership style and student achievement outcome.

Also, a large number of studies reviewed in this chapter surveyed the leader's behaviors and characteristics only from their respective staff (Allen, Grigsby, & Peters, 2015; Barnett & McCormick, 2004; Leithwood, & Mascall, 2008; Leithwood, & Jantzi, 2006; Quin, Deris, Bischoff, & Johnson, 2015; Ross & Gray, 2006; Wiley, 2001). Cuseo (2015) postulated that effective leaders actively engage in an on-going self-assessment to increase awareness and improve practices for better results. Thus, leadership is a complicated relationship between the leaders and their followers, fermented continuously in a dialectically social and circumstantial environment (Juneja, 2015). Leaders are ultimately responsible for fulfilling the vision of the organization through the collective efforts of their followers. The stakeholders' feedback remains essential to advance the efficacy of the leaders. The leader's self-reflection is also necessary to shed the insights of the administrators' perspectives and contribute to the alignment of the leaders' self-awareness of their behaviors toward achieving the institutional goals and objectives.

In summary, extensive studies were found to validate the prevailingly positive effects of transformational leadership in various administrative realms, including school leadership. However, a knowledge gap between the direct impacts of the school administrators' leadership model on student achievement is uncertain. Further future research, especially the self-reflective leadership studies, are necessary to identify the pervasive factors to endorse the leader's

contribution to school effectiveness. With the change of common core standards and new state assessment in the state of California, it is paramount for researchers to continuously develop a profound understanding of the leadership effect to help prepare our school administrators to lead effectively and successfully in the accelerating 21st-century education.

Chapter 2 Summary

The evolving world due to globalization, information technology, and inquiry-based economy has led us to a new age of accelerations to ignite and demand the changes imperative in education to prepare our students for the future (Friedman, 2016; McNeill & Engelke, 2014). The idea of searching for a possible recipe or golden rule was appealing to researchers all over the world. A growing number of studies in the past decade have attempted to analyze school leaders' approach and management in response to the paradigm shift in 21st-century education (Hallinger & Chen, 2015). Transformational leadership, different from other popular leadership styles, aims to manifest its influence from a facilitative and consensual nature. Transformational leaders engender the authoritative power for changes *through* the people, not *over* them (Leithwood & Poplin, 1992).

Chapter 2 presents the conceptual framework of leadership studies grounded on various social and psychological theories to develop an epistemological understanding of the essential leadership dimensions as well as confirm the dispositions of the dissertation research project. Numerous theoretical and empirical studies in this literature review chapter indicated a positive impact of transformational leadership in building organizational culture and increasing staff motivation. These were imperative factors for gathering collective efforts to overcome challenges and achieve shared institutional goals while facing constant work changes.

Scholars have an obligation to continuously seek knowledge to support learning and increase the practitioners' competencies in the field. The literature review of the theoretical framework and empirical studies of transformational leadership identified a research position to inquire about a further investigation of the leadership style's relationship on student achievement. Previous research studies indicated the gap of a direct influence between the transformational leadership approaches and performance outcomes, especially on the new state assessment in California. To fill such a gap, a quantitative study designed to examine the relationship of the school administrators' transformational leadership behaviors on student academic success will be discussed in Chapter 3.

CHAPTER 3: METHODOLOGY

Introduction to Methodology

The literature review in Chapter 2 exhibited extensive previous research studies on the impacts of transformational leadership, particularly in the educational setting. The relationship between the school leaders' leadership style and student achievement remains inconclusive. Due to the implementation of common core standards and state computer-adaptive assessment in California, very few studies have been conducted to investigate the association between the principal's leadership factors and the new adoptive state assessment, the Smarter Balanced Assessment Consortium (SBAC) assessment. A research gap is apparent to examine the leadership and student performance outcome relationship, primarily when school administrators are held accountable for improving student learning outcomes in the researcher's organization.

This quantitative study seeks to enhance the knowledge and deepen the understanding of the relationship between the various leadership style factors and student achievement, particularly with a focus on transformational leadership. This chapter articulates the methodology utilized to examine the correlation between school administrators' leadership style and student achievement. The reader will learn explicit details regarding the research questions, purpose, and design of the study containing the population, sampling, instrumentation, as well as the data collection process. It will also identify the attributes and limitations of the findings with requisite validation and ethical considerations to offer reliable empirical evidence and valuable insights into educational leadership.

Purpose of the Proposed Study

School administrators are being held accountable for the student achievement results on the annual state assessment, which can also be considered part of their evaluation components.

The study expects to enhance the school administrators' leadership styles concerning their school's state testing result by examining the correlation between the principal leadership approaches and student academic success. Therefore, the study's purpose is not to determine whether or not these leaders' transformational leadership behaviors affect student achievement. Instead, it is first to explore a relationship between their leadership qualities and student achievement based on its theoretical suppositions to offer pivotal empirical evidence for future research studies. The researcher also hopes to develop a deeper understanding of the critical factors to improve student performance in addition to guiding policymakers and educators to continuously enhance student achievement during the exponential time of 21st-century education.

Research Questions and Hypotheses

The proposition of the research questions is based on the theoretical models of the essential transformational leadership components to examine the correlation between the principals' transformational leadership qualities and student achievement. The theory claims these significant elements can sufficiently contribute to leadership effectiveness by amending and aligning the follower's extrinsic engagements and intrinsic stimulus to result in higher productivity and student achievement. The research question for the study is:

What is the relationship between the school administrators' transformational leadership style and their student achievement data on the state assessment in both English Language Arts and mathematics in this California district? The hypotheses for the research question are:

$H_0 1$: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in English Language Arts, the California state assessment.

$H_0$2: There is no significant relationship between the school administrators'

transformational leadership style and the growth of students' test scores in mathematics on the

California state assessment.

Research Design

First, a correlational research design is appropriate because it intends to examine the

covariation between the leadership style inventory data and the student academic results.

Secondly, the researcher does not seek to manipulate the independent variables to control the

effects on dependent variables as in an experimental research model (Adam & Lawrence, 2015).

Lastly, but most importantly, in this study, the researcher does not aim to determine whether one

variable is the cause of the other as in an experimental research design (Creswell & Creswell,

2018). Instead, the researcher investigates the relationship between the two variables, the

administrators' transformational leadership factors and student academic performance.

The two variables in this correlational research study are the school administrators'

leadership self-evaluated rating data using the Multifactor Leadership Questionnaire-Form 6S

(MLQ) and the school's state testing results. The researcher surveyed the leadership qualities of

the principals based on Bass and Avolio's (1995) four essential elements of transformational

leadership styles, the Four I's, *Inspirational Motivation* (IM), *Idealized Influence* (II),

Individualized Consideration (IC), *and Intellectual Stimulation* (IS) in addition to the contingent

reward, management-by-exception, and laissez-faire leadership styles. Based on the literature

review, the researcher was cognizant of the manifold factors that might impact the overall

student achievement results, such as teachers' instructional practices and equal access to

educational resources. The correlational study does not seek to examine the cause and effect

linkage but rather the relationship between the administrators' leadership style and student performance on the newly adopted state assessment.

Target Population and Sampling Method

The researcher used the purposive sampling technique for this study due to keen interest in conducting the dissertation research to provide findings most relevant to professionals' network. The researcher's initial plan was to survey all 635 principals from the 34 Local Educational Agencies (LEA) serving more than 500,000 students (EdData, 2018) in a large California county with an estimated population of more than 3.1 million people (U.S. Census Bureau, 2018). However, due to the unprecedented COVID-19 crisis school districts were currently facing, many LEAs denied all research study requests to alleviate additional stress generated by the non-essential items. After discussing with her dissertation chair, the researcher was granted permission to scale down her population to only one district of a similar student demographic as the county where she received permission to conduct the survey. To increase the sampling size, the researcher collected three years of data and included the assistant principals in her survey. She hoped her research would contribute to the educators' continuous efforts in this district and others in the county to consider future actions or research studies to benefit and empower their school administrators to lead more effectively and successfully. Although the purposive sampling method is commonly applied to qualitative studies, it can be considered acceptable for quantitative research when the researcher uses his or her judgment in selecting samples with a specific purpose in mind (California State University, Northridge, n.d.).

The district's school administrators adopted the new curriculum standards within the same timeline. They faced a similar challenge to continuously advance student achievement on a newly implemented computer-adaptive state assessment. Seventy-four different site

administrators were serving all forty-one K-12 schools in the district from 2016-2019. The

district had an approximate student enrollment of 27,500 from kindergartens to twelfth grade

across six cities in California. According to the 2018-19 student demographic report from

DataQuest, the California Department of Education student data reporting online database, the

ethnicity breakdown of the district's student was as follows: 56.4% Hispanic or Latino, 26.8%

White, 9.6% Asian, 1.9% Filipino, 1.2% African American, 0.3% Pacific Islander, 0.2%

American Indian, and 2.6% Two or More Races. Its demographic distribution was similar to the

county data with 41.9% Hispanic or Latino, 25.7% White, 16.6% Asian, 2.1% Filipino, 1.3%

African American, 0.3% Pacific Islander, 0.2% American Indian, and 4% Two or More Races.

Additionally, the district had 47.1% socioeconomically disadvantaged students with free and

reduced meals, 21.7% English learners, 12.3% of students with disabilities as well as 0.07% of

students living in a foster family. The data again resembled the county's number with 48.8%

socioeconomically disadvantaged students, 22.1% English learners, 11.9% of students with

disabilities, and 0.05% of foster students (EdData, 2018).

The administrators' names, school mailing addresses, and emails were public records and

were retrieved from the California School Directory updated annually on the California

Department of Education website (California Department of Education [CDE], 2020). The

researcher was also mindful that the results from a purposive or judgment sampling might not

represent a statistical significance with the ability to generalize the research findings. However,

the researcher believed that the limited option of her sample method was still cost and time

effective. More importantly, she hoped the results would be prodigious to guide the designated

LEA's pragmatic practices and impact others in the county to plan accordingly to increase

leadership efficacy to enhance student academic achievement.

The sample was small with only 74 possible participants for the school administrators' total population within the three school years. Among them, the researcher received 67 survey results to result in a 95% confidence level, with only 3% of a margin of error in her study. The researcher collected the data by generating a survey link from Google Form to gather the participants' consent, background information, and responses to the MLQ leadership questionnaire electronically. The Multifactor Leadership Questionnaire-Form 6S (MLQ) questionnaire allowed the principals to self-reflect on their own leadership characteristics on various leadership styles' essential factors. The state assessment data were used to measure student academic achievement.

Instrumentation

The license to reproduce the Multifactor Leadership Questionnaire-Form 6S (Bass & Avolio, 1995) using Google Form was purchased by the researcher to assess the principal's leadership approaches (see Appendix B). The leadership assessment instrument was selected with its measurement focus on the essential factors of the various leadership styles, including transformation, transactional, and laissez-faire leadership. The respective public released state assessment data of the consent administrators' schools were utilized to analyze student performance in both English Language Arts and Mathematics.

Multifactor Leadership Questionnaire

The objective of the Multifactor Leadership Questionnaire (MLQ) is to assess a full range of leadership styles with the purpose to "identify the characteristics of a transformational leader and help individuals discover how they measure up in their own eyes and in the eyes of those with whom they work. Success can also be measured through a retesting program to track changes in leadership style" (Bass & Avolio, 1995). Burns (1978) introduced transformational

leadership as a process where leaders and followers work together to advance a higher level of motivation and morality. His theory was later developed by Bernard M. Bass (1985), who further explained the psychological mechanisms of transformational leadership to authentically influence others' beliefs and perceptions to create value and positive achievement outcomes. The Multifactor Leadership Questionnaire (MLQ) is based on the leadership theory developed by Bass (1985) and designed by Bass and Avolio (1994) to assess the degree of the characteristics and behaviors of various leadership styles from passive leaders to transactional, as well as transformational leaders. They advocated the transformational leadership theory to focus on the team members' exceedingly optimistic performance due to their change of values and beliefs. Bass and Avolio categorized four areas of behaviors of a transformational leader: Inspirational Motivation (IM), Idealized Influence (II), Intellectual Stimulation (IS), and Individualized Consideration (IC) with three moral aspects including the moral character, ethical values, and social choices of the leader (Bass, 1985).

MLQ can be conducted as a multi-rater or 360-degree measurement tool. The leader's self-assessment form and the rater's form can be completed and examined separately. In this research study, only the shorter version of the self-assessment form, the Multifactor Leadership Questionnaire-6S (MLQ-6S), was used with 21 questions to measure the seven factors of leadership styles, including transactional, transformational, and laissez-faire leadership. These factors are Inspirational Motivation (IM), Idealized Influence (II), Intellectual Stimulation (IS), Individual Consideration (IC), Contingent Reward (CR), Management by Exception (MBE), and Laissez-Faire (LF). Although the MLQ 6S is a shorter version of the full 45-item MLQ 5X assessment, the questionnaire was frequently used in previous leadership studies, even internationally, based on the literature review (Moon, Van Dam, & Kitsos, 2019; Munaf, 2011;

Qosja & Druga, 2014; Vinger & Cilliers, 2006). The estimated time to complete the questionnaire is about 15 minutes.

MLQ is viewed as the most commonly used instrument to assess transformational leadership theory (Kirkbride, 2006) and also is considered the "best-validated measure" for both transactional and transformational leadership (Ozaralli, 2003, p. 338). The validity and reliability of the MLQ scale have been supported with substantial empirical evidence from previous research studies (Tejeda, et al., 2001). Bagheri, Sohrabu, and Moradi (2015) conducted a cross-sectional descriptive survey by examining the validity and reliability of the MLQ-S6. The researchers used principal component analysis and the Varimax rotation method to perform a confirmatory factor analysis to assess its validity in addition to utilizing Cronbach's Alpha formula to test the internal consistency while measuring the reliability of the scale. Using SPSS software, the data analysis indicated the questionnaire's reliability coefficient was at an acceptable level of 0.90, and the Confirmatory factor analysis also concluded an adequate scale evaluation for the survey.

However, the critique concerning the MLQ data's validity resides on the notion between the leadership styles and outcomes measured through the essential transformational leadership factors. Prior studies suggested a high correlation among the critical components, making it hard to conclude an obvious distinction among these essential leadership factors, especially among the Four I's (Muenjohn & Armstrong, 2008; Rowold & Heinitz, 2007). As a result, it may imply an issue of the questionnaire to precisely distinguish the four elements of the individual's transformational leadership style (EssayNews, 2016). The survey results' reliability may be problematic due to the potential risk of resulting in a low validity level of its findings among the four essential elements of transformational leadership, the Four I's.

California State Assessment

The standardized state assessment data includes both English Language Arts (ELA) and Mathematics testing results, archived data retrieved from the academic performance indicator on the California School Dashboard (California School Dashboard, 2019). Besides saving time and money by using archival data, Jones (2010) discussed the advantage of using archival data to avoid ethical considerations since the information has been shared in public. However, it consumes a risk of using the data from a secondary resource when the researcher cannot control the validity and reliability of the data received. The data source quality becomes essential to authenticate the research findings (Saunders, Lewis, & Thornhill, 2009).

Data Collection

The purpose of the Institution Review Board (IRB) review is to safeguard the welfare and rights of human subject participants in any research activities or studies based on the federal regulations in Title 45, Part 46 from the office of the Human Research Protections Concordia University – Irvine offers three IRB review levels categorized as exempt, expedited, and full board review. Research projects which are exempt and expedited take around 30 days to process, and a full review can take up to 90 days to complete. The researcher obtained IRB approval before starting to collect the data.

The administrators' emails were retrieved from the directory page on the California Department of Education website. After the IRB approved the study, a research introduction email was sent to all 74 school administrators with a survey link from Google Form to collect the background information, research consent, and leadership survey responses digitally online (see Appendix C). The consent page content was modified from the sample letter provided by the university (Concordia University of Edmonton, 2019). The administrators' responses to the

MLQ 6S short-form leadership survey data were collected online through a Google Form created by the researcher using the following rating scale: 0 = not at all, 1= once in a while, 2 = sometimes, 3 = fairly often, and 4 = frequently, if not always (Avolio & Bass, 2004) to assess the seven factors of transactional, transformational, and laisse-faire leadership. The data was extracted from the Google Form for Spearman's rank-order correlation analysis in SPSS Statistics.

California school dashboard displays a school's academic performance by locating the status and change indexes on the state's Academic Indicator 5 x 5 Placement Grid (see Appendix D). The state considers the assessment scale score of Level 3 as meeting standards. The school's academic *Status* index is the average distance of every student's scale scores from Level 3. The *Change* index is the difference between the school's current and last year's academic status index (California School Dashboard, 2019). The schools' change indexes were collected for correlation analysis (see Appendix E).

Operationalization of Variables

Two main variables in this study were the leadership survey data and the change indexes of the state assessment. The MLQ Form 6S (Bass & Avolio, 1995)) was used to measure administrators' leadership styles' various factors. The change indexes were used to assess student achievement. Correlational research attempts to assess and measure the statistical relationship between the objectives with little or no control over these variables. The researcher did not seek a cause and affect connection between the two variables. Neither variable was manipulated as an independent variable nor responded as a dependent one (Chiang, Jhangiani, & Price, 2015). The participants' background demographic data such as gender, age, educational level, year of

administrative experience, and time on site were also included in the researcher's correlation analysis.

Leadership Style Variable

Previous research demonstrated the linkage of transformational leadership behaviors and the organizational desired outcomes (Vinger & Cilliers, 2006). The MLQ-6S examined the four I's, idealized influence, inspirational motivation, intellectual stimulation, and individual motivation, of transformational leadership in addition to the contingent reward and management-by-exception, both active and passive components of transactional leadership, and finally, a measurement for laissez-faire leadership as well (Tejeda, 2001). The MLQ-6S form is composed of a total of seven factors to measure the various leadership behaviors of the principals. The transformational leadership scale consists of 12 items grouped as the idealized influence (items 1, 8, and 15), inspirational motivation (items 2, 9, and 16), intellectual stimulation (items 3, 10, and 17), individual consideration (items 4, 11, and 18). The transactional leadership includes factors of both contingent reward (items 5, 12, and 19) and management-by-exception (items 6, 13, and 20). The laissez-faire leadership (items 7, 14, and 21) has only one scale factor.

Student Achievement Variable

Student achievement was measured using the data from the California state test, the Smarter Balanced Assessment, which replaced the California Standardized Test (CST) due to the adoption of ESSA (CDE, 2009) and the implementation of Common Core Standards in 2010 (CDE, 2019). California was one of the 19 states in the nation that worked with the Partnership for 21st Century Skills (P21) to develop student competencies for 21st-century education. Collaboration, communication, creativity, and critical thinking, the 4 C's, were identified as the essential skills to drive students' academic success and enhance the preparedness for students to

compete in a global market (CDE, 2019). As a result, California needed a robust measurement

system to adequately assess students' learning outcomes to accurately evaluate their public

schools (Smarter Balanced Assessment Consortium [SBAC], 2018).

The Smarter Balanced Assessment or Smarter Balanced Assessment Consortium (SBAC)

is part of a comprehensive state assessment system called California Assessment of Student

Performance and Progress (CAASPP). It was designed as a computer adaptive test to assess the

academic achievement of the students. The data was also used as an academic indicator for

California schools and districts on the California School Dashboard, which is released annually

by the California Department of Education for accountability purposes (California School

Dashboard, 2019). Therefore, the researcher found the SBAC state assessment data in both

English language arts and mathematics was an appropriate student achievement variable for this

study.

The new state Common Core Standards challenge our students to think critically to

deepen their understanding of the subject matter and apply their knowledge to a real-life situation

(CDE, 2017). The Smarter Balanced Assessment is a computer adaptive state test designed to

assess student learning from grades 3-8 and high school in both English and mathematics to

provide more meaningful and accurate information to monitor student progress and evaluate

school performance (CDE, 2019). The results are reported in two primary methods: achievement

levels and scaled scores. The four achievement levels are Level 1 (Standard Not Met), Level 2

(Standard Nearly Met), Level 3 (Standard Met), and Level 4 (Standard Exceeded). The grade

level scaled score of the student's overall numerical score is used to set the cut points of each

performance level. The test scale scores fall between 2000 to 3000 points and increases across

the grade level. Therefore, as indicated in Figure 2, the performance levels' ranges also vary from one grade level to another (Smarter Balanced Assessment Consortium, 2020).

Mathematics					English Language Arts/Literacy				
Grade	Level 1	Level 2	Level 3	Level 4	Grade	Level 1	Level 2	Level 3	Level 4
3	<2381	2381–2435	2436–2500	>2500	3	<2367	2367–2431	2432–2489	>2489
4	<2411	2411–2484	2485–2548	>2548	4	<2416	2416–2472	2473–2532	>2532
5	<2455	2455–2527	2528–2578	>2578	5	<2442	2442–2501	2502–2581	>2581
6	<2473	2473–2551	2552–2609	>2609	6	<2457	2457–2530	2531–2617	>2617
7	<2484	2484–2566	2567–2634	>2634	7	<2479	2479–2551	2552–2648	>2648
8	<2504	2504–2585	2586–2652	>2652	8	<2487	2487–2566	2567–2667	>2667
11	<2543	2543–2627	2628–2717	>2717	11	<2493	2493–2582	2583–2681	>2681

Figure 2. 1. SBAC Achievement Levels Scaled Scores.

The state categorizes Level 3 as Standard Met. It uses the Distance from Standard (DFS), or Distance from Level 3 (DF3), the student's score to the lowest possible point in Level 3 to develop its academic accountability system (CDE, 2019). Each student receives either a positive, negative, or no DFS point, pending the differences between their scores and the lowest possible point in level 3 of their respective grade level. The *Status* of a district or school is its DFS score, the average of all students' DFS points, as illustrated in Figure 3. The two-year *Status* score comparison determines the *Change* index of the school, which indicates the annual academic growths of the school in both ELA and Math on the state testing. A performance color is assigned to the school based on its *Status* and *Change* index (see Appendix D). The *Change* index of the school is released and made available to the public on the California School Dashboard under the Academic Indicator (see Appendix E). The school's *Change* index was utilized to measure student achievement in this study.
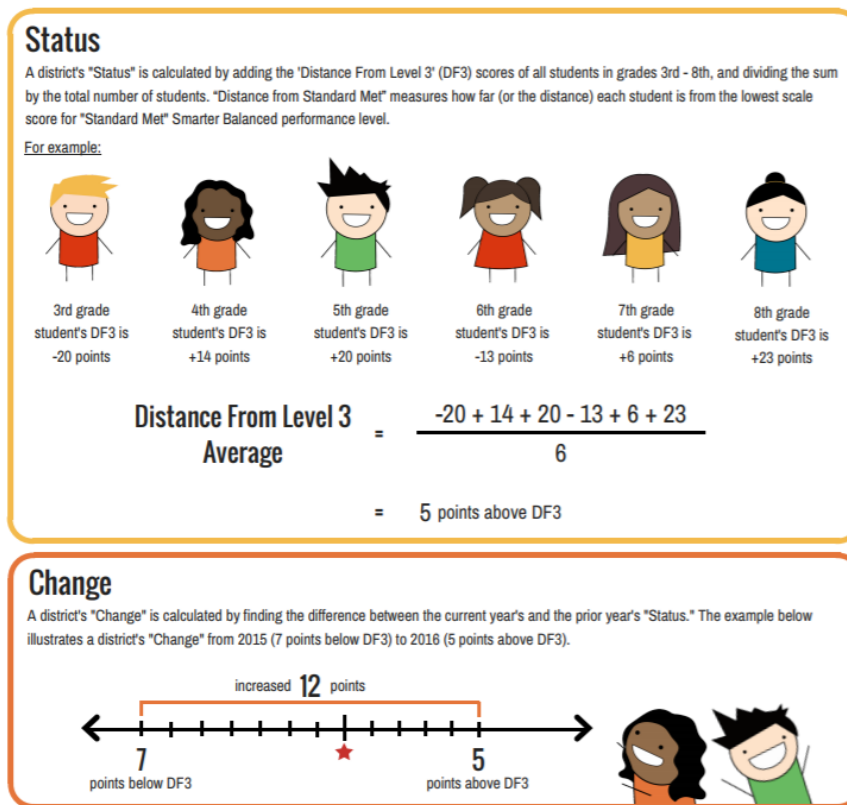
Figure 3.1 Academic Indicator Calculations. Reprinted with permission from *California School Dashboard*, by L. K. Monroe, 2017.

Data Analysis Procedures

The data analysis objective was to conduct a statistical measure, correlation coefficient, to identify the strength and extent of the relationship between the two variables to recognize a pattern and direction of how the two factors are related (Gravetter & Forzano, 2003). To merge the data files from both the leadership survey and their state testing scores using SPSS, the researcher required the respondent to identify the school name in the survey to link the two files for the correlation analysis to the coordinated assessment data. Its value was represented as r with the range from -1.0 to +1.0. Spearman correlation was used to examine the monotonic relationship's strengths and directions between the two variables, which were the administrators' leadership style and student performance outcomes. The purpose of the nonparametric test was to

establish a correlational association between the variables (Yan & Su, 2009). As shown in Figure 4 with 18 sets of correlation analyses, the Spearman correlation study was conducted to examine the correlations between the major leadership styles, transformational, transactional, laissez-faire, and the state assessment growth indexes in ELA and Math. The analyses examined both the individual factors and the composite scores of these major leadership styles to identify whether or not there was a stronger relationship between these leadership behaviors and student achievement outcomes. Additional ten tests were also run to investigate the relationship between the demographic data and the state assessment scores.
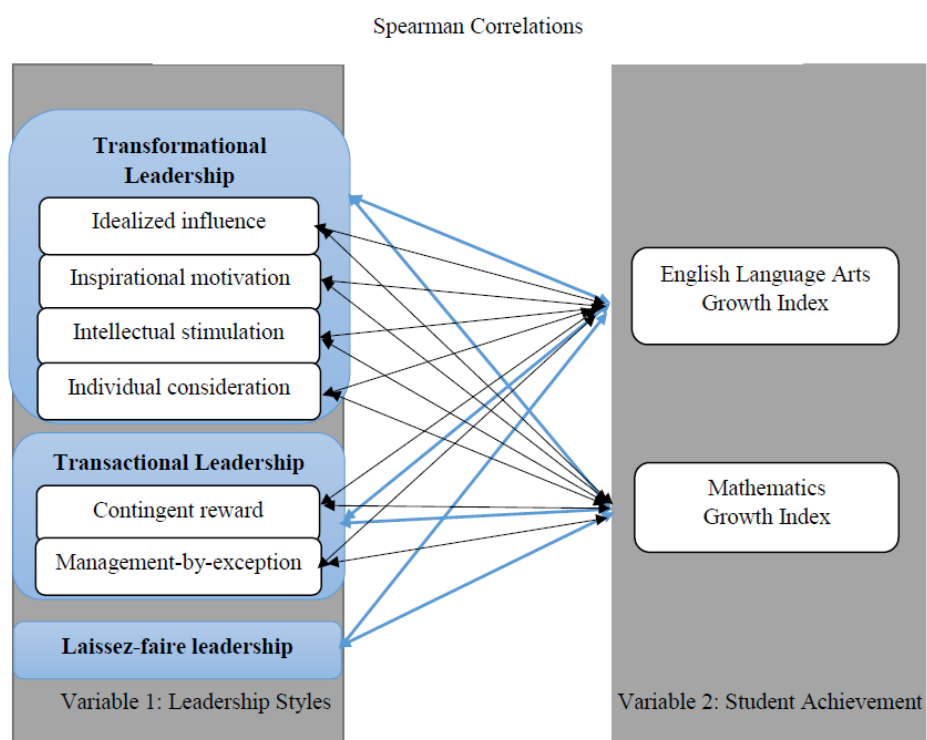
Figure 4. 1 Spearman Correlation Analyses Illustrated by the Researcher

Spearman correlation in SPSS statistics is the nonparametric model of the Pearson product-moment correlation. It is used to measure the monotonic strength and association instead of the linear relationship between the paired data (Lund & Lund, 2018). The nonparametric test

is appropriate when the outcome is an ordinal variable or has definite outliners and most essential in this study with an explicit limitation of the available sample (ITRC, 2013; LaMorte, 2017). The Spearman correlation coefficient, r_s, statistically measures the strength of the linkage between the two variables. The r_s value is between -1.0 as a perfect negative correlation and 1.0 for a perfect positive correlation. The closer the value to ± 1, the stronger the association is. The probability, p-value with the range between 0 to 1, represents the observed correlation's likelihood. A p-value close to 1 indicates no correlation other than chances for assuming a null hypothesis becomes accurate. A higher probability is suggested when the value is closer to 0 (Reserved Barcelona Field Studies Centre, 2020). The $p < .10$ suggests a weak indicator when $p < .05$ represents a strong, and $p < .01$ demonstrates very strong evidence to reject the H_0 null hypothesis. The r_s were analyzed with the indication of p-value to indicate its probability.

Internal and External Validity

Kelley (1927) originated the validity in research by stating if a study was valid when it measured what it claimed to. The internal validity exams the causal relationship between the independent and dependent variables, while the external validity refers to the degree of the research findings to be generalized to other settings, people, and time periods (Hozack, 2014; Mcleod, 2013). Hozack (2014) explained some major threats to internal validity: history, mortality, instrument, testing effects, selection bias, and size. These factors jeopardize the researcher's ability to prove the independent variable as the only cause of the change's dependent variable. The common threats to external validity are the characteristics of the participants, setting, and timing of the study to sufficiently infer the study results to a larger population in a real-world situation (Mitchell, 1985).

Internal Validity

A correlation study tends to have low internal validity since no variables will be controlled and manipulated in the process (Price, Jhangiani, Chiang, Leighton, & Cuttler, 2017). Cook and Campbell (1979) claimed that an alternative explanation might be falsely constructed between variables when a lack of casual relationship occurred. He was concerned that a "spurious event could be used as a plausible explanation" (as cited in Mitchell, 1985, p. 193). A threat to internal validity was the administrators' brief service at their schools when the assessment data was collected to examine the relationship between student achievement and their leadership behaviors. Previous studies suggested a minimum of two years for a principal to fully establish his or her leadership behaviors at a new school (Hallinger, 2011; Leitner, 1994). Therefore, their insufficient time at the school site may not allow the administrators to thoroughly apply their leadership styles to reflect on the relationship with the student achievement outcomes validly.

Due to the nature of the research under the current challenging circumstance, a targeted sample with administrators only at one district in the researcher's county was an ideal alternative. However, such an approach posed another threat to the internal validity of this context-specific study. Parker (1990) commented on the targeting sample size as a common threat in educational studies. The respondents were often limited to members within or among certain school districts, which reduced the study's statistical power.

External Validity

A sampling method without random selection generates a threat to external validity because it limits the possibility of the research findings being generalized to a larger population and minimizes its inference to a real-world situation. The non-probability purposive

sampling with a selection rationale based on the researcher's subjective judgment remains a concern of the findings' low external validity to represent the entire population. However, Tongco (2007) claimed that purposive sampling could provide strong external validity over the realm it represented. When the sample was correctly measured, it also offered the internal validity of the study. Bernard (2006) suggested future research studies to repeat the same non-probability sampling method in a different population to increase its validity for generalization. He urged the researcher to avoid misleading the general conclusion by disclosing the bias upfront with proper interpretation and accurate inference of the data representing the research results.

Ethical Issues in the Study

The researcher followed the IRB guideline, which advocated the participants' autonomy to withdraw from any approved research studies. Palinkas and Soydan (2012) emphasized the importance of the willingness and availability to participate in a research project, as well as the participant's ability to communicate with the researchers during the process, which was critical elements for gathering adequate information for the study. The IRB also called for the assessment of any conflict of interest and recommended the declaration of the researcher's role as well as any potential ethical issues that might occur respective to this study.

Conflict of Interest and the Researcher's Role

There are known affiliations between the participating administrators and the researcher, which may exist a risk of financial or professional interest for both. The researcher assumes the role of an analyst in the study to avoid any potential issues. Simon (2011) explains the researcher's role in a quantitative study to be theoretically non-existent because its methodology propagates the independence of the participants and recommends a minimum or no involvement of the researcher. The researcher's engagement and interaction with the participants were limited

to only communicating the research project information and answering any clarifying questions as needed. To ensure confidentiality, the researcher did not collect the names of the participants in her survey. All personally identifiable information was replaced by codes on all documents as part of the data analysis protocol to conceal and protect the participants' identities. The data was encrypted and ran only on a local laptop secured by a complex password solely known by the researcher.

Ethical Issue

Sanjari, Bahramnezhad, Fomani, Shoghi, and Cheraghi (2014) suggested that the researcher assume their research position to minimize ethical concerns. The researcher chose to recruit the participants through her professional network while limiting her role as the analyst to avoid influencing the participants' responses as well as establishing the safety procedure and protocol to secure the data. The research study requests were emailed to principals at her district from the researcher's work email address instead of a personal one. By identifying her professional role in the district, the researcher believed that she could offer greater transparency and connect with the potential participants to engage them in the study. Additionally, it provided a direct communication method for these individuals to ask clarification questions to increase trust and establish greater confidence between the researcher and the members whose data were collected and evaluated. Procedures and protocols such as the anonymized data collection process, voluntary participation, and data encryption on a single device with password protection were put into place to safeguard the identities and the rights of the participants to minimize the risk of any ethical issues. However, by revealing the researcher's job title and the district's position, a potential threat to voluntary participation occurred when some administrators might feel socially pressured of their involvement in this study. The researcher avoided making any

personal phone calls or contacting the upper management members for recruitment assistance to reduce such risk.

Chapter 3 Summary

The government-mandated accountability system demands the district and school leaders with increasing pressure to continuously seek out ways to increase student achievement on the state standardized assessment (Heck & Halling, 2010). Previous research studies advocated transformational leadership for promoting staff motivation and culture change to enhance and improve performance outcomes. The core purpose of this study was to develop a deeper understanding of the relationship between transformational leadership behaviors and their student achievement scores on the newly implemented state testing. The researcher hopes her findings can help the LEA make critical and strategic decisions to improve student achievement while holding the administrators accountable for leadership effectiveness.

The chapter propelled a vital research purpose to conduct a correlation methodological design of investigating the relationship between the school administrators' transformational leadership styles and student achievement on the California state assessment to examine the study's hypotheses. Spearman correlation analysis was appropriate for investigating the relationship between two variables in a small sample size and safeguarding against the wrong conclusion when conducting numerous correlations.

The chapter also clearly indicated the limitations and discussed both internal and external validity with a purposive sampling method to target a specific research population while running a generalization risk. Therefore, the researcher recommended future studies to apply the research method and design to additional diverse settings to increase its reliability and validity. Overall, the researcher believed the study's design and analysis were adequate to address the research's

purpose to explore the relationship between the school administrators' transformational leadership and student performance outcomes on state testing. The researcher hopes its essential findings can help guide future decision-making and planning to increase student achievement on the state assessment effectively.

CHAPTER 4: RESULTS

Introduction

Researchers pursue meaningful insights and information from data through a careful validation and analytical process to acquire credible and authentic results to support and develop their argument and discussion in their study (Bhatia, 2018). A quantitative study with sets of the unique numerical value of data is used for statistical evaluation through the mathematical calculation to examine the researcher's supposition or proposed hypothesis. The purpose of this quantitative correlational study was to explore the relationship between school administrators' transformational leadership factors and students' academic performance on the newly implemented state assessment, the SBAC. Three years of school data were included in this study.

Quantitative Data Analysis

The research question in this study was: What is the relationship between the school administrators' transformational leadership style and their student achievement data on the state assessment in both English Language Arts and mathematics in this California school district? The hypotheses for the research question are:

H_01: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in English Language Arts on the California state assessment.

H_{a1}: There is a significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in English Language Arts on the California state assessment.

$H_0 2$: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in mathematics on the California state assessment.

$H_a 2$: There is a significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in mathematics on the California state assessment.

The following six tables exhibit crucial data analysis results of the study. Table 2.1 indicates the demographic variables for the study, and Table 3.1 presents the N (Number), M (Mean), and SD (Standard Deviation) scores of the state assessment and leadership scores for the sample. Tables 4.1 and 5.1 display the Spearman correlations for the leadership scores with students' ELA and mathematics test results to address the research question. As additional findings to examine the relationship between the state assessment scores and the participants' background information, Tables 6.1 and 7.1 reveal the Spearman correlations between the demographic factors with ELA and math scores.

Descriptive Statistics

Researchers use descriptive statistics as concise synchronic coefficients to summarize the sample population data (Trochim, 2020). In this study, the researcher uses descriptive statistics to analyze the administrators' background information and offer an analytical overview of the test and leadership scores. Table 2.1 displays the three years of demographic data of both the school principals and assistant principals. It also includes information for the group of administrators, the years on the site, gender of the participant, age, education, and the years of leadership experience. The frequencies for each demographic variable appeared to be similar across all three years because the data were collected within the same school district. By examining the

results displayed in the table, the researcher found that most participants were principals. The

number of principals was between three to four times more than the assistant principals. There

were more female than male site leaders, and the most common age bracket was 40 to 49 years

old. The majority had master's degrees, and a few of them had their doctoral degrees. Although

most of these administrators were only at the same school site for less than five years, many of

the samples were veteran administrators with over ten years of leadership experience (see Table

2.1).

Table 2. 1

Demographic Variables for the Three Years of Data

Variable	Category	2016-2017		2017-2018		2018-2019	
		n	%	*n*	%	*n*	%
Group							
	Principals	31	81.6	38	79.2	36	75.0
	Assistant Principals	7	18.4	10	20.8	12	25.0
Site years							
	Under five years	34	89.5	42	87.5	37	77.1
	Five to nine years	4	10.5	5	10.4	9	18.8
	Ten years and more	0	0.0	1	2.1	2	4.2
Gender							
	Female	28	73.7	32	66.7	34	70.8
	Male	10	26.3	16	33.3	14	29.2
Age							
	30 to 39 years	3	7.9	4	8.3	6	12.5
	40 to 49 years	20	52.6	26	54.2	27	56.3
	50 to 59 years	7	18.4	11	22.9	8	16.7
	60 years and older	8	21.1	7	14.6	7	14.6

Education							
	Master's Degree	35	92.1	42	87.5	42	87.5
	Doctor's Degree	3	7.9	6	12.5	6	12.5
Administrator Years							
	Under three years	0	0.0	0	0.0	0	0.0
	Three to five years	6	15.8	5	10.4	6	12.5
	Six to ten years	9	23.7	16	33.3	19	39.6
	Eleven to 20 years	18	47.4	21	43.8	18	37.5
	Over 20 years	5	13.2	6	12.5	5	10.4

Table 3.1 displays the descriptive statistics for the state assessment and leadership scores. These included three years of ELA and math growth data, as well as the laissez-faire, transformational, and the composite score of transactional leadership gathered from the survey. In the 2016-17 school year, the high school SBAC scores were not included in the California School Dashboard measurement. Therefore, there was no growth indicator available in both ELA and math for data analysis. As a result, ten high school administrators were excluded from the total number of participants for the 2016-17 school year. As a result, the Number (N) was lower than the other two years. The Means (M) of the assessment growth index each year indicated the district's positive performance gain in both ELA and math except for 2016-17 ELA. On average, the district received the most significant increase of 5.03 in 2017-18 ELA and 3.85 in 2018-19 Math. The Standard Deviation (SD) of the test scores implied a relatively high variation of distribution around the mean, which suggested significant differences in these schools' test results. The leadership indexes indicated the highest mean of 3.27 in transformational leadership with a low variation of distribution. The mean score of the administrators' transformational leadership is two times larger than the other leadership styles (see Table 3.1).

Table 3. 1

Descriptive Statistics for State Assessment Scores and Leadership Factors Scores

Variable	N	M	SD
2016-17 ELA	38	-0.53	8.26
2017-18 ELA	48	5.03	11.44
2018-19 ELA	48	2.01	8.13
2016-17 Math	38	2.16	7.80
2017-18 Math	48	1.99	8.14
2018-19 Math	48	3.85	9.29
Laissez-faire Leadership	48	1.56	0.69
Transformational Leadership	48	3.27	0.34
Transactional Leadership	48	1.88	0.33

Hypothesis Testing

Null Hypothesis 1 of the study was H_01: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in English Language Arts on the California state assessment. To examine this hypothesis, Table 4 .1 exhibits the Spearman correlations between the three years of state assessment scores in ELA and the nine MLQ leadership scores, including the composite scores of transformational leadership. Based on the sample size ($N = 38$ or 48), Spearman correlations were used instead of the more common Pearson correlation. Especially for the 2016-17 school year, the state assessment data was not available for high schools. Each school accounts for almost 3% of the variance. Any slight data imperfection would be magnified in an unknown matter. Therefore, the adoption of the Spearman method helped to safeguard against false conclusions made by the researcher. Besides, the Spearman correlation is also recommended for the investigation of ordinal data such as the demographic information of the participants' age, their years on-site, and administrative experience (Chen & Popovich, 2002). Additionally, due to the study's sample size

and exploratory nature, findings significant at the $p < .10$ level will be noted to suggest possible avenues for future research. After reviewing all 27 correlations, only one was significant. Specifically, 2016-2017 ELA scores were positively correlated with the inspirational motivation score ($r_s = .32, p < .05$) (see Table 4.1). This combination of findings provided support to retain the null hypothesis.

Table 4. 1

Spearman Correlations Between Leadership Factors Scores and State Assessment Scores in ELA

Leadership Score	2016-2017		2017-2018	2018-2019
Idealized Influence	.02		-.19	-.19
Inspirational Motivation	.32	**	-.04	.06
Intellectual Stimulation	.21		-.05	.10
Individual Consideration	.10		.04	-.04
Contingent Reward	.21		.06	.14
Management by Exception	.03		.08	.18
Laissez-faire Leadership	.17		.17	.21
Transformational Leadership	.26		-.01	.02
Transactional Leadership	.17		.14	.21

* $p < .10$. ** $p < .05$. *** $p < .01$.

The second Null Hypothesis was $H_0 2$: There is no significant relationship between the school administrators' transformational leadership style and the growth of students' test scores in mathematics on the California state assessment. Table 5.1 displays the Spearman correlations between the three years of math scores and the nine MLQ leadership scores to address this hypothesis. Among the 27 correlations, six were statistically significant at the $p < .10$ level, and two were significant at $p < .05$. Explicitly, there were negative correlations between 2017-2018 math scores with both idealized influence, ($r_s = -.38$, $p < .01$) and the composite score of transformational leadership ($r_s = -.28$, $p < .05$) (see Table 5.1). This combination of findings provided limited support to reject the null hypothesis.

Table 5. 1

Spearman Correlations Between Leadership Factor Scores and State Assessment Scores in Math

Leadership Score	2016-2017		2017-2018		2018-2019	
Idealized Influence	-.07		-.38	***	-.27	*
Inspirational Motivation	.18		-.14		.03	
Intellectual Stimulation	.30	*	-.24	*	.16	
Individual Consideration	.07		-.13		.05	
Contingent Reward	.06		.14		.11	
Management by Exception	-.02		-.03		.19	
Laissez-faire Leadership	.17		.02		.20	
Transformational Leadership	.20		-.28	**	.05	
Transactional Leadership	.02		.05		.24	*

$* p < .10.$ $** p < .05.$ $*** p < .01.$

Additional Findings

The participants' demographic information includes age, gender, education, years on-site, and administrative experience. Table 6.1 shows the Spearman correlations between the five demographic variables with the three years of ELA state assessment scores. For the resulting 15 correlations, the only one that was statistically significant was the 2017-2018 ELA scores, which indicated higher scores with female administrators (r_s = -.29, $p < .05$) (see Table 6.1).

Table 6. 1

Spearman Correlations Between Demographic Variables and State Assessment Scores in ELA

Demographic Variables	2016-2017	2017-2018		2018-2019
Years at Site	.08	-.19		-.09
Gender [a]	-.08	-.29	**	.05
Age	-.19	.00		.21
Education	-.02	-.17		.09
Administration Years of Experience	.12	.08		.17

* *p* < .10. ** *p* < .05. *** *p* < .01.

[a] Gender: 1 = *Female* 2 = *Male*.

Table 7.1 presents the Spearman correlations between the five demographic variables with the three years of state assessment scores in mathematics. The researcher conducted a total of 15 correlations among these variables with the math scores. All findings were low statistically significant to the study (see Table 7.1).

Table 7. 1

Spearman Correlations Between Demographic Variables and State Assessment Scores in Math

Demographic Variables	2016-2017	2017-2018	2018-2019
Years at Site	-.09	.18	.04
Gender [a]	-.03	-.05	-.09
Age	-.23	.02	.13
Education	.12	.08	-.06
Administration Years of Experience	-.04	.17	.08

* $p < .10$. ** $p < .05$. *** $p < .01$.

[a] Gender: 1 = *Female* 2 = *Male*.

Chapter 4 Summary

Previous research suggested that effective leaders were essential to improve student learning and performance (Davis et al., 2005; Leithwood, 2004; Wahlstrom et al., 2010). Besides, school districts continuously held the site administrators accountable for increasing student state assessment scores, which ties directly into the federal and state funding allocation and governing oversight of the LEA regulated by the U.S. Department of Education (U.S. Department of Education, 2019). The relationship between the leadership and the state testing results remains unsettled, especially when fewer studies regarding SBAC, the California state assessment. This dissertation sought to fill the research gap by exploring the connection between the site administrators' leadership style and their students' test scores on this newly adopted assessment, which was developed to measure the 21st-century skills, the four C's.

This study used three years of state assessment data to investigate the relationship between school administrators' leadership style, particularly with transformational leadership,

and students' academic performance. The findings (see Table 4.1) indicated no relationship between the leadership scores and ELA scores and limited relationship between the leadership scores and math scores. In the next chapter, the researcher will compare previous literature reviews, draw conclusions, implications of the study, and suggest future research recommendations.

CHAPTER 5: DISCUSSION

Nahavandi (2002) suggested the various influences of different leadership styles on the organization's achievement results. The theoretical framework of the study is based on the review of the literature, which indicates a strong connection between transformational leadership and organizational culture, staff commitment, and motivation driven by a shared vision (Abu-Tieh, Khasawneh, & Al-Omari, 2009; Chegini, 2010; Quin, Deris, Bischoff, & Johnson, 2015). The researcher questioned in education, whether or not the above positive influences of the leadership style could induce a relationship with the student achievement measured using the state assessment, which was recently implemented. In this study, the researcher explored the correlative relationship between the school administrators' leadership style and student academic performance using the Spearman correlations on three-year data collected from a large suburban district with student demographic composition similar to the county. The summary of her findings, implications for practices, recommendations for future research, and the limitations and delimitations will be discussed in this final chapter.

Summary of Study Findings

The research articles from the literature review imply a significant influence of transformational leadership on staff motivation and system reform centered on a shared vision for progressive improvement (Abu-Tieh, Khasawneh, & Al-Omari, 2009; Burton & Peachey, 2009; Chegini, 2010; Quin, Deris, Bischoff, & Johnson, 2015). In education, a school leader's effectiveness is commonly measured by student performance on the state assessment, which also critically adheres to the school's government funding allocation and accountability oversight. Researchers continue to pursue a considerable interest in the relationship between leadership and student performance on state testing (Heck & Hallinger, 2010; Sun, & Leithwood, 2012; Witzier,

Bosker, & Krüger, 2003). Due to California's adoption of its state assessment, SBAC, the researcher sought to fill the gap by exploring the relationship between the school administrators' leadership style and the computer adaptive test by conducting a quantitative study through a correlation data analysis. The findings indicate a limited relationship between the school administrators' leadership style and state assessment, with a more significant indication of the correlation between transformational leadership and students' math scores. In one isolated year, the female leaders also demonstrated better success than male administrators in improving students' performance in the ELA test.

Limited Leadership Style Correlations

Empirical leadership studies, particularly for transformational leadership, ascertain a greater connection between the leadership style and staff motivation as well as organizational culture (Abu-Tieh, Khasawneh, & Al-Omari, 2009; Burton & Peachey, 2009; Chegini, 2010; Eriksson, By, & Jonsson, 2016; Moe, Pappas, & Murray, 2007; Quin, Deris, Bischoff, & Johnson, 2015). However, the school leaders' direct impact on student achievement has been undetermined (Dutta & Sahney, 2016; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Leithwood & Poplin, 1992). Instead, teacher efficacy and quality teaching positively influence student academic performance according to prior research (McCaffrey, Lockwood, Koretz, & Hamilton, 2003; Rowan, Correnti, & Miller, 2002; Sarac & Aslan-Tutak, 2017). The study concluded a limited correlative relationship between the leadership style and state assessment scores, which corroborates the findings from previous studies indicating little evidence of leadership style's direct impact on student achievement. (Antonius, 2013; Hallinger & Heck, 1998; Leithwood & Jantzi, 1990; Witziers, Bosker, & Krüger, 2003).

Leadership Style Correlations with ELA

The researcher found that only the inspirational motivation factor was statistically significant at the $p < .05$ level with the 2016-2017 ELA scores after conducting 27 correlations from the three-year data. Although the inspirational motivation factor is one of the essential elements, the four I's of transformational leadership, the researcher is unable to imply a positive correlation of this specific leadership factor on improving state assessment scores with a single incident. No other indicators suggested any correlated relationship, either positively or negatively, between the transformational leadership style and student achievement outcomes on the SBAC assessment. Regardless of the school administrators' leadership style, none of the leadership components correlated to students' scores on the new California state testing.

Leadership Style Correlations with Mathematics

Unlike the investigation in ELA with only one correlated finding, there were a total of six statistically significant results at the $p < .10$ level, with two of them at $p < .05$ in the mathematics correlation test. Among them, idealized influence posts the most vital linkage with student achievement results on the state testing. In both the 2017-2018 and 2018-2019 school years, leaders who demonstrated the idealized influence factors assumed a negative correlation between their leadership style and students' state assessment performance. Signature qualities of idealized influence include value embodiment, role modeling, and relationship building (Hinkin & Tracey, 1999; Stone, Russell, & Patterson, 2004; Yukl, 1994). Intellectual stimulation and the composite scores of transformational leadership in 2017-18 also reflect negative correlations between the leadership attributes and the test results. Intellectual stimulation, also one of the four I's of Bass and Avolio's (1994) transformational leadership dimensions, refers to leaders who are soliciting creative approaches for problem-solving. Its characteristic aligns with the accent of

transformational leadership to emphasize the learning process instead of the outcomes (Hinkin & Tracey, 1999).

Discussion

The factors that contribute to students' academic performance are multifaceted. They involve various interconnected and intricate components such as students' demographic background, parents' education level, and family social-economic status, leadership quality, teacher efficacy, school climate as well as equitable educational resources, and access (Bronfenbrenner, 1979; The RAND Corporation, n.d.; Yavuz & Robinson, 2018). Therefore, the null hypothesis 1 with no significant relationship between the transformational leadership style and student test scores in ELA was predictable by the researcher, mainly because it only examines one factor, the school administrators' leadership style. However, the negative correlations between several elements of transformational leadership and its overall composition score were an intriguing finding for the researcher.

First, the researcher wonders about the possible explanation of the varied correlation results between the administrators' leadership style and the state assessment in ELA and math while collecting the same stakeholders' three-year data. Second, the researcher is also puzzled by the negative correlation between transformational leadership and student math scores. She ponders why the strong evidence of transformational leadership's positive impact on staff motivation and organizational culture, as revealed from previous literature studies, fails to reflect on students' test scores instead of resulting in an opposite correlative connection to their SBAC performance in math. Lastly, due to the relative unfamiliarity with the recently implemented curriculum and state assessment, the researcher questions if the testing result can genuinely reflect students' learning outcome, which was utilized to measure student academic achievement

in the study. The above researchable inquiries lead to the implications of practices and the

recommendation for future studies, which will be elaborated on in the following sections.

<div align="center">**Implications for Practice**</div>

The study's findings indicate either no or limited relationship between the school

administrators' transformational leadership style and the student scores on the state assessment.

The leaders' task to increase student achievement is so complex that it involves a discussion

beyond the various leadership style factors. The result implies that a more comprehensive school

administrator preparation and mentoring program, including theoretical understanding and

practical applications, is needed to enhance leadership efficacy. Ongoing professional

development for school leaders should go beyond the emphasis on exploring and developing

their leadership style. It is critical to equip the school administrators with pragmatic tools and

strategies to support their teachers more purposefully to improve student performance. The study

also denotes the implementation of the multiple-factor school administrator evaluation process to

measure their leadership efficacy adequately.

Comprehensive Leadership Preparation and Development Program

Leadership matters. School administrators are given the authority and expected to assume

full responsibility to increase student achievement. Although leaders may not engender a direct

impact on student learning, the improvement of student academic performance cannot occur

without skilled and talented administrators knowing how to develop and utilize the capacities of

the teachers strategically for optimizing the achievement results even indirectly (Louis,

Leithwood, Wahlstrom, & Anderson, 2010a). Transformational leaders' positive influence on

staff motivation, engagement, and commitment, as well as their propensity in cultivating a

supportive organizational culture to endorse creativity and innovation, lay down a solid

foundation for all stakeholders to work collaboratively to result in student success. However, these transformational leaders will not accomplish their mission without the practical know-how to lead the team to the finish line.

Scholars shared their concerns regarding the constant changes in education due to advancements in technology and continued globalization worldwide (Bush, 2011). They urged for a comprehensive educational leadership program to adequately prepare school administrators with not only the essential leadership characteristics but also the theoretical as well as the applied knowledge needed to lead and succeed in 21st-century education (Friedman, 2016; Halling, 2018; Kunnas, 2019; Oplatka& Arar, 2017). The researcher suggests a school administrator preparation program based on Sergiovanni's (2001) educational leadership framework with a dual emphasis on building the charisma of a leader as well as the development of professional expertise and knowledge needed to guide and mentor teachers sufficiently (Smith & Addison, 2013). An integrated model to strengthen the administrator's capacity to improve student achievement, on the one hand, the program shall incorporate transformational leadership elements to develop school administrators' competency in elevating staff motivation and cultivating a positive organizational culture under a shared purposeful vision. On the other hand, Focus on improving student learning and academic performance must also be supported by skilled school administrators with in-depth curricular knowledge and teaching strategies, working side by side with their teachers, neither leading in front of them or from behind. Therefore, a comprehensive leadership program must ensure the development of leaders' capacity on curriculum and instruction to groom these transformational administrators into instructional leaders as well as to implement best practices and learning strategies to improve teaching and learning at their schools.

Multiple Measurements for School Administrator Evaluation

There is an increased interest in evaluating school leaders based on student assessment scores. In Louisiana, House Bill 1033 stipulated state testing data as one of the principal evaluation criteria (Louisiana State Legislature, 2010). In Florida, Senate Bill 736 required at least 50% of the school administrators' annual evaluation, including the principals' compensation, was based on the state assessment result (Florida Senate, 2011). Similar policies were also adopted by several districts in different cities such as Chicago, Dallas, and Denver, and states around the nation (Tennessee State Board of Education, 2011; Schuermann, Guthrie, Prince, & Witham, 2009). The use of assessment data for teacher evaluation has been widely discussed and implemented for many (Aaronson, Barrow, & Sander, 2007; McCaffrey, Sass, & Lockwood, 2009; Rivkin, Hanushek, & Kain, 2005;). The idea to include the testing data, especially the state assessment for school administrators' evaluation, is still a problematic notion needed to be carefully assessed and cautiously approached.

The results of this study indicate there is either no or little correlation found between the transformational leadership style of school administrators and their three-year SBAC results. It reaffirmed the findings from previous studies that lack compelling evidence of leaders' direct impact on student achievement, particularly on a summative state assessment only taking once a year (Dutta & Sahney, 2016; Leithwood, Louis, Anderson, & Wahlstorm, 2004). Boberg and Bourgeois (2016. The dissertation research provides an implication of an organizational practice to develop a robust school administration evaluation protocol to engage multiple school success components such as school culture and climate, instructional leadership, talent management, and organizational system advocated by Yavus and Robinson (2018). The researcher highly

recommends considering various leadership efficacy components to be included as multiple measurements to assess and reflect on a school administrator's competencies and qualities.

Recruitment, Exit Survey, and Continued Professional Development

Other implications of practices include but are not limited to the successful recruitment and continued development of school leaders, a known concern nationally and globally (Brooking, Collins, Court, & O'Neill, 2003; Doyle, & Locke, 2014; Fink & Brayman, 2006). Leadership provides the vision and drives an organization's direction (Louis, Leithwood, Wahlstrom, & Anderson, 2010a). Thus, school leaders often find themselves either lacking the skills or control over the manifold and complex factors contributing to their school success in addition to having limited access to resources needed to obtain their goals. As a result, school leaders are deficient in their wherewithal, the capacity, authority, and resources to lead sufficiently. Many potential or current school leaders either hesitate to enter or eventually abandon this profession (Doyle & Locke, 2014). A dynamic competent school administrator is in desperate need but arduous to acquire. Therefore, a district leadership program is essential to actively recruit proven educators, such as teachers with superior leadership qualities. An exit survey to investigate the administrators' reasons for leaving their current leadership assignment will also be informational. The LEAs should adopt an inclusive systemic approach to continuously mentor and offer ongoing professional development and support to strengthen present and future school administrators' capacities.

The vision of the district recruitment and mentoring program shall be, on the one hand, to prepare other prospective educators as future school leaders with the competencies in various theoretical leadership dimensions and practical applications in the organization where they have developed a deeper understanding of. On the other hand, the program is also a change initiative

with a systematic design focusing on bolstering the leadership learning and capacity building of current school administrators in becoming competent educational leaders and, most importantly, educational learners to improve student achievement, the focal point of this study.

Although many pressing issues exist for educators to address due to the paradigm shift in 21st-century education, the district leadership program can purposefully design its interest in the prominent concerned area, academic achievement, based on educational institutes' need. In such a scenario, the program shall not only be about the outcome of academic achievement, which leadership has either no or limited impact on. Instead, it shall be on the cultivation of a progressive learning environment for school leaders as well as the staff and students they are trying to impact and lead confidently. The researcher suggests that the district leadership program should avoid the expectation for both the future and existing school administrators to become the "instructional" experts, which many feel inept and struggle with. Instead, the organizational approach's schema shall be grounded on the critical elements of transformational leadership through effective learning principles to uphold the participants to focus on the learning journey to advance student academic accomplishment collectively with all stakeholders. The LEAs should also utilize the administrator's exit survey data to further refine and improve their leadership program. The leadership program with an ongoing cycle of learning for capacity building aims to prepare our educators as *Lead Learners* and hope to boost their competency and confidence to emanate others' impacts on the organization to achieve excellent student academic success.

Recommendations for Further Research

The study was initially designed to include a larger population with principals from the entire county. However, because of the school closure and reopening planning due to COVID-

19, many districts expressed a severe concern for their school administrators of being overwhelmingly stressed with the excessive workload during this unprecedented time. The permission to allow the staff's involvement in any research project was withheld until further notice. The researcher was able to amend her research project granted by the institution to scale down to a smaller number of participants and operate on an extended three-year data from one district with a similar stakeholders' demographic composition as the county region. Thus, the limitation occurs when the sample size becomes too limited to generalize its findings and draw definite conclusions. The researcher highly suggests a future study to increase the participant sample to further examine and strengthen the findings of the study.

In this study, the student achievement data is measured by the growth, rather than the performance level of students' SBAC scores in ELA and math. The mean of the three-year test scores indicated a positive trend of progressive improvement in both content areas (see Table 3). However, the researcher notices a vast disparity between the SBAC English and math performance level scores set by the state. The medium range of the math Distance from Level 3 (DF3) score is set 20 points lower than the ELA one on the California School Dashboard academic indicator five-by-five grid for Grade 3-8. The high school table also denotes a shocking 60-point difference of the medium level status score between ELA and math (see Appendix D). The different performance level set points between the two academic indicator tables imply that students' overall achievement scores in math appear to be much lower than the ELA one. The fourth to eighth-grade American students' mathematic scores for the 2019 National Assessment of Educational Progress (NAEP) showed no significant increase since 2009. President Bush claimed it a "mediocre" performance comment after reviewing the National Mathematics Advisory Panel report. A considerable effort was made to enhance

mathematic achievement (The Nation's Report Card, 2019; Willingham, 2019). The panel pinpointed a concerned impediment regarding the absence of a conceptual understanding of algorithmic competency in mathematics, which required a deeper understanding of the teachers to instruct effectively (National Mathematics Advisory Panel, 2008). Gresham (2017) reconnoitered in the study of how teachers' anxiety and their lack of conceptual knowledge in math interfered in their work performance. The researcher wonders whether the anxiety causes these teachers to rely more on the administrators' support and direction to improve their math instructions. As a result, the study revealed a correlative relationship between the leadership style and the math scores, but not the ELA one. The student performance gap in ELA and math posits the researcher's recommendation for a future inquiry to investigate whether or not the overall low math score may be a possible contributor to the different correlation analysis results between ELA and math in this study.

Finally, the researcher suggests a follow-up mix-method research study, including a qualitative analysis of interviews from the teachers and school administrators in addition to collecting student achievement data sources from multiple measurements. Previous studies connoted an immense connection of transformational leadership to staff motivation, commitment, and trust-building for ingraining a positive climate and optimizing organizational culture (Allen, Grigsby, & Peters, 2015; Eriksson, By, & Jonsson, 2016; Lee, Gillespie, Mann, & Wearing, 2010; Ross & Gray, 2006; Usoro, Sharratt, Tsui, & Shekhar, 2007). A school leader's role is essential. The leadership style's direct impact on student achievement remains inconclusive (Dutta & Sahney, 2016; Leithwood, Louis, Anderson, & Wahlstorm, 2004). Boberg and Bourgeois (2016) suggested an integrated transformational leadership model with a strong emphasis on instructional leadership to plead for more substantial guidance from school

administrators to enhance the teaching practice in order to maximize their influence on achieving a more significant student performance outcome. In other words, transformational school leaders may be more effective in inspiring and motivating their teachers and providing a greater desirable and supportive working environment for their staff. An ability to transform the above positive elements to student achievement is questionable without a strong leadership involvement in guiding and supporting teachers' instructional practices. In fact, in this study, the findings indicated a negative correlation between the transformational leadership style and students' state testing scores in math.

One of the speculations for this study's finding relates to transformational leaders' characteristics advocating a shared decision-making process through collaboration to encourage innovative ideas that pay more attention to the learning experience instead of the achievement outcome. This type of leadership approach may cause them to minimize the focus on the state assessment results. The transformational leaders work strenuously on actively engaging their teachers to be creative in advancing their instructional practices to support student learning. That is, suppose teachers in this district struggle with the conceptual understanding of the new math standards. In this case, the problem-solving approach may become a continued trial and error attempt without receiving specific guidelines from the transformational leaders. The negative correlation findings could be explained when these transformation leaders expect teachers to learn from their mistakes without overly emphasizing the outcome. The researcher hopes that a future mixed-method investigation including a focus group study to examine both quantitative and qualitative data can strengthen the findings of the relationship between the school administrators' impact and their student achievement results, which school leaders are held accountable for professionally.

Limitations and Delimitations

The literature review suggested school administrators' indirect impact on student performance outcomes (Dutta & Sahney, 2016; Leithwood, Louis, Anderson, & Wahlstrom, 2004). With some limitations and delimitations, this study concurs the limited influence of the leadership style on student achievement results measured by the state assessment. These limitations and delimitations may pose a threat to the study's validity and reliability.

First, the findings from the purposive sampling with the total population approach are unlikely to be representative. It might also be difficult to generalize the data to a broader population. The original idea to sample principals in the researcher's county but later impelled to modify to school leaders from only one district due to the unique COVID-19 circumstance induced further limitations to the study. Although the action taken can be rationalized by the essential pragmatic function and organizational research purpose, it will increase the vulnerability to errors in judgment by the researcher and results in a low level of reliability because of its inability to infer the generalizability of the outcomes.

Secondly, the leadership self-assessment data may result in a higher threat to validity due to the participants' potential bias and subjective suppositions. Karpen (2018) discussed the difficulty among the most common manifestations of biased self-knowledge was its weak correlations between the participant's ability to estimate his or her own capability and the actual performances. The self-knowledge biases become intractable because the mechanism is often operated below consciousness (Eva, Regehr, & Gruppen, 2012). Also, previous studies implied when the assessed characteristics and aptitudes were vague or subjective. The individuals tended to define self-serving definitions of competencies, which may intensify the tendency of generating biases in their perspectives (Kunda, 1987). Another common challenge while

conducting self-evaluation is the reliability of memory for evidence since studies have shown self-enhancing information is more likely to be retained in the person's memory than the self-critical one (Linton, 1996; Sanitioso, Kunda, & Fong, 1990). In other words, the positive feedback is more memorable than the negative one, which is more likely to be preferentially forgotten by the individual (Sedikides & Green, 2000; Skowronski, Betz, Thompson, & Shannon, 1991).

Lastly, another limitation of the study is to examine only the relationship between administrators' leadership styles and student achievement. In contrast, previous studies indicated factors such as educational policies and teachers' instructional practices in the classroom directly impacted student achievement (Louis, Leithwood, Wahlstrom, & Anderson, 2010a). Studies had shown an association of the principal's leadership behaviors indirectly influencing student learning through school climate and staff motivation (Hallinger, Bickman, & Davis, 1996; Supovitz, et al., 2010). Therefore, studies with a broader spectrum of participants to investigate how all the direct and indirect factors interoperate with one another to affect student performance outcomes are essential for school effectiveness and education excellence.

Summary

School administrators assume the governing responsibility to cultivate a productive learning environment for providing quality education to enhance student academic performance. Their professional role is vital not only for building the school's culture but also for setting the direction and leading others to improve student achievement. Previous studies discussed various aspects of leadership qualities for school success. Yavuz and Robinson (2018) acknowledged four main domains of leadership effectiveness, which were *Culture and Climate, Instructional Leadership, Talent Management,* and *Organizational System.* Their study echoed the findings of

research studies in the literature review (Fullan & Quinn, 2015; Omolayo, 2007; Pannell, Peltier-Glaze, Haynes, Davis, & Skelton, 2015; Valentine, & Prater, 2011). School leaders' role has been advanced from the authoritative commander and disciplinarian to a multidimensional contributor and provider accounted for optimizing student achievement, building collaborative school culture, operating an efficient and competent educational system, and having the instructional know-how to serve and lead effectively. Despite the leaders' oversight and obligation for these various domains, the study concurs with the literature review to suggest the leaders' direct impact on student performance outcomes remain inconclusive (Liebowitz & Porter, 2019; Sharma, Aryan, Singh, & Kaur, 2019).

However, school administrators must not shy away from their leadership responsibility of engaging their teachers effectively to improve student achievement. Therefore, the researcher postulates a comprehensive school administrator preparation program to nurture the development of charismatic, transformational leaders and cultivate them into instructional leaders with a greater understanding of the pragmatic knowledge and skillsets to sufficiently guide and mentor their teachers. The researcher also advocates the use of multi-factor measurements to set reasonable expectations and evaluate school administrators properly. The researcher recommends future studies to expand the sample size for generalization purposes and other studies to investigate the connection between the transformational leaders and teachers' proficiency level in teaching various content areas, particularly in mathematics. A follow-up mix-method study is also proposed with interview data from teachers and administrators to uncover the missing link between the transformational leaders with possible motivated staff working in a positive organization and their failure to optimize student achievement results on the state assessment.

In summary, the literature review implies the transformational leadership style approaches may be efficacious in endeavoring challenges when grounded on the enhancement of staff motivation and the optimal organizational culture, but essentially, the leaders' excellency in leading instructionally in order to achieve higher student academic success. A competent transformational school administrator shall not belittle their influences on improving student learning due to the absence of a correlative relationship between their leadership role and student academic performance. Rather, they must be charging the journey with agility and prevalence to grow and empower themselves alongside the people they are trying to lead and support and work creatively and collaboratively for problem-solving in order to adapt to the changes and thrive at the exponential time of 21st-century education.

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APPENDIX

Appendix A: Previous Research Studies

Year	Authors	Paper or Dissertation Title	Research Questions	Research Method/ Design	Findings	Recommendations
1993	Shamir, B., House, R., & Arthur, M.	The motivational effects of charismatic leadership: A self-concept based theory.				A positive relationship between transformational leadership and staff motivation to confirm charismatic leadership for staff motivation.
2006	Chen, H. C, & Baron, M.	Nursing directors' leadership styles and faculty members' job satisfaction in Taiwan.	The purpose of their study was to examine the staff members' perceptions of their directors' leadership styles about their job satisfaction.	Quantitative	Their findings endorsed a positive correlation between idealized influence and work satisfaction.	Their findings indicated the directors who demonstrated higher tendency of transformational leadership behaviors received greater job satisfaction rates from their staff.
2006	Ross, J. A., & Gray, P.	School leadership and Student Achievement: The mediating effects of teacher beliefs.	The purpose of their study was to develop a deeper understanding of the pathway to student success by examining the connection between school leadership and its mediating effects of teacher beliefs.	Quantitative	Their findings showed the schools of leaders with a higher level of transformational leadership exhibited greater degree of collective teacher efficacy, commitment to a shared vision, and student learning.	The enhancement of transformational leadership approaches also posited a significant contribution to overall student achievement.
2007	Lin, H. F.	Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions.				Charismatic leaders for motivating staff at work.

2007	Usoro, A., Sharratt, M. W., Tsui, E., & Shekhar, S.	Trust as an antecedent to knowledge sharing in virtual communities of practice.				Trust and motivation increase the capacity not only the individual but also the organization.
2007	Moe, J. L., Pappas, G., & Murray, A.	Transformational leadership, transnational culture, and political competence in globalizing health care services: A case study of Jordan's King Hussein Cancer Center.		Qualitative		The transformational leadership style was highly recommended to generate enthusiasm as well as foster an optimistic demeanor and motivation to increase job satisfaction and a trusting relationship in coping with a rapidly changing environment.
2008	Lim, Y. Y. S.	Transformational leadership, organizational culture and organizational effectiveness in sport organizations.	Can transformational leadership effectively affect organizational culture?	Qualitative	His literature review research implied the theoretical framework of transformational leadership was pivotal to nurture a positive organizational culture to strengthen staff commitment and increase the effectiveness of an organization.	He viewed organizational culture as ingrained beliefs prevalently shaped and inclusively shared by its members to standardize and regulate the norms of demeanors of the group.
2008	García-Morales, V. J., Lloréns-Montes, F. J., & Verdú-Jover, A. J.	The effects of transformational leadership on organizational performance through knowledge and innovation.	They aimed to investigate the effects of the knowledge and innovation to mediate the connection between the change of	Mixed	The contributions of their findings were to offer an empirical study to verify that transformational leadership positively affected the development of	Their study also inferred transformational leadership approaches enhanced the assimilation of the organizational capacity building for knowledge transfer; thus, to promote the change needed to improve performance.

			organizational performance and transformational leadership.		organizational knowledge and the building of organizational culture, which allowed the stakeholders to discover more adequate solutions for problem-solving.	
2010	Lee, P., Gillespie, N., Mann, L., & Wearing, A.	Leadership and trust: Their effect on knowledge sharing and team performance.			Both trust and motivation promote organizational knowledge sharing.
2010	Louis, K. S., Leithwood, K., Wahlstrom, K., & Anderson, S.	Learning from leadership project: Investigating the links to improved student learning.	The research team administered an in-depth research literature review organized based on the framework emanated from the organizational psychology and sociology empirical studies, which presumed the essential variances as staff performance, capacity, motivation, commitment as well as the work environment and societal influence.	Qualitative	Their findings implied the state and district leadership, policies, practices interoperated with one another but imposed a direct impact on school leadership behaviors and teaching practices as well as what happened at school and within the classroom.	School leadership demonstrated a secure connection with the school, classroom and teacher condition including the culture building, planning and improvement of school, professional development and capacity enhancement of the teachers, in addition to the content and progress monitoring of instruction, which engendered a direct impact to student learning besides the background of the student/family.
2013	Metropolitan Life Insurance	The MetLife Survey of the	The purpose of the study was to	Mixed method	Their findings showed meeting the needs of	Their study also suggested a decline in teacher job satisfaction by 23%

	Company & Harris Interactive Inc.	American teacher: Challenges for school leadership.	procure the points of view from the experienced educators who worked closely with our students and were held accountable for their achievement results while dealing with the rising expectations and constrained resources to strengthen the performance outcomes.		the diverse learners and parent involvement in the education of their students were the most substantial challenges for school leaders.	since 2008, with only 39% of teachers felt very satisfied with their work, the lowest percentage of the last 25 years. Overall, principals and teachers had very similar perspectives of the leadership challenges in our current education, especially in responding to the implementation of 21st century Common Core Standards.
2013	Smith, I., & Addison, C.	The "new" school leader: Training instructional leaders for a new generation of teachers and learners	The purpose of the initial study was to investigate the participants' perspectives of the program design model to prepare for an encompassing study of its impacts on student success later in the entire research project.	Quantitative	The results confirmed the majority of the participants agreed that the program had prepared them with a deeper understanding of analyzing essential school data to make informed decisions as well as offer them the curriculum and teaching resources necessary to elevate their abilities to support and lead instructionally.	Although the results of the district's experimental effort to create the *new leaders* will take years to reveal, the research team has planned to follow its progress and report its findings periodically.
2014	Ahmad, F., Abbas, T., Latif, S., & Rasheed, A.	Impact of transformational leadership on employee motivation in the	Their hypotheses were based on the association of the employee's motivation with the	Quantitative	Their results indicated a prevalent and positive relationship between transformational	Charismatic leaders who displayed transformational leadership aptitudes with a clear vision and inspiring meaningful purpose could effectively communicate, support

		telecommunication sector.	critical transformational leadership elements, the four I's, *Inspirational motivation, Idealized influence, Individualized consideration,* and *Intellectual stimulation.*		leadership and staff motivation.	and most fundamentally, motivate their staff at work.
2015	Quin, J., Deris, A., Bischoff, G., & Johnson, J. T.	Comparison of transformational leadership practices: Implications for school districts and principal preparation programs.	The hypothesis of their study was grounded on Kouzes and Posner's (2007) position that transformational leaders could create exemplary changes and effective reform in an organization.	Quantitative	The results indicated principals in the top-performing schools consumed more of the Kouzes and Posner's exemplary leadership practices than the low performing schools.	They recommended the transformational leadership model for the leadership preparation course as well as the district's professional development programs to empower leaders to exercise successful school reform for an optimal student achievement result.
2015	Allen, N., Grigsby, B., & Peters, M. L.	Does leadership matter? Examining the relationship between transformational leadership, school climate, and student achievement.	The study was to investigate the linkages between transformational leadership, the climate of the school, and student academic performance.	Quantitative	It concluded a statistically significant positive relationship between transformational leadership and school climate.	No strong association of student achievement linked through either transformational leadership or school climate, which implied and encouraged more future studies examining the principal's leadership impacts on student achievement to determine the factors to effectively and productively increase student learning and performance results.
2016	Eriksson, F., By, L., & Jonsson, C.	Transformational leadership's effect on motivation and trust : A case	The team undertook a case study to investigate the impacts of transformational	Mixed method/case study	Support, empowerment, and commitment were the most significant factors for trust-	Both trust and motivation contributed to a positive relationship.

		study of Volvo sales region EMEA (Dissertation).	leadership on trust and motivation for knowledge sharing so the organization can benefit from the completive advantage.		building while praise, empathy, challenges with encouragement and feedback led to higher motivation.	
2016	Boberg, J. E., & Bourgeois, S. J.	The effects of integrated transformational leadership on achievement.	The study is to examine an integrated transformational leadership model through the lens of the following three mediators, teacher capacity as collective teacher efficacy (CTE), teacher's extra effort as organizational citizenship behaviors, and student engagement.	Quantitative	Their findings indicated the effects of leadership were mediated by CTE and student engagement.	It also suggested an integrated transformational leadership model with an emphasis on leadership behaviors to support instructions could optimize its impact on student achievement.
2017	Ogola, M. G. O., Sikalieh, D., & Linge, T. K.	The influence of individualized consideration leadership behavior on employee performance in small and medium enterprises in Kenya.	The researchers investigated the impacts of intellectual stimulation leadership approaches on work performance among the top 100 small and medium businesses in Kenya.	Quantitative	The result indicated a significant correlation between intellectual stimulation leadership behaviors and job performance.	It suggested that leader's encouragement and advocacy for divergent thinking to cultivate a climate of learning and creativity for innovations and intellectual stimulation could positively influence the achievement outcome of the employees in the modern digital world we are currently living in.

Appendix B: License for Remote Online Survey License & MLQ Form 6S

Multifactor Leadership Questionnaire™

Instrument (Leader and Rater Form)

and Scoring Guide

by Bruce Avolio and Bernard Bass

Published by Mind Garden, Inc.

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Multifactor Leadership Questionnaire (MLQ) Form 6S

INSTRUCTIONS: This questionnaire provides a description of your leadership style. Twenty-one descriptive statements are listed below. Judge how frequently each statement fits you. The word others may mean your followers, clients, or group members.

KEY
0 - Not at all   1 - Once in a while   2 = Sometimes   3 = Fairly often   4 = Frequently, if not always

1. I make others feel good to be around me..0 1 2 3 4
2. I express with a few simple words what we could and should do. 0 1 2 3 4
3. I enable others to think about old problems in new ways............................0 1 2 3 4
4. I help others develop themselves..0 1 2 3 4
5. I tell others what to do if they wan t to be rewarded for their work. 0 1 2 3 4
6. I am satisfied when others meet agreed-upon standards..............................0 1 2 3 4
7. I am content to let others continue working in the same ways always............0 1 2 3 4
8. Others have complete faith in me..0 1 2 3 4
9. I provide appealing images about what we can do..0 1 2 3 4
10. I provide others with new ways of looking at puzzling things. 0 1 2 3 4
11. I let others know how I think they are doing. 0 1 2 3 4
12. I provide recognition/rewards when others reach their goals......................0 1 2 3 4
13. As long as things are working, I do not try to change anything. 0 1 2 3 4
14. Whatever others want to do is OK with me 0 1 2 3 4
15. Others are proud to be associated with me. 0 1 2 3 4
16. I help others find meaning in their work. 0 1 2 3 4
17. I get others to rethink ideas that they had never questioned before................0 1 2 3 4.
18. I give personal attention to others who seem rejected....................................0 1 2 3 4
19. I call attention to what others can get for what they accomplish...................0 1 2 3 4
20. I tell others the standards they have to know to carry out their work............0 1 2 3 4
21. I ask no more of others than what is absolutely essential................................0 1 2 3 4

SCORING
The MLQ-6S measures your leadership on seven factors related to transformational leadership. Your score for each factor is determined by summing three specified items on the questionnaire. For example, to determine your score for factor 1, Idealized influence, sum your responses for items 1, 8, and 15. Complete this procedure for all seven factors.

TOTAL

Idealized influence (items 1, 8, and 15)	_____ Factor 1
Inspirational motivation (items 2, 9, and 16)	_____ Factor 2
Intellectual stimulation (items 3, 10, and 17)	_____ Factor 3
Individual consideration (items 4, 11, and 18)	_____ Factor 4
Contingent reward (items 5, 12, and 19)	_____ Factor 5
Management-by-exception (items 6, 13, and 20)	_____ Factor 6
Laissez-faire leadership (items 7, 14, and 21)	_____ Factor 7

Score range: HIGH = 9-12, MODERATE = 5-8, LOW = 0-4

Multifactor Leadership Questionnaire (MLQ) Form 6S

SCORING INTERPRETATION

Factor 1 – IDEALIZED INFLUENCE indicates whether you hold subordinates' trust, maintain their faith and respect, show dedication to them, appeal to their hopes and reams, and act as their role model.

Factor 2 – INSPIRATIONAL MOTIVATION measures the degree to which you provide a vision, use appropriate symbols and images to help others focus on their work, and try to make others feel their work is significant.

Factor 3 – INTELLECTUAL STIMULATION shows the degree to which you encourage others to be creative in looking at old problems in new ways, create an environment that is tolerant of seemingly extreme positions, and nurture people to question their own values and beliefs of those of the organization.

Factor 4 – INDIVIDUALIZED CONSIDERATION indicates the degree to which you show interest in others' well-being, assign projects individually, and pay attention to those who seem less involved in the group.

Factor 5 – CONTINGENT REWARD shows the degree to which you tell others what to do in order to be rewarded, emphasize what you expect from them, and recognize their accomplishments.

Factor 6 – MANAGEMENT-BY-EXCEPTION assesses whether you tell others the job requirements, are content with standard performance, and are a believer in "if it ain't broke, don't fix it."

Factor 7 – LAISSEZ-FAIRE measures whether you require little of others, are content to let things ride, and let others do their own thing.

Appendix C: Introduction Email with Survey and Research Consent

Dear OC Educational Leaders:

I am currently working on my doctoral dissertation study regarding the correlation between leadership styles and student academic performance on the SBAC testing. The following link includes a 21- item leadership style survey and a few background information questions, which should take you less than 10 minutes to complete.

I sincerely appreciate your assistance in helping a colleague to successfully accomplish an arduous but salient task in her academic journey. Your confidentiality is the highest priority for my research study. All identifiable data, such as the name of the school, are secured and well-protected from the public knowledge. No data will be analyzed by an individual person, school, or district. You will not be asked to provide your name in this survey.

Please do not hesitate to contact me if you have any further questions or concerns. I greatly appreciate your help and support. Enjoy a wonderful summer break!

Please click on the survey link here: **10-minute Leadership Style Survey**

Or copy and paste the URL to your browser: https://rb.gy/elwjsw

Research Introduction and Consent Form

Title of the Dissertation Study: The Relationship between Transformational Leadership and Student Achievement: A Correlation Study
Researcher: Shao-Hui (Christina) Lin
Institution: Concordia University, Irvine

Explanation of Procedures
Before agreeing to participate in this research, I strongly encourage you to read the following explanation of this study. This statement describes the purpose and procedures of the study. Also described is your right to withdraw from the study at any time. This study has been considered exempt by the Institution Review Board on June 21st, 2020. The dissertation study is designed to examine the relationship between principals' transformational leadership and student achievement on the statement assessment. I am conducting this study to learn more about the following research questions:

What is the relationship between the principals' transformational leadership factors and their student achievement data on the California state assessment?

Risks and Discomforts

There shall be a minimum risk or discomfort anticipated from your participation in the study. Potential risks or discomforts may involve possible emotional feelings of anxiety about the indication of one's leadership impact on the school's academic performance. However, the study is to examine the correlation between leadership style and student achievement. That is to say, the purpose of the study is not to imply a cause and effect relationship between the two. Additionally, no principal's leadership style and the assessment data of the respective school will be analyzed and reported individually.

Benefits
The anticipated benefit of participation is the opportunity to examine the relationship of the principals' leadership styles and student academic achievement on the state testing in order to deepen the understanding of factors that may or may not be relevant to enhancing student academic success to improve school efficacy.

Confidentiality
The information gathered during this study will remain confidential in secure premises during this project. Only the researcher will have access to the data. In addition, there will not be any identifiable school names on the data analyzing sheet. The information will be coded as Principal A and School A, for example. The document with the keys to the codes will be encrypted and saved locally with a passcode in one personal laptop and destroyed at the completion of the study. Also, the correlation study focuses on analyzing the result in its entirety instead of the individual school/leader data. Therefore, no individual principal's name will be collected for the study. Any identifiable details will never be revealed in any publication of the results of this study. The results of the research will be published in the form of a research paper and may be published in a professional journal or presented at professional meetings. The knowledge obtained from this study will be of unique value in guiding professionals to be more effective in supporting principals in achieving greater student academic success.

Withdrawal without Prejudice
Participation in this study is voluntary; refusal to participate will involve no penalty. You are free to withdraw consent and discontinue participation in this project at any time without prejudice or penalty. You are also free to refuse to answer any question in the survey.

Further Questions and Follow-Up
You are welcome to contact the researcher and ask any questions before, during, and after the research study. If, as a result of participating in this study, you feel the need for any further support, you are welcome to continuously reach out to the researcher.

==

I have read the above information. I understand that I am free to refuse to answer any question and to withdraw from the study at any time. I understand that my responses will be kept anonymous.

Please check the appropriate box regarding the consent permission.

        Yes. I consent.

No. I do not consent.

Researcher contact information:
Shao-Hui (Christina) Lin

Appendix D: Academic Indicator Five-by-Five Colored Tables

Academic Indicator Five-by-Five Colored Tables

English Language Arts/Literacy Assessment Five-by-Five Colored Table for Grades 3–8

Performance Level	Declined Significantly from Prior Year (by more than 15 points)	Declined from Prior Year (by 3 to 15 points)	Maintained from Prior Year (declined by less than 3 points or increased by less than 3 points)	Increased from Prior Year (by 3 to less than 15 points)	Increased Significantly from Prior Year (by 15 points or more)
Very High +45 points or higher in Current Year	Green	Green	Blue	Blue	Blue
High +10 to +44.9 points in Current Year	Green	Green	Green	Green	Blue
Medium -5 points to +9.9 points in Current Year	Yellow	Yellow	Yellow	Green	Green
Low -5.1 to -70 points in Current Year	Orange	Orange	Orange	Yellow	Yellow
Very Low -70.1 points or lower in Current Year	Red	Red	Red	Orange	Orange

English Language Arts/Literacy Assessment Five-by-Five Colored Table for Grade 11

Performance Level	Declined Significantly from Prior Year (by more than 15.1 points)	Declined from Prior Year (by 3 to 15 points)	Maintained from Prior Year (declined or increased by 2.9 points or less)	Increased from Prior Year (by 3 to less than 14.9 points)	Increased Significantly from Prior Year (by 15 points or more)
Very High +75 points or higher in Current Year	Green	Green	Blue	Blue	Blue
High +30 to +74.9 points in Current Year	Green	Green	Green	Green	Blue
Medium -0.9 point to +29.9 points in Current Year	Yellow	Yellow	Yellow	Green	Green
Low -1 to -45 points in Current Year	Orange	Orange	Orange	Yellow	Yellow
Very Low -45.1 points or lower in Current Year	Red	Red	Red	Orange	Orange

Mathematics Assessment Five-by-Five Colored Table for Grades 3–8

Performance Level	Declined Significantly from Prior Year (by more than 15 points)	Declined from Prior Year (by 3 to 15 points)	Maintained from Prior Year (declined by less than 3 points or increased by less than 3 points)	Increased from Prior Year (by 3 to less than 15 points)	Increased Significantly from Prior Year (by 15 points or more)
Very High +35 points or higher in Current Year	Green	Green	Blue	Blue	Blue
High 0 to +34.9 points in Current Year	Green	Green	Green	Green	Blue
Medium -25 points to less than 0 points in Current Year	Yellow	Yellow	Yellow	Green	Green
Low -25.1 to -95 points in Current Year	Orange	Orange	Orange	Yellow	Yellow
Very Low -95.1 points or lower in Current Year	Red	Red	Red	Orange	Orange

Mathematics Assessment Five-by-Five Colored Table for Grade 11

Performance Level	Declined Significantly from Prior Year (by more than 15.1 points)	Declined from Prior Year (by 3 to 15 points)	Maintained from Prior Year (declined or increased by 2.9 points or less)	Increased from Prior Year (by 3 to less than 14.9 points)	Increased Significantly from Prior Year (by 15 points or more)
Very High +25 points or higher in Current Year	Green	Green	Blue	Blue	Blue
High 0 to +24.9 points in Current Year	Green	Green	Green	Green	Blue
Medium -0.1 to -60 points in Current Year	Yellow	Yellow	Yellow	Green	Green
Low -60.1 to -115 points in Current Year	Orange	Orange	Orange	Yellow	Yellow
Very Low -115.1 points or lower in Current Year	Red	Red	Red	Orange	Orange

Appendix E: Sample of Change Index on the California School Dashboard