A Framework for Executive Leadership of Continuous Improvement in K-12 Public School Districts: Learning from Research and Practice

---

A Capstone Project

Presented to

The Faculty of the Curry School of Education and Human Development

University of Virginia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

By

Christina J. Dixon, B.A., M.Ed.

EXECUTIVE SUMMARY

Executive leaders play critical roles in transforming their organizations to create systems that have the capacity to continuously and sustainably improve. Across the field of education, however, little is known about the role of K-12 leaders in creating the conditions for continuous improvement in their districts. In this study I sought to begin to fill that gap by building a testable, research-based framework that offers a theory of what executive leaders of exemplary K-12 public school districts think, do and focus on to create the conditions for continuous improvement that produce district-wide improvements in student outcomes.

I conducted this study in three phases. I began with developing a draft conceptual framework, then carried out case studies of two continuously improving K-12 public school districts and concluded with a revision of the framework based on findings from the case studies.

I based this study's initial conceptual framework on the "three interdependent dimensions of high-impact leadership" (Swenson, Pugh, McMullan & Kabcenell, 2013, p. 6): how leaders think (mental models), what leaders do (high impact behaviors), and where leaders focus efforts. Using an adaptation of framework-based synthesis (Dixon-Woods, 2011), I conducted a review of current research-based knowledge about system-level leadership that creates the conditions for continuous improvement and ultimately drives district-wide improvement in student outcomes (Dixon & Eddy-Spicer, 2019). Given that the current research base on this topic in education is quite limited, I considered literature from multiple sectors.

Guided by the synthesis of the literature, I then investigated the nature of such leadership within two exemplary K-12 school districts. I used the strategy of "reputational case selection" (Goetz & LeCompte, 1984, as cited in Miles, Huberman & Saldana, 2014, p. 3) to select Dr. Patricia Greco, Superintendent of School District of Menomonee Falls in Wisconsin, and Mr. Matthew Navo, Superintendent of Sanger Area School District in California to participate in the study. Within each district, I identified continuous improvement officers (CIOs) (e.g. Assistant Superintendent, Chief Improvement Officer) and school-level leaders (e.g. Principal, Assistant Principal) through a snowball sampling method (Atkinson & Flint, 2001). I then conducted individual, semi-structured interviews with each superintendent, and with four district-CIOs and three school-level leaders from their districts.

I analyzed data and compared findings from the superintendents, CIOs and principals, first within role groups, then within each case and finally across roles and contexts. I then compared the findings from the cases with the literature reviewed to highlight convergent and divergent perspectives, and analyzed them further to consolidate what is currently known based on research and practice.

Overall, findings from Menomonee Falls and Sanger regarding how leaders think, what they do, and where they focus their efforts showed substantial alignment with the domains identified in the literature, although the findings from Menomonee Falls matched the initial framework more closely than those from Sanger. I summarized the most credible findings across all sources to produce a revised conceptual framework for district-level leadership of continuous improvement in education. These findings are illustrated in the figure below:

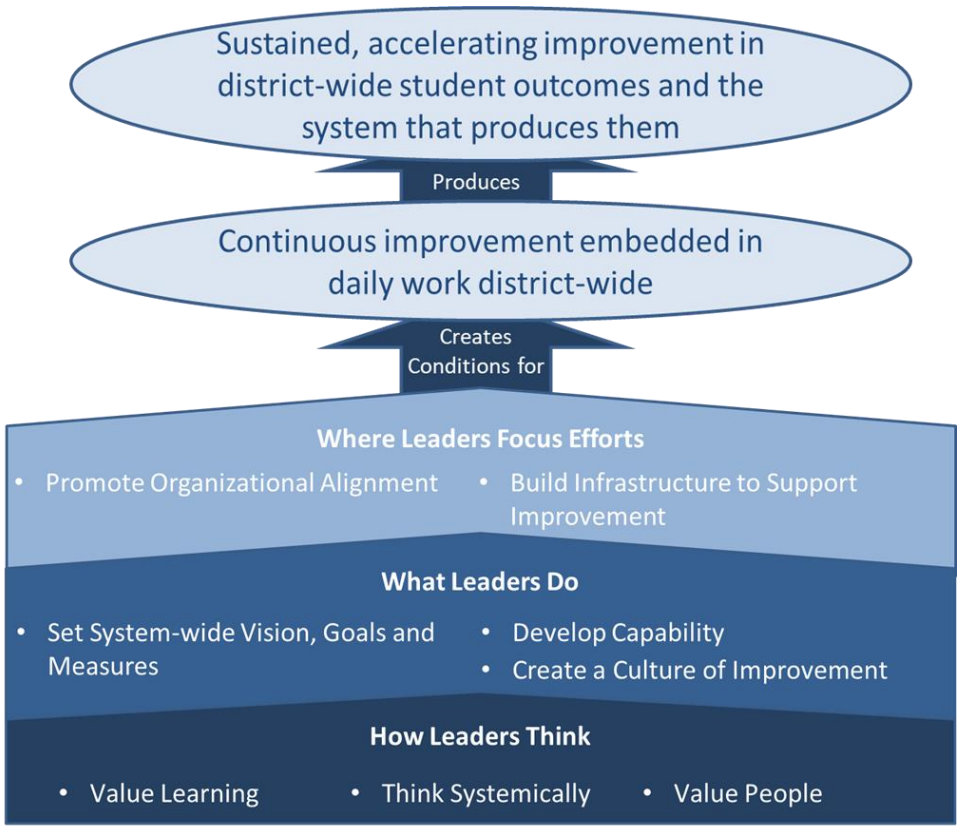


Figure 1. Conceptual framework for district-level leadership of continuous improvement.

I concluded with a discussion of the limitations of this study and the framework itself, and made recommendations for future inquiry and action to grow effective executive leaders of continuous improvement in education.

Keywords: continuous improvement, district-level leadership, superintendent, improvement science, leadership framework

Christina Dixon, M.Ed.
Department of Leadership, Foundations, and Policy
Curry School of Education and Human Development
University of Virginia
Charlottesville, VA

APPROVAL OF THE CAPSTONE PROJECT

This capstone project, "A Framework for Executive Leadership of Continuous Improvement in K-12 Public School Districts: Learning from Research and Practice," has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Education.

_____
Capstone Chair (David Eddy-Spicer, Ed.D.)

_____
Capstone Committee Member (Pamela Tucker, Ed.D.)

_____
Capstone Committee Member (Michelle D. Young, Ph.D.)

_____
Capstone Committee Member (Donald J. Peurach, Ph.D.)

May 13, 2019
Date of Defense

DEDICATION

To my beloved father, Gregg Woodford Dixon, and grandmother, Frances Augusta Woodford Dixon. Through their words and example, they taught me the power of education to change lives.

To every person who works to empower each child with the knowledge, skills and habits to lead a fulfilled life.

ACKNOWLEDGEMENTS

This capstone represents a milestone in a life-long learning journey for which I am deeply grateful. It has been an honor and a privilege to learn from and with passionate improvers working every day to make systems better for the people they serve.

This capstone would not have been possible without the incredibly generous contributions of time, insights and wisdom from the inspiring leaders in Menomonee Falls, WI and Sanger, CA. I am humbled by and deeply appreciative of the opportunity to learn from their example. Thank you to Dr. Pat Greco, Corey Golla, Sarah Doerr, Rick Fechter, Chris Carlton, Lynn Grimm, Jeff Nennig, Tina Posnanski and Suzy Thomas in Menomonee Falls, and Matt Navo, Adela Jones, Karl Kesterke, Tim Lopez, Eduardo Martinez, Stephanie Rodriguez, Kimberly Salomonson, Jared Savage and Fairmont Elementary team in Sanger. You and your district colleagues are leading the way forward for our field.

I would like to extend special thanks to my UVA colleagues: to the ExSEL program faculty for creating a thoughtfully designed, high quality, student-centered learning experience from start to finish; to my advisor, Dr. David Eddy-Spicer, whose shared love of improvement science, encouragement, collegiality and insightful feedback made this capstone possible; and to my cohort members – Pam, Staci, Crystal, Craig, Jennifer, Eileen, Jamie, Chris, Sue, Mark and Nick – who have inspired and supported me every step of the way.

I am grateful to my outstanding colleagues at the Carnegie Foundation for the Advancement of Teaching for fully supporting me in pursuing a doctorate while working

full time, for cheering me on during the ups and down of the process, and for opening many doors of opportunity to learn with and from diverse groups of scholars and practitioners who share a commitment to 'Learning to Improve.' Your work is a priceless gift to our field.

Thank you to my colleagues at Value Capture, True North Institute, Bedford Area School District, the Women's Center and Shelter of Greater Pittsburgh, Summerbridge and Bank Street College, and to those working within the wider improvement community. You have inspired and supported my own improvement journey over the past two decades while making the world a better place.

I am incredibly appreciative of all of the help and encouragement extended by our family and friends over the past four years. You are generous, kind, intelligent and beautiful humans and you provided support in all of the ways I truly needed. Thank you! Special thanks to the Carrolls for graciously welcoming me into your home as family month after month so that I could attend class.

Finally, I am forever grateful for my husband, Geoff, and son, Julian, who bring incredible joy to my life every day. Your unwavering encouragement ("Go, go go!"), flexibility, understanding and commitment to our family's well-being got me through. I love you both more than words can say and I am so excited to have more time together.

TABLE OF CONTENTS

Page

LIST OF TABLES xiii
LIST OF FIGURES xv
SECTION ONE: INTRODUCTION 1
Context 2
Problem 6
Purpose of the Study 7
Research Questions 8
Methodology 8
Role of the Researcher 9
Delimitations and Limitations 10
SECTION TWO: REVIEW OF LITERATURE 11
Defining Improvement Science and Continuous Improvement 12
Improvement science 12
Continuous improvement 15
Framework and Methods 18
Literature Review 20
How leaders think. 24
What leaders do 28
Where leaders focus efforts. 34
Conceptual Framework 38
SECTION THREE: METHODOLOGY 41
Introduction 41
Research Questions 41
Research Design 42
Approach and rationale 42
Site selection 43

Study contexts 44
Data sources 47
Data Collection 49
Data collection methods: Interviews 49
Data collection methods: Documents 51
Data Analysis 51
Data analysis: Interviews 53
Data analysis: Documents 54
Theory building and testing 54
Research Ethics 55
Researcher Bias 56
Summary 56
SECTION FOUR: POSITION PAPER 58
Findings 58
Superintendent Overview 58
School District of Menomonee Falls 58
Sanger Unified School District 60
How Leaders Think 62
Think: Executive leader, CIO and principal perspectives (RQ1 and RQ2) 64
Think: Comparing perspectives across roles and districts (RQ3) 75
What Leaders Do 78
What leaders do: Executive leader, CIO and principal perspectives (RQ1 and RQ2) 80
What leaders do: Comparing perspectives across roles and districts (RQ3). 113
Where Leaders Focus Efforts 115
Focus on: Executive leader, CIO and principal perspectives (RQ1 and RQ2) 118
Focus on: Comparing perspectives across roles and districts (RQ3) 137
Discussion 139
Patterns across framework domains, districts and roles 140
What leaders think: A synthesis 145
Revised framework: How leaders think 150

What leaders do: A synthesis 151
Revised framework: What leaders do 159
Where leaders focus efforts: A synthesis 160
Revised framework: Where leaders focus efforts 165
Working Framework 166
Limitations 169
Limitations of this research 169
Limitations of the working framework 172
Recommendations for Future Research 174
Summary 176
SECTION FIVE: ACTION COMMUNICATIONS 177
Social Learning Seminar (SLS) Meeting Invitation 178
Social Learning Seminar (SLS) Agenda 179
Social Learning Seminar (SLS) Paper 181
REFERENCES 210
APPENDICES 217
Appendix A: Superintendent Recruitment Email 217
Appendix B: Superintendent Recruitment Script 219
Appendix C: Continuous Improvement Officer and Principal Recruitment Email . 221
Appendix D: Continuous Improvement Officer and Principal Recruitment Script . 222
Appendix E: Superintendent Interview Protocols 223
Appendix F: Continuous Improvement Officer and Principal Interview Protocol .. 230
Appendix G: Continuous Improvement Officer and Principal Interview Agenda .. 234
Appendix H: Initial Code List 235
Appendix I: Informed Consent Agreement: Superintendents 238
Appendix J: Informed Consent Agreement: Central Office Leaders & Principals 241

LIST OF TABLES

Table Page

1. Data Sources to Answer Research Questions 48
2. Data Sources, Methods and Analyses 52
3. Summary: What Executive Leaders Think to Create the Conditions for Continuous Improvement – High Level 63
4. Summary: Value Learning Key Concepts 70
5. Summary: Value People Key Concepts 75
6. Summary: What Executive Leaders Do to Create the Conditions for Continuous Improvement – High Level 78
7. Summary: Set System-wide Vision, Goals and Measures Key Concepts 87
8. Summary: Develop Capability Key Concepts 102
9. Summary: Create a Culture of Improvement Key Concepts 113
10. Summary: Where Leaders Focus Efforts to Create the Conditions for Continuous Improvement – High Level 116
11. Summary: Promote Organizational Alignment Key Concepts 124
12. Summary: Build Infrastructure to Support Improvement Key Concepts 137
13. Summary: What Executive Leaders Think to Create the Conditions for Continuous Improvement - Comparison Across District and Literature Sources 146
14. Value Learning Key Concepts 148
15. Value People Key Concepts 149
16. Think Systemically Key Concepts 150
17. How Leaders Think: Key Concepts 151

18. Summary: What Executive Leaders Do to Create the Conditions for Continuous Improvement Comparison across District and Literature Sources 152

19. Set System-wide Vision, Goals and Measures Key Concepts 154

20. Develop Capability Key Concepts 157

21. Create a Culture of Improvement Key Concepts 158

22. What Leaders Do: Key Concepts 160

23. Summary: Where Executive Leaders Focus their Efforts to Create the Conditions for Continuous Improvement Comparison across District and Literature Sources 161

24. Promote Organizational Alignment Key Concepts 163

25. Build Infrastructure to Support Improvement Key Concepts 165

26. Where Leaders Focus Efforts: Key Concepts 166

27. Working Conceptual Framework for District-Level Leadership of Continuous Impovement: Key Concepts 168

LIST OF FIGURES

Figure Page

1. Three interdependent dimensions of high-impact leadership 20
2. Conceptual framework for district-level leadership of continuous improvement. 39
3. Original and revised framework domains describing how leaders think. 151
4. Original and revised framework domains describing what leaders do. 159
5. Original and revised framework domains describing where leaders focus efforts. .. 165
6. Working conceptual framework for district-level leadership of continuous improvement. 167

SECTION ONE: INTRODUCTION

Over the past 60 years, American school systems have been plagued by a never-ending onslaught of reform ideas that inevitably fall short of their promise (Bryk, Gomez, Grunow & LeMahieu, 2015; O'Day & Smith, 2016). In response to the challenges of reducing educational inequity and increasing student achievement, schools have often experienced reforms in rapid succession as one silver bullet solution fails to deliver widespread results quickly enough and gives way to the next. While these efforts have produced modest overall gains on indicators such as the TIMSS test and high school graduation rates (O'Day & Smith, 2016) and a few have created pockets of substantial improvement (e.g. Fullan, Bertani, & Quinn, 2004), history suggests that a different approach will be needed to accelerate improvement across the field of education. Schools are just not improving fast enough at a scale great enough to meet society's demands (Bryk et al., 2015).

The Carnegie Foundation for the Advancement of Teaching has led the field in advocating for the use of improvement science[1] to address education's long-standing and systemic inequities. Through its work, the Foundation has come to recognize that leaders play a critical role in adopting this approach, yet little is known about the leadership behaviors that enable school district leaders to successfully lead the use of improvement science to solve problems of practice in their settings. This study sought to begin to fill

[1] Improvement science uses rapid tests of change to accelerate learning about how to improve (Carnegie Foundation for the Advancement of Teaching, n.d.), and is described in greater detail later in this section.

the gap by contributing to the education field's understanding of how leadership can best further system-wide quality improvement efforts.

This section of the capstone provides an introduction to and overview of the study. It presents background information to illuminate the context and rationale for this research, describes the problem of practice the study seeks to address, and offers an overview of the research questions and methodology.

Context

Recognizing that the historical approach to reform has failed to produce desired results, the field has begun to evolve from concentrating on the implementation of discrete innovations and the improvement of individual schools toward a focus on system-wide change as an approach to address educational problems (Hopkins et al., 2014). In *Building a New Structure for School Leadership,* Elmore (2000) argued that for schools to meet the demands of standards-based reform, they must shift from merely making change to engaging in improvement, which includes "change with direction, sustained over time, that moves entire systems" (p. 13). Isolated examples of attempts to do so have emerged from districts ranging from District #2 in New York City (Elmore & Burney, 1998) to Union City, New Jersey (Kirp, 2013-2014).

More recently, O'Day and Smith (2016) have similarly contended that "systemic causes require systemic solutions" (p. 257). They assert that the traditional approach of implementing individual interventions without attention to context is not adequate for improving the quality and outcomes of education systems overall, and advocate for continuous improvement system-wide. The results achieved by a select group of K-12 districts that have embraced methods from the field of quality improvement as catalysts

for needed systemic change support this view (e.g. Bisby et al., 2009; Park, Hironaka, Carver & Nordstrum, 2013). For example, districts ranging from urban Montgomery County, Maryland to rural Sanger, California have increased overall student achievement and graduation rates while narrowing the achievement gap using such methods (David & Talbert, 2013; O'Day & Smith, 2016; Park et al., 2013).

The Carnegie Foundation for the Advancement of Teaching has been another influential advocate for a more systematic approach to improving education outcomes grounded in quality improvement methods. Since the current Foundation President, Dr. Anthony (Tony) S. Bryk, began his tenure in 2008, Carnegie has embraced the goal of enabling educational institutions to make "significant advances in academic effectiveness, cost efficiency and human engagement" (Bryk et al., 2015, p. 5). Initially, Bryk advocated for stronger research practice partnerships (Bryk & Gomez, 2008) while also searching for promising ideas and practices in other fields that might be advantageously adopted to help address education's improvement problem. This process of "analogical scavenging" (Bryk et al., 2015, p. xiii) led the Foundation to learn about how dramatic advances in healthcare quality have been achieved through the use of improvement science. Given the many similarities between education and healthcare, Dr. Bryk came to see improvement science as a promising complement to existing knowledge about improving education systems.

According to Bryk et al. (2015), improvement science is an approach to "bring analytic discipline to design-development efforts and rigorous protocols for testing improvement ideas" (p. 6). Accordingly, it offers a method for practice to produce practical knowledge for the field. Building on the work of quality improvement

authorities such as Deming (2000), and borrowing heavily from Berwick (1996) and the Institute for Healthcare Improvement (IHI) (Bryk et al., 2015), the Carnegie Foundation developed six principles underlying the use of improvement science in education:

1. Make the work problem-specific and user-centered.
2. Focus on variation in performance.
3. See the system that produces current outcomes.
4. We cannot improve at scale what we cannot measure.
5. Use disciplined inquiry to drive improvement.
6. Accelerate learning through networked improvement communities.

(Bryk et al., 2015, pp. 12-17)

In considering how to practically apply these principles, the Foundation recognized that the current structures and political realities in schools present significant challenges to practitioners seeking to use the principles to guide improvement. Further, systemic barriers and resource constraints pose substantial challenges to achieving improvement at scale. To address these issues, the Foundation proposed leveraging the power of networks. When married with improvement science, networks could enable practitioners to accelerate and spread learning across organizational boundaries. Inspired by the work of Englebart (2004), the Foundation called this combination a Networked Improvement Community, or NIC. According to Bryk et al. (2015), a NIC is a "scientific learning community" (p. 144) in which members share a common aim, understanding of the problem they are trying to solve and a working theory of improvement. They also utilize improvement science and coordinate their efforts to accelerate and spread learning across varied contexts.

After making the theoretical case for schools to use improvement science within NICs, the Foundation sought to test this theory in practice. In 2010, it launched Carnegie Math Pathways, a community college initiative that has helped thousands of students achieve success in college level mathematics (Huang, Hoang, Yesilyurt, & Thorn, 2016). The following year, a second NIC called the Building a Teaching Effectiveness Network (BTEN) engaged two large urban school districts and a charter school network in addressing the problem of new teacher quality and retention (Bryk et al., 2015). Since then, the Foundation has built on the learning from these initial efforts to support the launch of multiple additional NICs. These communities have focused on issues ranging from increasing student agency or the percentage of National Board certified teachers to improving early literacy or late elementary math outcomes. More recently, additional education-focused organizations have launched their own NICs (Gomez et al., 2016) to try to accelerate progress in solving deeply rooted problems. As a whole, NICs have engaged a wide range of practitioners, researchers and improvement science coaches in learning together about how to improve education.

The Foundation's experiments over the past seven years have shown that NICs can enable the development and spread of practice-based knowledge about what works for whom under what conditions across a wide and varied network (Huang et al., 2016). However, developing the capacity to support this work and reap its full potential can be a challenge for participating districts. Through its partnerships with NIC members, the Carnegie Foundation has learned that leaders within school districts play a key role in creating the conditions for effective and sustainable improvement. As LeMahieu et al. (2017) explain,

> …when a problem occurs in the system (e.g. poor student outcomes), leadership has the role and responsibility to investigate systems-based causes. This involves trying to pinpoint the interactions among structures, work processes and norms that are producing the current outcomes. (p.15)

Solving system problems and improving components of the system that cause them is an important leadership responsibility in systems that continuously improve. While everyone within the system plays an important role in improvement efforts, leaders must facilitate and lead the critical examination of their systems that enables learning and improvement to occur.

Problem

The Carnegie Foundation believes that improving America's education systems to meet all students' needs requires meaningful district leadership engagement and support. Across the field of education, however, little is known about the leadership behaviors that enable school district leaders to successfully lead the use of improvement science to solve problems of practice in their settings. The role of leaders in creating the conditions for their districts to continually improve the systems that produce their current outcomes is similarly unclear. Leadership for continuous improvement[2] is poorly understood at the district level.

To date, Carnegie's efforts to develop and support district leaders as leaders of improvement have been hampered by a research-practice gap. These leadership development efforts have not been grounded in a strong research base, and both the implementation and results of these efforts have been highly variable. Building a

[2] Continuous improvement is defined by Park et al. (2013) as quality improvement embedded in the daily work of individuals across a system, and is described in more detail in Section Two.

testable, research-based framework that explicates a theory of how district-level leaders act to create conditions for continuous improvement is an important first step toward accelerating the learning of the Foundation and the broader field about how to grow and nurture effective leaders of improvement in education.

Purpose of the Study

This study seeks to contribute to the education field's understanding of how leadership can best further district-wide quality improvement efforts. It began with a synthesis of current research-based knowledge about system-level leadership that creates the conditions for continuous improvement and ultimately drives district-wide improvement in student outcomes. Literature focused on executive leadership for continuous improvement in multiple sectors was considered, both because the current research base on this topic in education is quite limited, and because literature from industry and healthcare specifically addresses the role of leaders in fostering rapid and sustained systemic improvement (Spear, 2009; Swenson, Pugh, McMullan, & Kabcenell, 2013).

Guided by the synthesis of the literature, I developed an initial framework describing how executive leaders in education create the conditions for continuous improvement. This framework then guided the investigation of the nature of such leadership within exemplary K-12 school districts through interviews with superintendents, district continuous improvement officers (CIOs) (e.g. Assistant Superintendent, Chief Improvement Officer) and school-level leaders (e.g. Principal, Assistant Principal). Findings from the literature were compared with findings from the interviews to highlight convergent and divergent perspectives. Ultimately, this research

produced a revision of the initial conceptual framework for district-level leadership of continuous improvement in education and recommendations for how the Carnegie Foundation could strengthen its strategies, processes and tools for engaging and developing executive leaders to lead effective improvement work.

Research Questions

To investigate how executive leaders can effectively lead the use of improvement science, I proposed the following primary research question: **What do executive leaders of exemplary K-12 public school districts think, do and focus on to create the conditions for continuous improvement that produce district-wide improvements in student outcomes?** My proposed sub questions to guide this inquiry were:

Sub Question 1: How do those acknowledged as effective executive leaders of district-wide continuous improvement describe what they think, do and focus on to create the conditions for such improvement in their districts?

Sub Question 2: What do district-level continuous improvement officers and school-level leaders of their districts' continuous improvement efforts identify as essential aspects of what their executive leaders think, do and focus on to create successful conditions for their improvement work?

Sub Question 3: How do the perspectives of executive leaders, district continuous improvement officers and school-level leaders compare within and across districts?

Methodology

This study proceeded through three phases. The first phase entailed the development of a draft conceptual framework. This was followed by the investigation of

two exemplary case studies and the study concluded with a revision of the framework based on findings in the field. I developed the draft conceptual framework based on the literature concerning continuous improvement, education and leadership. I then conducted semi-structured interviews to test and elaborate the framework with two superintendents of K-12 districts that have achieved district-wide continuous improvement. Using a snowball sampling method (Atkinson & Flint, 2001), I also carried out semi-structured interviews with district-level continuous improvement officers and school-level leaders of each district's improvement efforts. These interviews focused on pinpointing what executive leaders think, do and focus on that participants identified as most critical to their success in improving. I also collected and examined relevant documentation volunteered by study participants. Finally, I compared and contrasted findings from the case studies with the initial framework to develop a revised conceptual framework for executive leadership of continuous improvement within school districts.

Role of the Researcher

My interest in leadership for continuous improvement stems from working for fifteen years across multiple sectors to support organizations seeking to dramatically improve outcomes for those they serve. As a current employee of the Carnegie Foundation for the Advancement of Teaching, the topic of this research continues to be integral to my work. Furthermore, the thought leaders from the Foundation referenced in this study are also my professional colleagues, and they have influenced my thinking significantly. The perspectives of the Foundation, as well as my personal views, created

the opportunity for introducing role conflict and bias into this study. The steps I took to mitigate these risks are described in Section Three.

Delimitations and Limitations

This study focused on understanding how executive leaders create the conditions for district-wide continuous improvement in their districts. It did not address school or district leadership more generally, nor did it focus on any one of the wide range of specific continuous improvement methodologies currently used in industry and healthcare that are beginning to see adoption in the field of education.

Because the scope of this study was intentionally narrow and situated within a nascent field, results are limited by the availability of credible extant research on this topic. Furthermore, this research intentionally took a focused, deep look at a small number of successful leaders to learn from their experiences. The findings were intended to provide insights to inform the work of the Carnegie Foundation and education leaders seeking to create the conditions for continuous improvement in their districts. However, they were based upon a carefully selected but extremely limited sample and may therefore be limited in their applicability across contexts.

SECTION TWO: REVIEW OF LITERATURE

As educators experience increasing pressure to meet the "triple aim" of "greater academic effectiveness, cost efficiency and human engagement" (Bryk et al., 2015, p.18), the field has struggled to figure out how to realize these high aspirations. Recently, there has been renewed interest in understanding the practice of improvement, and how it may be integrated into the work of schools and districts, to accelerate progress toward these aims. The growing popularity of the Carnegie Foundation's Networked Improvement Community (NIC) model is but one example of a range of efforts (LeMahieu, Bryk, Grunow & Gomez, 2017) focused on growing educators' abilities to "get better at getting better" (Bryk et al., p. i). A more salient illustration of the growing significance of improvement across the field is its inclusion in the 2015 National Policy Board for Educational Administration Professional Standards for Education Leaders. One of the ten standards states that education leaders "act as agents of continuous improvement to promote each student's academic success and well-being" (p.18), and the standards as a whole conceptualize improvement as affecting all aspects of "how education leader practice influences student achievement" (p. 4). Continuous improvement has become a professional expectation for those seeking to lead our schools into the future.

The purpose of this literature review was to examine sources at the intersection of the fields of quality improvement, education and leadership to synthesize current research-based knowledge about leadership behaviors that create the conditions for successful continuous improvement in education. The problem of practice at the heart of

this study concerns supporting leaders of K-12 districts to effectively lead the use of improvement science across their systems. Therefore, this review emphasized literature that informs the role of superintendents and their leadership teams as the systems-level leaders of school district improvement. However, because the field's infancy limits the available research, relevant findings regarding the effective leadership of quality improvement in multiple sectors and district-level improvement in education were considered. Bodies of research outside the scope of this review included literature about effective education leadership practices in general, as well as sources drawn primarily from school or classroom level contexts.

This review begins with a brief history of the practice of continuous improvement to provide context and suggest a stipulative definition of the practice, followed by a description of the method and conceptual framework employed to guide it. Next, the review of the literature is presented, organized in alignment with the conceptual framework. Finally, this section concludes with a discussion of key takeaways and connections to the problem of practice at the heart of this capstone.

Defining Improvement Science and Continuous Improvement

Improvement science. Recent increased attention to the practice of continuous improvement warrants a brief discussion of the meaning of the term and the origins of its practice. The early roots of continuous improvement can be traced back to the beginnings of quality improvement, which originated with Shewhart and his apprentices, Juran and Deming in the 1920's (Scoville & Little, 2014). Stemming from statistical process control methods that Shewhart had developed for his employer, Western Bell Electric Labs, the field of quality improvement originally focused on methods to improve

industrial production processes. After World War II, Deming was invited to provide quality improvement expertise to support economic recovery in post-war Japan, and his teaching became the foundation for Japanese quality methods such as the Toyota Production System (Scoville & Little, 2014).

In 1982, Deming condensed his learning from decades of work consulting internationally in quality and productivity management in his book *Out of the Crisis.* The theory of management he described gained popularity with American businesses throughout the 1980's as Japan's economy ascended to the ranking of second largest globally. The practice of Total Quality Management (TQM), based on Deming's teachings, spread across industry as well as other sectors, including healthcare and education. More recently Deming's System of Profound Knowledge and its four domains, described in his book *The New Economics* (2000), elaborated on his thinking, providing a common framework for those seeking to use and build on his methods. These four domains, representing the capabilities Deming believed organizations must possess to be able to continuously improve, include "appreciation for a system," "knowledge of variation," "theory of knowledge," and "psychology of change" (LeMahieu et al., 2017, pp. 7-8).

As quality improvement ideas have spread, new terms have evolved to describe the field of improvement more broadly. According to Lucas and Nacer (2015), the term 'science of improvement' "encompasses the science and practice of improvement" (p. 21) and is characterized by practices that incorporate scientific thinking, such as the 'Plan-Do-Study-Act (PDSA) Cycle'[3] (p.21). Originally coined in 1996 by Langley and

[3] A Plan-Do-Study-Act (PDSA) cycle is "a basic method of inquiry in improvement research" consisting of four steps: planning a change and making a prediction about the results of that change, making the

colleagues in their book *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*, 'science of improvement' and its shorter synonym 'improvement science' have become widely used in healthcare, social services, and more recently, education (Bryk et al., 2015; Langley et al., 2009; Lucas & Nacer, 2015).

Current examples from leading organizations building quality improvement capacity in their fields illustrate the prevalence of these terms to describe the practice of improvement. The Institute for Healthcare Improvement describes its approach to improving quality, safety, and value in healthcare as "the science of improvement" (Institute for Healthcare Improvement, n.d.). According to IHI's website,

> The science of improvement is an applied science that emphasizes innovation, rapid-cycle testing in the field, and spread in order to generate learning about what changes, in which contexts, produce improvements. It is characterized by the combination of expert subject knowledge with improvement methods and tools. It is multidisciplinary - drawing on clinical science, systems theory, psychology, statistics, and other fields. (Institute for Healthcare Improvement, n.d.)

IHI's improvement framework and methods have heavily influenced the Carnegie Foundation's work because they seemed to be particularly applicable to improving education systems (LeMahieu et al., 2017). However, the Foundation favors the term 'improvement science' to explain its similar conception of improvement. According to its website, "Carnegie advocates for the use of improvement science to accelerate how a field learns to improve. Improvement science deploys rapid tests of change to guide the development, revision and continued fine-tuning of new tools, processes, work roles and

---

change and gathering data, analyzing data and comparing the prediction with what actually happened, and making a decision about what to do based on what was learned (Bryk et al., 2015, pp. 121-122).

relationships" (Carnegie Foundation for the Advancement of Teaching, n.d.). In practice, both 'science of improvement' and 'improvement science' can be used to describe quality improvement methods in the healthcare and education fields respectively.

Continuous improvement. Given the rapid growth of quality improvement efforts in multiple fields in recent years, it is useful here to attend to the meaning of quality improvement as it is currently used across contexts. Based on their comprehensive review of relevant literature and change efforts in multiple sectors, Park et al. (2013) have described the five core characteristics of quality improvement as:

1. It is focused on system outcomes for a defined population of beneficiaries – *and* on the processes that lead to these results;
2. It uses variation in performance (including "failure") as opportunities for learning and improvement;
3. It takes a system perspective, with the understanding that systems are designed to get the results they produce, so if you want to change the results, you have to change the system;
4. It is evidence-based, including measurement of not only outcomes but processes (and resources), and this measurement is embedded in the day-to-day work of the system and its participants; and
5. It involves a specific and coherent methodology and processes. Some of the more familiar methods include PDSA (Plan-Do-Study-Act) cycles, "Six Sigma," and "Lean" (as cited in O'Day & Smith, 2016, p. 315).

With its emphasis on understanding systems, using data strategically and employing a specific improvement methodology, this definition offers practical criteria

for distinguishing between systematic quality improvement approaches and other types of improvement.

In the field of quality improvement as defined above, the term 'continuous improvement' contextualizes and defines the work of improving within an organization or system. According to Park et al. (2013), "continuous improvement is the act of integrating quality improvement into the daily work of individuals in the system…an organization would not qualify as a continuous improvement organization if it engaged in a one-off quality improvement project" (p. 5). It is this conceptualization of continuous improvement as embedding quality improvement principles and tools into work processes across a system that reflects the Carnegie Foundation's understanding of the nature of work needed to drive improvement at scale.

While the Carnegie Foundation has drawn on the field of improvement science to define continuous improvement with specificity, the term's meaning has become more variable in the field of education. Based on the oft cited example of District #2's improvement efforts in New York City, Elmore (2000) has distinguished continuous improvement from more traditional reform efforts by defining it as:

> [C]hange with direction, sustained over time, that moves entire systems, raising the average level of quality and performance while at the same time decreasing the variation among units, and engaging people in analysis and understanding of why some actions seem to work and others don't. (p.13)

Elmore's conception is similar to Park et al.'s (2013) in many ways; however it notably omits reference to embedding the tools and methods of quality improvement into the daily work of individual staff members across the system. Other education literature

describes continuous improvement even more broadly, primarily focusing on conducting multiple cycles of inquiry over a number of years to address major problems in performance (O'Day & Smith, 2016).

For the purposes of this study, the more specific Park et al. (2013) definition is used to guide the inquiry into how leaders can create the conditions for continuous improvement in their districts. The Carnegie Foundation's goal is to leverage the combined power of improvement science and networks to improve education systems to produce better student outcomes, and the problem of practice at the heart of this study focuses on understanding the district leader's role in enabling such improvement to occur. Because Carnegie's approach to continuous improvement includes a specific method, i.e. improvement science, it logically follows that the Foundation's approach to cultivating leadership should support this direction.

Given continuous improvement's systemic implications, leaders must play a vital role if the practice is to take hold. In their review of the literature on school and system improvement, Hopkins et al. (2014), describe the recent renewed focus on education systems as a focus for improvement as tightly linked to an emerging concern with system leadership. Mirroring this trend, the Carnegie Foundation's work to support systemic improvement in education has highlighted the importance of leaders' efforts in enabling effective and sustainable improvement work to occur. Similarly, the 2015 National Policy Board for Educational Administration Professional Standards has recognized that practicing continuous improvement is an essential part of how educators must work to develop the field to "promote each student's academic success and well-being" (p.18), and has charged education leaders with the professional responsibility to do so. The need

is clear, yet there is little definitive guidance about how education leaders can effectively put this standard into practice.

Framework and Methods

An adaptation of framework-based synthesis (Dixon-Woods, 2011) was selected as the approach to this literature review. Framework-based synthesis involves the selection of an initial theory that the reviewer tests against the literature through the process of review. A form of theory-driven review, this approach allowed for the testing and elaboration of patterns across a wide range of literature.[4]

The framework used to guide this synthesis is based on a model for leading improvement developed by the Institute for Healthcare Improvement (IHI). Over the course of multiple decades promoting the science of improvement to improve healthcare, IHI has recognized the importance of leadership to the success of these efforts (Swenson, Pugh, McMullan & Kabcenell, 2013). To that end, it has engaged practitioners and researchers in an ongoing effort to distill extant knowledge on effective leadership for improvement within healthcare systems.

IHI's 2013 white paper, *High-Impact Leadership: Improve Care, Improve the Health of Populations and Reduce Costs* built on decades of research and practice to describe how leaders can best focus their efforts to achieve Triple Aim[5] results (Swenson et al., 2013). This report resulted from a 90-day Innovation Project on Leadership that included a review and consolidation of prior learning, expert interviews and a convening of twelve organizational leaders recognized for their excellence in practice. In it,

[4] An earlier version of this literature review appeared in Dixon and Eddy-Spicer (2019).

[5] IHI defines the Triple Aim of healthcare as "improving the experience and outcomes of care provided and reducing the cost of care for the populations they serve" (Swenson et al., 2013, p. 4).

Swenson et al. (2013) offered "three interdependent dimensions of leadership" (p.4): "New mental models: How leaders think about challenges and solutions," "High-impact leadership behaviors: What leaders do to make a difference," and "IHI High Impact Leadership Framework: Where leaders need to focus efforts" (p. 6).

While the detailed content offered within this framework was health-care specific and may therefore not specifically apply to education leaders, the overarching categories made sense for multiple reasons. First, it summarized IHI's essential, collective learning from experience and theory as it has sought to "motivate healthcare leaders to drive improvement and address system-wide change" (Swenson et al., 2013, p. 5), a goal which is analogous to Carnegie's goal for leadership development in education. Second, the Carnegie Foundation has drawn heavily on IHI's thought leadership about improvement in healthcare to inform its own improvement work, and therefore IHI's thinking about leadership for improvement was likely to have some use for educators seeking to lead the use of improvement science. Finally, the framework provided three helpful, general categories of practical information that could guide effective leadership for improvement to produce Triple Aim results. Given that Carnegie has defined its goal for the field as a triple aim of "greater academic effectiveness, cost efficiency and human engagement" (Bryk et al., 2015, p.18), the framework's focus on producing such results could further increase its utility. Thus, "How leaders think," "What leaders do," and "Where leaders focus efforts," depicted in the figure below, were the categories that were used to organize findings from this literature review.

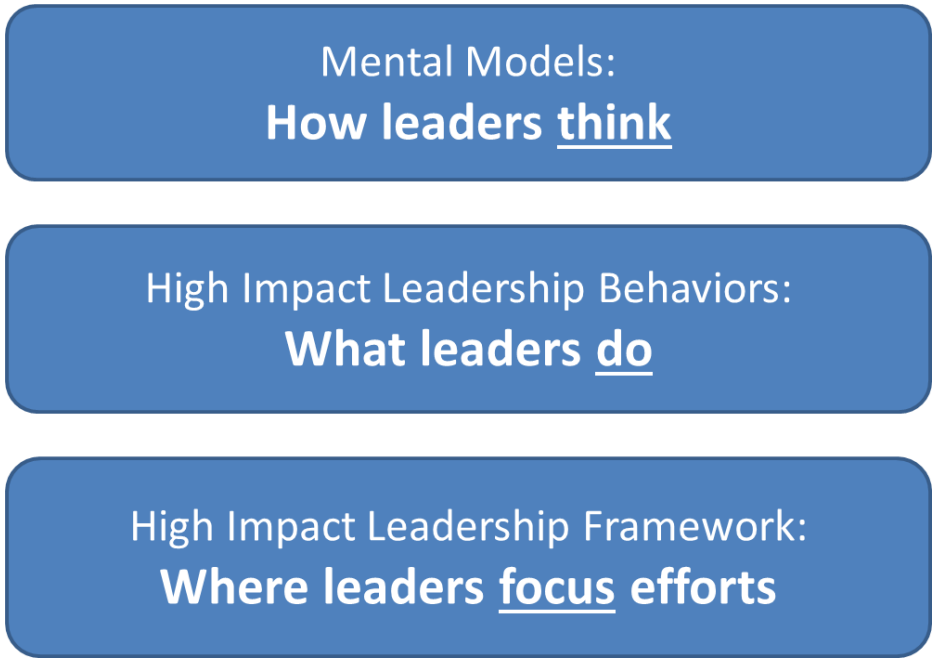


Figure 1. Three interdependent dimensions of high-impact leadership. (Adapted from Swenson et al., 2013, p. 6)

Possible sources for this literature review were initially identified through multiple methods. Scholars knowledgeable about elements of the research questions were consulted for their recommendations for relevant literature. Simultaneously, searches using combinations of targeted key words, including "superintendent," "district leader," "central office," "create conditions," and "continuous improvement," were conducted using Google Scholar. Other searches using the same terms performed in additional databases such as EBSCO primarily yielded irrelevant results. For this review, initially identified sources were scanned to determine their relevance to the inquiry, and those with more applicability were examined further to understand their content and to identify additional potential sources.

Literature Review

As noted above, this literature review drew from sources concerning quality improvement in healthcare, industry and education with a particular emphasis on the role

of systems-level leaders in creating the conditions for successful continuous improvement. The sources cited in healthcare and industry commonly drew on both research and practice to extract learning about leadership that delivers results. Notably, in addition to IHI's *High Impact Leadership* framework that serves as the conceptual framework for this review (Swenson et al., 2013), Steven Spear's *Chasing the Rabbit* (2009) drew on multiple case studies of organizations across a wide variety of industries that are outpacing their competitors in improving their ability to deliver results. Similarly, Toussaint and Ehrlich (2017) cited research on leadership for improvement, as well as their learning from working with 40 healthcare CEOs to successfully improve system performance. Works published by organizations that distilled leadership lessons from improvement literature and the practice of institutions that showed remarkable results in their field, such as the Shingo Institute, were also cited in this review.

While not specifically focused on leadership for continuous improvement in education, select studies related to answering the question of how district-level leaders act to accelerate improvement, regardless of improvement approach, were also included. The strongest of these studies focused on multiple cases over multiple years (Honig, 2013; Snipes, Dolittle & Herlihy, 2002; Togneri & Anderson, 2003). In particular, Snipes, Dolittle and Herlihy's (2002) work stood out for its comparison of practices in improving and non-improving districts as opposed to relying on the more common outlier study design. Comprehensive literature reviews that included treatment of district leadership to improve student learning (Leithwood et al., 2004), the role of district central offices in improving instruction and student achievement (MacIver & Farley, 2003) and

leadership for educational change (Schwahn & Spady, 2000) were also sources for this review.

The field of research concerning school districts intentionally engaging in continuous improvement is in its infancy, and primarily consists of individual or multiple case studies. Early contributions to the field include Elmore and Burney's (1998) thorough description of efforts in New York's District #2 over eleven years that raised overall student performance and began to close the achievement gap in literacy, and McLaughlin and Talbert's (2003) four-year longitudinal study of three California districts. McLaughlin and Talbert's (2003) research design included multi-level survey data to investigate how the districts succeeded in closing the achievement gap faster than other comparison districts across the state. More recently, Park et al.'s (2013) study is notable in the field for including a thorough, cross-sector literature review focused on clarifying a definition for continuous improvement in education. It further offers detailed, descriptive cases of school districts in Menomonee Falls, Wisconsin and Montgomery County, Maryland, both of which made early attempts at adopting continuous improvement methods district-wide. Both achieved measurable improvement in instruction and operations, with Montgomery County significantly narrowing the achievement gap, increasing Algebra 1 completion by 23 percentage points and more than doubling the number of students receiving a score of 3 or more on AP exams. David and Talbert's (2013) account of Sanger's approach to significantly outpacing California's rate of improvement on the Academic Performance Index and in increasing graduation rates among a student population that included 73% low income students and 84%

minorities also stands out for its thorough methods, including observations, document review, surveys and interviews over multiple years.

As a whole, the research in this nascent field is primarily drawn from case studies of quality improvement efforts across multiple sectors, including education. In healthcare and other industries, the breadth and depth of research supporting the findings is sizeable and draws on decades of improvement work. However, in education, the greatest limitations stem from the size of the research base and the design of the available studies. There are relatively few case studies available, and of those only a very few examine more than one district. All focus on outlier districts that have achieved notable results, many retrospectively. Furthermore, there are no cases that compare continuously improving districts with those not engaged in such work, and none focuses exclusively on the role of top district leaders and how their actions may create conditions for continuous improvement of student outcomes. In fact, as MacIver and Farley (2003) note, "most literature about the central office is either mainly descriptive or prescriptive, based on personal experiences of the authors" (p. 24). For these reasons, the available research offers some suggestive correlational evidence, but does not substantiate any cause and effect relationships between district conditions and/or leader behaviors and district-wide success in continuously improving toward a goal related to student achievement. According to Leithwood et al. (2004), "the empirical links between district policies and actions of district leaders to teacher activities in the classroom and school level…remain vague" (p. 45).

The state of the research in the field of continuous improvement in education underscores the importance of examining related sources across sectors. Where findings

from multiple studies and disciplines identify common effective leadership actions and characteristics, their strength increases with the number of cases that demonstrate a common result. Additionally, the duration and scale of the efforts outside of education make a strong case for the validity of their findings in their contexts, and beg the question of whether the learning about the nature of leadership for improvement is transferrable to education.

The following synthesis of the findings from relevant sources across sectors is framed by IHI's conceptual framework, and pinpoints where the literatures converge and conflict to describe the current state of knowledge regarding the problem of practice at the heart of this study.

How leaders think. While much of the literature reviewed concentrated on leader actions, a significant subset enumerated mental models that are conducive to effective leadership of quality improvement. Literature from healthcare, industry and education all elaborated on the common themes that leaders must *Value Learning*, *Think Systemically*, *Respect Every Individual* and *Embrace Personal Responsibility* for their organization and its performance (e.g. Berwick, 1996; David & Talbert, 2013; Lucas & Nacer, 2015; Park et al., 2013; Spear, 2009; Toussaint & Ehrlich, 2017).

Value learning. From the early days of quality improvement's application in healthcare, the importance of learning has been emphasized for all, with a special role for leadership. In his 1996 article, *A Primer on Leading the Improvement of Systems*, IHI co-founder Berwick called out the importance of leaders grasping the intimate connection between improvement, change and learning to inform their actions. Summarizing his thesis on systems leadership, Berwick asserted, "the effective leader must understand that

the road to improvement passes through change and that one efficient way to change is to learn from the actions we ourselves take" (Berwick, 1996, p. 312). Steven Spear (2009) echoes that view, concluding that leaders of continuously improving organizations must adopt the role of "Learner in Chief" (p. 294), modeling the learning mindset that must be cultivated in staff across the organization. Further explicating what it means to *Value Learning*, Toussaint and Ehrlich (2017) emphasize the importance for leaders to recognize that change is required and adopt a genuine willingness to do so, and to adopt a stance of humility and curiosity in their interactions with others. These mindsets are prerequisites for leadership behaviors that support an organizational culture of improvement, such as recognizing that leaders do not know all the answers and that they need to 'go and see' and engage in active listening to learn from front line staff.

While not specifically focused on the leader's role, Lucas and Nacer's (2015) more recent review drawing primarily on psychological literature related to healthcare improvement identifies learning as one of "five core improvement habits" (p. 8). This research reinforces the importance of ensuring that the ability to develop this habit is embedded in daily work. As "Learners in Chief" leaders are uniquely positioned to adopt this habit for themselves and create the conditions for others to do so as well.

Park et al.'s (2013) rare case study of multiple continuously improving districts also supports the need for leaders to focus on their own learning. Among the cross-cutting themes identified in their analysis was that "leaders of continuous improvement bring a learning mindset to the work" (p. 23). By valuing and modeling learning themselves, leaders in these cases contributed to creating ripe conditions for improvement within their organizations.

Think systemically. Playing a role in industry similar to that of the Institute for Healthcare Improvement in healthcare, the Shingo Institute has synthesized the thought leadership of quality experts ranging from Ford, Juran, Deming and Ohno to Senge, Covey and Womack into a model for operational excellence (Shingo, 2016). Among the principles enumerated in this model is "think systemically," which the Shingo Institute defines as "understanding the relationships and interconnectedness within and between systems" (Shingo, 2016, p. 42). Developing the ability to do this is identified as essential for those seeking to excel in their field.

Thinking systemically has also been recognized as important by improvers in the field of education. The authors of the National Policy Board 2015 standards included "adopt(ing) a systems perspective" as a key action of effective educators seeking to fulfill their school improvement standard (p. 18). Furthermore, scholars at the Carnegie Foundation have noted that within continuously improving organizations, problems of practice are understood as products of systems (Bryk, 2009, as cited in Park et al., 2013) and leaders have the responsibility to try to understand what causes their systems to produce their current results (LeMahieu et al., 2017, p. 15). From a practical perspective, the case study of Montgomery County School District's continuous improvement efforts specifically names Superintendent Weast's insistence on "looking at the system as a whole" (Park et al., 2013, p. 15) as an important success factor. Furthermore, all three organizations studied by Park et al. (2013) insisted on adopting a "systems-thinking approach" (p. 23) to their work that led them to recognize previously unnoticed interdependencies of key organizational processes. Other case studies of successful continuously improving districts similarly highlight the importance of viewing the system

as the unit of change, and make the argument that improvement of that whole system is the key to sustaining success (Bisby et al., 2009; David & Talbert, 2013; Kirp, 2013; McLaughlin & Talbert, 2003).

Respect every individual. The Shingo Institute (2016) recognizes valuing every individual and supporting them in fulfilling their potential as another key principal of operational excellence, and counsels leaders to exercise humility and trust others to make good decisions. IHI also makes the assertion, based on extensive review of the quality improvement literature and practitioner expertise, that leaders must embrace the idea that everyone in their organization is an improver (Swenson et al., 2013, p. 4). Similarly, Toussaint and Ehrlich (2017) caution that leaders must embrace the reality that their organization's greatest asset is the person on the front line.

Schwahn and Spady (2000) go further to offer an articulation of the leader beliefs that support this value in their book, *Total Leaders.* This extensive review and synthesis of literature related to quality improvement and productive, sustained change in education finds that effective leaders believe that "a tremendous amount of power lies within each person and that their role is to create work environments that let that power and capability emerge" (Schwahn & Spady, 2000, p. 20). Similarly, Sanger Unified School District in California called out respect for people, starting with district-level leadership, as an essential element of their culture supporting continuous improvement (David & Talbert, 2013). Taken together, these sources point to the need for effective leaders of improvement to truly respect every person and value their contributions and potential to grow.

Embrace personal responsibility. Throughout the literature reviewed, there is a recurring theme of leadership responsibility (Berwick, 1996; Deming, 2000; LeMahieu et al., 2017; Schwahn & Spady, 2000; Shingo, 2016; Spear, 2009). Through the lens of continuous improvement, system leaders inhabit a role that offers a systems view along with the power to effect changes in the system as needed to accelerate progress. With that positioning, many argue, comes the responsibility to act intentionally to support the improvement efforts of people within the system. As Bryk asserted in his keynote delivered at the Carnegie Foundation's 2017 Summit on Improvement in Education, "we should be haunted by the predictable failure of our systems" (Bryk, 2017). His remark called attention to the need for those with responsibility for education systems' performance to recognize that a system's design determines its outcomes. Consequently, fundamental change to the system, led by those with the power and responsibility to do so, is needed to produce reliably better results. Togneri and Anderson's (2003) finding that superintendents of rapidly improving districts accept responsibility for their district's poor performance further supports this view.

Effective leaders of continuous improvement take personal responsibility for creating the conditions for their people to work toward creating systems that support the success of every student. The actions that the literature indicates leaders must take to fulfill their responsibilities are detailed in the following section.

What leaders do. Across sectors, the literature examining approaches to leading quality improvement efforts is filled with lists of recommended actions for leaders to take. This section of the review identifies the strongest, common themes regarding effective leader behaviors for improvement that emerge from both within and outside the

field of education. These behaviors include *Setting a Vision, Purpose and Strategy Focused on Results for Students*; *Developing Capability*; *Transforming the System*; *Creating a Culture of Improvement*; and *Spanning Boundaries* (e.g. Honig, 2013; Leithwood, 2004; Park et al., 2013; Snipes et al., 2002; Spear, 2009; Togneri & Anderson, 2013).

Set a vision, purpose and strategy focused on results for students. The literature regarding leadership for quality improvement across sectors consistently identifies setting a clear direction and aligning the organization around it as an essential role of leaders (Berwick, 1996; Lunenberg, 2010; Park et al., 2013; Schwahn & Spady, 2000; Shingo, 2016; Snipes et al., 2002; Spear, 2009; Swenson et al., 2013; Togneri & Anderson, 2003). Furthermore, it is the most consistent finding across the education literature regarding what leaders do to support continuous improvement (Bisby et al., 2009; David & Talbert, 2013; Kirp, 2013; McLaughlin &Talbert, 2003; Park et al., 2013). In keeping with Deming's counsel to "create constancy of purpose" (Deming, 2000, p. 23), leaders are instructed to establish a clear and compelling aim and purpose (Berwick, 1996; Schwahn & Spady, 2000; Shingo, 2016), maintain "relentless focus" (Swenson et al., 2013, p. 86) and build will around a shared vision (Schwahn & Spady, 2000; Swenson et al., 2013). This includes aligning the organizational design and providing the conditions to support the achievement of that vision (Spear, 2009; Swenson et al., 2013).

The education literature further specifies the essential elements of a vision to drive continuous improvement in schools and districts. As previously mentioned, the National Policy Board Standards (2015) stipulate that the goal of continuous improvement is to "promote *each* student's academic success and well-being" (p. 18),

arguing that in education, the compelling purpose worthy of relentless focus across the field is to drive better outcomes for every child. Aligned with this standard, all of the cases studies of continuously improving districts identified the need for the superintendent to shepherd the establishment of a common vision and strategy that includes a long-term commitment to continuous improvement focused on improving student learning (Bisby et al., 2009; David & Talbert, 2013; Kirp, 2013; McLaughlin & Talbert, 2003; Park et al., 2013). According to these studies, goals must be unambiguous, and district leaders have the responsibility to ensure that they carefully choose a small number of well-integrated priorities and strategies that form a cohesive system for achieving those goals (Bisby et al., 2009; David & Talbert, 2013; Kirp, 2013; McLaughlin & Talbert, 2003; O'Day & Smith, 2016; Park et al., 2013).

Develop capability. The leadership behavior that figures most prominently across all of the literature reviewed is to develop the core capabilities of improvement and the skills to lead the development of such capacities in others (e.g. David & Talbert, 2013; Honig, 2013; Leithwood, 2010; McLaughlin & Talbert 2003, National Policy Board, 2015; Park et al., 2013; Spear, 2009; Swenson et al., 2013). Improvement leaders have the responsibility to both directly support the growth and learning of their people and to establish "the cascade of capability development throughout the organization" (Shingo, 2016, p. 38). Or, as Spear (2009) describes it, "they must develop those for whom they are responsible so that organizational capacity to be self-correcting, self-improving, and self-innovating is distributed and practiced widely and consistently" (p. 264).

Those promoting and engaged in continuous improvement in the field of education confirm this emphasis. The National Policy Board standards (2015) describe

effective leaders as those who develop skills and capacity, as well as promote the leadership of their staff in regard to improvement efforts. The continuously improving district case studies similarly emphasized the need for district leaders to focus heavily on capacity building for themselves and their school level staff, or as David and Talbert (2013) describe it, to "shift to leadership for learning" (p. 23). They must learn to grow principals as instructional leaders and improvers, and in turn, principals must learn to grow the capabilities of teachers (David & Talbert, 2013).

In the education literature, the focus on capacity building extends beyond the superintendent to the central office. According to multiple case studies, central offices need to engage in improving their own work to become capable of modeling the inquiry and risk-taking behavior needed for the rapid learning that continuous improvement requires (Agullard & Goughhour 2006; David & Talbert, 2013; Kirp, 2013; McLaughlin & Talbert, 2003; Park et al., 2013). Perhaps most strikingly, Honig's 2013 study of effective central office practices for helping schools to dramatically improve student learning outcomes identified "establishing superintendent and other central office leadership that will help staff continuously build their capacity for better performance" (p. 1) as a key aspect of "central office transformation" (p. 4). In her extensive observations of three school systems engaged in such transformation, Honig recognized patterns in leader behavior that included hands-on coaching and teaching of staff toward continuously improving their work to meet new system demands. The experiences of the districts studied indicate that leaders must not only provide for, but actively lead the development of their people for continuous improvement to flourish.

Transform the system. A select group of scholars identify that a key role for system leaders in enabling their organization to continuously improve toward its aims is to set a vision for changing the system, rather than merely making change within it (Berwick, 1996; Honig, 2013; Lunenberg, 2010). In his *Primer on Leading the Improvement of Systems*, Berwick (1996) asserts that leaders must challenge the status quo and advocate for a clear alternative to the current system. Interpreting Deming's teachings to guide improvement in education, Lunenberg (2010) makes a similar argument that improvement can only come from "altering the system itself, and this is primarily the job of management and not those who work within the system" (p. 4). In practice, Honig's (2013) observations of successfully transforming central offices led her to conclude that effective leadership "sets a vision for ambitious, performance oriented change that moves beyond tinkering to true transformation" (p. 9). Leaders in these central offices "scrutinize" (p. 6) current practice and eliminate work that does not support improved school outcomes, while supporting their staff in changing their work to align with desired outcomes.

Create a culture of improvement. The notion that leaders have primary responsibility for creating an organizational culture that supports improvement figures prominently in improvement literature from healthcare and industry (Kaplan, Provost, Froehle & Margolis, 2012; Shingo, 2016; Swenson et al., 2013), as well as in the majority of case studies of continuously improving districts (David & Talbert, 2013; Elmore & Burney, 1998; Kirp, 2013). Shingo's (2016) framework identifies driving and managing culture as a lever for top leaders in fostering improvement-aligned behaviors in their staff. Likewise the Model for Understanding Success in Quality (MUSIQ) in healthcare

(Kaplan et al., 2012) calls out creating a culture (values, norms and beliefs) that supports staff in pursuing quality improvement as a key factor in successful improvement efforts. Guidance for how leaders can act to create such a culture includes noticing and calling attention to specific behaviors they observe that are close to the ideal (Shingo, 2016), communicating and modeling desired behaviors (Swenson et al., 2013), ensuring transparency (Swenson et al., 2013), practicing reflection (Berwick, 1996), asking effective, open-ended questions (Toussaint & Ehrlich, 2017) and showing a willingness to change upon learning something new (Shingo, 2016).

In the field of education, the literature concerning continuously improving school districts repeatedly identifies the need for the central office to nurture a district-wide culture supportive of such improvement (David & Talbert, 2013; Elmore & Burney, 1998; Kirp, 2013), although the features of this culture deemed most important vary significantly across districts. Sanger School District in California emphasizes positive relationships, respect for people, collaboration and shared responsibility, and "reciprocal accountability" "grounded in professionalism and support rather than mandates and punishments" (David & Talbert, 2013, p. 27). Others note the importance of cultivating trust (Agullard & Goughhour 2006; Kirp, 2013; McLaughlin &Talbert, 2003), the need for transparency (Elmore & Burney, 1998) and open communication (Agullard & Goughhour, 2006).

Span boundaries. This final leadership behavior addresses the need to bridge and break down barriers across organizational silos. Lunenberg (2010) and Spear (2009) name this leadership function "boundary spanning responsibility," which Spear defines as being "system-oriented – responsible for the design and operation of processes at levels

of aggregation for which others have insufficient perspective and authority" (p. 263). Swenson et al. (2013) call this responsibility "boundarilessness" (p. 4) while recommending that leaders "model and encourage team work and systems thinking" (p. 5).

Offering a practical example of this behavior in education, Honig (2013) explains that leaders of successful central office transformation build others' capability to work across silos to solve problems. This finding aligns with Togneri and Anderson's conclusion that central offices in improving districts drive system-wide change (2003). Similarly, Park et al. (2013) observe that the district leaders in their case studies applied a "systems thinking approach to work, breaking down silos" (p. 23) to enable continuous improvement to take hold.

In addition to adopting specific mental models and behaviors, effective leaders of improvement focus their efforts for maximum impact. The next section describes the literature addressing this aspect of leadership for improvement.

Where leaders focus efforts. In regard to the question of where leaders can best direct their attention and energy to accelerate system-wide improvement, the literature suggests that leaders must work to create specific organizational conditions and structures. Within this area of focus, *Promoting Organizational Alignment* and *Creating an Effective Improvement Infrastructure* are two key areas needing targeted leader attention (e.g. Honig, 2013; David & Talbert, 2013; Park et al., 2013; Schwahn & Spady, 2000; Swenson et al., 2013).

Promote organizational alignment. Perhaps the simplest description of this focal issue comes from the Shingo Institute, which asserts that leaders ensure "that the systems

are designed so that it is easier to do the right thing than the wrong thing" (2016, p. 40). This statement implies a recognition that often work systems are not built to encourage desired behavior, and that it is the responsibility of leadership to fix this problem where it exists.

The education literature offers significant evidence of the importance of aligning district infrastructure and ensuring coherence across all elements of the instructional core for successful continuous improvement (e.g. O'Day & Smith, 2016; Snipes et al., 2002; SREB, 2010; Togneri & Anderson, 2003). Honig's (2013) study offers an example of how this can be done, as it shows that the experience of the three successfully transforming districts suggests "transformation should involve…developing and aligning performance-oriented central office services to support district-wide instructional improvement" (p. 1). As these and other continuously improving districts have learned, district offices must do the hard, ongoing work needed to engage staff across the district in aligning all structures, programs and processes with the district vision and goals, and to integrate new initiatives into the existing strategy in ways that maintain its coherence (Bisby et al., 2009; David & Talbert, 2013; Honig, 2013; Kirp, 2013; McLaughlin & Talbert, 2003; O'Day & Smith, 2016; Park et al., 2013). As Childress, Elmore and Grossman (2006) observed based on their intensive engagement with 15 improving districts across the United States, "success depends on the degree to which the strategy is implemented consistently across an entire system over several years. Doing this requires the creation of an organization whose culture, systems and structures, resources, and stakeholder relationships support the strategy" (Creating a Coherent Organization, para. 12).

One notable aspect of alignment particular to school districts concerns the role of school boards. Although it is significant that a mention of the role of school boards is absent from the many case studies of continuously improving districts, those that do address this topic make a case for the importance of solid board support to the success of a district's continuous improvement efforts. Superintendents in both Montgomery County School District, Maryland and Menomonee Falls School District, Wisconsin stressed the importance of aligning with the board around a common vision and goals (Park et al., 2013), and Sanger's district leaders described purposeful and ongoing efforts to nurture strong relationships with the school board and maintain their members' solid and sustained support for continuous improvement (David & Talbert, 2013). Reinforcing these leader perceptions, McLaughlin and Talbert's (2003) evidence from surveys and interviews showed that district administrator ratings of school board support for the reform efforts were the only context variable studied that proved to be a significant predictor of whether the district succeeded in developing the central office as a learning organization and providing instructional support to schools. Relationships between the board and district leadership appeared to matter to the effort's chances of success.

Create an effective improvement infrastructure. The literature reviewed offers multiple examples of how leaders can build organizational systems and processes to support improvement. More abstract recommendations include "integrate improvement work into daily work at all levels" (Swenson et al., 2013, p. 23) and creating and using feedback loops to improve performance (Schwahn & Spady, 2000, p. 95). More concrete recommendations common in the literature involve establishing disciplined improvement

methods, supporting the effective use of data, and developing leaders from within the district.

Disciplined improvement methods. While their specific methodologies differed, the district leaders studied established disciplined improvement processes to embed quality principles into the way work was done system-wide. Whether they conducted improvement cycles (Elmore & Burney, 1998; Park et al., 2013) or cycles of inquiry (McLaughlin &Talbert, 2003), formed improvement-focused professional learning communities (David & Talbert, 2013), or adopted the Plan-Do-Check-Act (PDCA) cycle, Six Sigma or Lean (Bisby et al., 2009; Park et al., 2013), these districts developed their people's capacity to use a shared improvement approach.

Effective use of data. Key to this approach is that "decisions must be grounded in evidence" (David & Talbert, 2013, p. 8), a requirement that needs to be supported by a robust and aligned, district-level measurement and data analysis infrastructure (Agullard & Goughhour, 2006; Kirp, 2013; McLaughlin & Talbert, 2003; Park et al., 2013). Leaders need to ensure that appropriate data systems (National Policy Board, 2015) and professional development prepare and support district personnel at all levels in making data-driven decisions (MacIver & Farley, 2003; Snipes et al., 2002; Togneri & Anderson, 2003). Specific recommended uses of data for improvement include using data to monitor progress toward goals (Park et al., 2013; Waters & Marzano, 2006); planning, organizational learning and accountability (Leithwood, 2010); and shifting the focus of evaluation to promote improvement (Park et al., 2013). This last point may represent the greatest departure from the status quo of data use in most school districts. It requires a change in focus from accountability to learning and an emphasis on formative and

process-level data as an essential complement to the more common use of summative outcomes data.

Developing leaders from within. One other key role of district leaders prominent in the experience of a couple of improving districts was the need for them to create intentional pipelines to grow new leaders from within. Recognizing that having the experience of doing continuous improvement is important to learning how to lead it effectively, Sanger Unified School District integrated a focus on leadership development into its strategy from the beginning (David & Talbert, 2013). In contrast, New York District #2 did not have such a strategy and Elmore and Burney (1998) called out that omission as a specific threat to the long term sustainability of the district's continuous improvement efforts.

In each of the areas mentioned above, district leaders have a key role to play in creating the conditions for continuous improvement within their organizations. Implications of these findings are discussed in the following section, which details a preliminary conceptual framework for district-level leadership of continuous improvement.

Conceptual Framework

While not wholly in agreement, the general convergence in the findings among the continuous improvement literatures within and outside of education suggest that the findings from both literatures may be relevant to understanding the nature of leadership for continuous improvement in public school districts. Because the evidence in education is so limited, however, additional research is needed to focus on this question specifically within the field. This study aims to help fill that gap.

In service of that aim, the findings from this literature review have been summarized in the conceptual framework illustrated in Figure 2 below. It is intended to be read from bottom to top, with each layer building on the foundation laid by the one preceding it. In its current form, it seeks to describe what executive leaders in K-12 districts must think, do and focus on to create the conditions for system-wide continuous improvement to occur in their districts, and to ultimately produce improvements toward district-wide goals for improving student outcomes and in the system that produces these results. This framework will be used to inform the design of the methods for this inquiry.

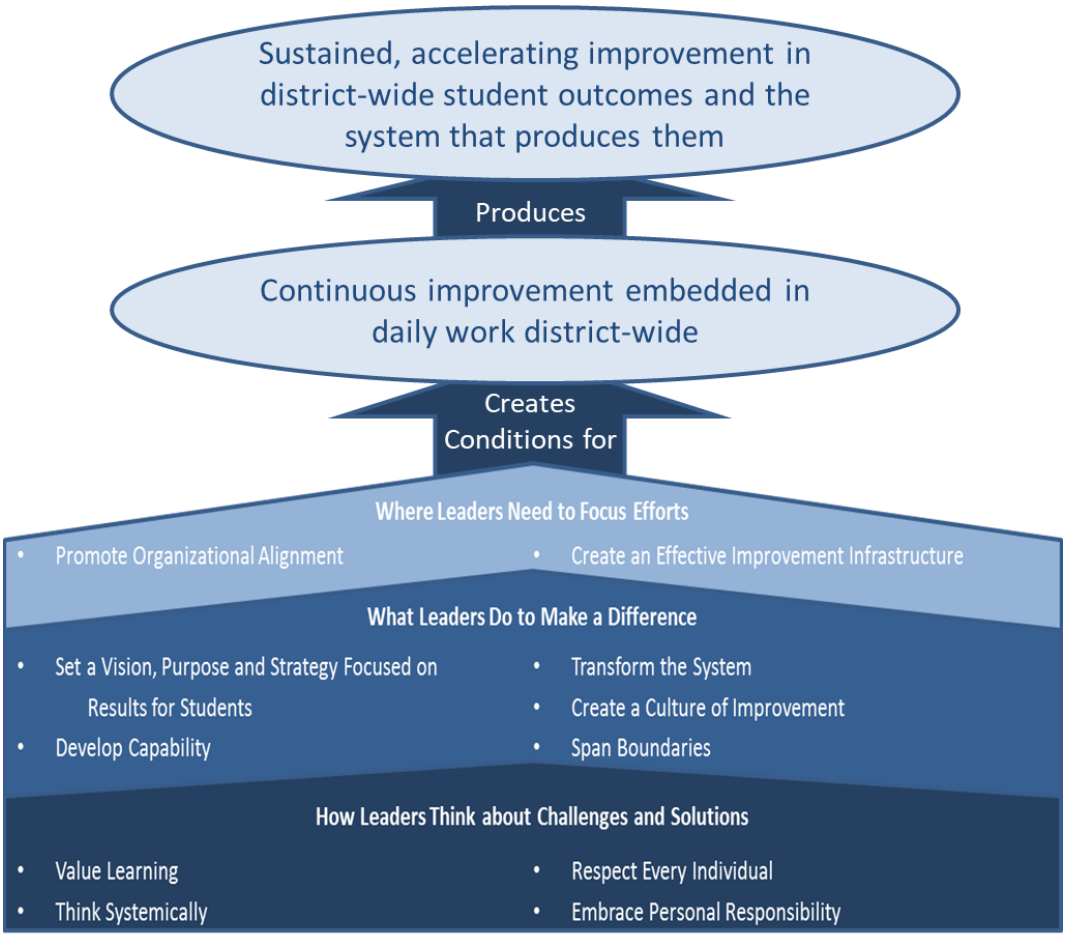


Figure 2. Conceptual framework for district-level leadership of continuous improvement.

In the next section, I will describe the methods I will use to investigate what executive leaders of exemplary continuously improving K-12 districts think, do and focus on. The results of this inquiry will be analyzed using the framework above and ultimately used to refine a conceptual framework for district-level leadership of continuous improvement that is informed by relevant research and practice.

SECTION THREE: METHODOLOGY

Introduction

This study explored the nature of executive leadership for district-wide continuous improvement in K-12 education, with the purpose of understanding the role of superintendents in creating the conditions for such improvement. Learning from this study is intended to guide the Carnegie Foundation's efforts to support and develop district-level executive leaders to successfully lead improvement efforts in their districts. Findings could also inform the work of executive leaders in education, researchers studying systemic change, and the scholarship of improvement within the field of education.

Research Questions

The research question at the heart of this capstone project was: **What do executive leaders of exemplary K-12 public school districts think, do and focus on to create the conditions for continuous improvement that produce district-wide improvements in student outcomes?** To illuminate this central question, I asked three subquestions:

Subquestion 1: How do those acknowledged as effective executive leaders of district-wide continuous improvement describe what they think, do and focus on to create the conditions for such improvement in their districts?

Subquestion 2: What do district continuous improvement officers and school-level leaders of their districts' continuous improvement efforts identify as

essential aspects of what their executive leaders think, do and focus on to create successful conditions for their improvement work?

Subquestion 3: How do the perspectives of executive leaders, district continuous improvement officers and school-level leaders compare within and across districts?

Research Design

Approach and rationale. This study consisted of three phases: 1) the development of a draft conceptual framework, 2) semi-structured interviews and document collection, and 3) data analysis and a revision of the framework based on my findings in the field. Given that there are few empirical studies on the topic of executive leadership creating the conditions for continuous improvement in public, K-12 school districts, a descriptive, exploratory approach was an appropriate choice for building knowledge about this phenomenon (Rallis & Rossman, 2012).

The study design revolved around the elaboration of an initial framework, and then testing that framework through researching two district cases via individual interviews and document analysis. Examining two cases enabled me to compare and contrast examples of executive leadership for district-wide continuous improvement, while emphasizing depth over bredth. Two 90-minute interviews with each superintendent and single 60-minute interviews with a total of seven district- and school-level leaders within each district provided a way to "to understand individual… perspectives, views and feelings" (Rallis & Rossman, p. 122), a clear focus of the research questions. Document analysis provided additional descriptive information and enabled increased validity through triangulation of perspectives. The following sections

describe site selection, interview sampling, and the identification of documents to analyze.

Site selection. The strategy of "reputational case selection" (Goetz & LeCompte, 1984, as cited in Miles, Huberman & Saldana, 2014, p. 32), in which the recommendations of knowledgeable authorities guide the choice of specific cases, was used to select the sample of superintendents to participate in this study. I first identified researchers and practitioners with knowledge of leadership for continuous improvement in education through examining sources for my literature review and conferring with professional colleagues. These experts included university professors, leaders and senior fellows at the Carnegie Foundation, and current and past school district leaders. I then consulted them for recommendations of superintendents who were leading or had led districts that: a) met the criteria for achieving district-wide continuous improvement as described by Park et al. (2013) in the literature review, and b) showed evidence of improved student outcomes district-wide.

Possible districts were then vetted to determine whether they actually met the criteria through examining published information about the districts and interviewing researchers engaged in studying them. This process led to the selection of Dr. Patricia (Pat) Greco, Superintendent of the School District of Menomonee Falls in Wisconsin, and Mr. Matthew (Matt) Navo, Superintendent of Sanger Area School District in California.[6]

[6] As discussed later in this section, all participants were presented with the option to be personally identified in the data or to have their identity kept confidential. None of the participants chose to keep their identity confidential.

Study contexts.

The School District of Menomonee Falls. The School District of Menomonee Falls' was selected for this study due to its documented, sustained improvements in student outcomes through the use of continuous improvement methods. Located northwest of Milwaukee in a predominantly middle class suburb of 37,000 people, Menomonee Falls is the third largest manufacturing community in the state and is recognized as a safe and affordable for families (School District of Menomonee Falls, 2017). The school district serves approximately 4,000 students (School District of Menomonee Falls, 2017), a student population that has remained relatively stable in recent years (Ballotpedia, n.d.). The student population includes 75% white students and 25% students of color; 15% of students receive free or reduced price lunch (Public School Review, n.d.). Additionally, the district is responsible for the community education and recreation department, which offers enrichment courses, before and after school care, athletic programs, summer enrichment for students and senior services. This department serves approximately 13,000 people per year (School District of Menomonee Falls, 2017).

Baron (2017) reports that when the school board hired Dr. Greco in July 2011, it was looking for someone to lead sustained improvement. According to a report by Grunow, Hough, Park, Willis and Krausen (2018) of Policy Analysis for California Education (PACE) and Stanford University, the district was facing significant reductions in aid combined with new revenue limits from the state imposed by newly-elected governor, Scott Walker. It had also been named one of the highest spending and most underperforming district in Wisconsin. Baron (2017) notes that there were major

disparities in achievement among racial, ethnic and income groups, and participation in Advanced Placement courses was low (Baron, 2017). Further, Grunow et al., (2018) report that the high school was not meeting No Child Left Behind requirements for special needs students, and middle school suspension rates were among the highest in the region.

Beginning in 2011, the year Dr. Greco arrived, the district's budget was cut every year in response to state demands, but improvements in operations to reduce spending in areas such as workers compensation and energy (Grunow et al., 2018) enabled the district to retain needed staff and resources for improving instruction. In 2014, the school board passed a resolution that "requires the utilization of continuous quality improvement at all levels of the organization that enhances our ability to consistently meet or exceed stakeholder requirements" (School District of Menomonee Falls, 2017, p. 1), reflecting their intention to continue to support an approach that had begun to yield positive results. Suspensions at the middle school dropped from 283 in the 2010/11 school year to 60 in the 2015/16 school year, and Advanced Placement (AP) testing participation surged from 10.6 to 35.1 percent as the passing rate increased from 61 to 75.5 percent (Grunow et al., 2018). While achievement gaps remained, the Wisconsin Measures of Academic Progress (MAP) test results indicated a 24% gain for African American students and a 7% gain for Hispanic students across grades 3 through 10 since 2011 (Baron, 2017).

Sanger Unified School District. Sanger's success in creating a culture of continuous improvement and record of improving student outcomes across the tenure of multiple superintendents were the grounds for its selection as the second case for this study. Located in a rural, agricultural community in the state's Central Valley, the

Sanger Unified School District serves 11,360 students (Sanger Unified School District, n.d.), more than 70% of whom come from low income households (David & Talbert, 2013). Eighty-four percent identify as a racial or ethnic minority, including 71% Hispanic, and 22% are English Language Learners (David & Talbert, 2013).

In 2004, seven of 20 schools in Sanger were subject to federal sanctions due to poor performance, and the district was labeled as one of the "98 lowest performing districts in the state" (David & Talbert, 2013). Further, Sanger students' scores on the district's Academic Performance Index (API) were 10 percentage points lower than the state average (David & Talbert, 2013).

Marc Johnson and Rich Smith were hired in 2004 as Sanger's Superintendent and Deputy Superintendent respectively. According to David & Talbert's report (2013), *Turning Around a High Poverty District*: *Learning from Sanger*, their approach focused on leading key cultural shifts to enable district-wide continuous improvement in student achievement year after year. By 2012, Sanger's API of 822 was significantly higher than the state average of 788, and the student sub group of English Language Learners outpaced their peers on the same measure by 56 points. The district's overall graduation rate was 97%, with a 94% rate for Latinos. Further, the annual parent survey indicated that 91% considered their child's school's quality as excellent or good (David & Talbert, 2013).

Matthew Navo, the district's superintendent from 2014 to 2018, continued the district's focus on improving student learning, and broadened the vision from raising achievement on state tests to ensuring that every student has "options and opportunities" upon graduation. Because of California's shift to align its standardized testing with the

Common Core during his tenure, year over year comparisons with student test scores before 2014 are not available. However, CAASPP (California Assessment of Student Performance and Progress) test results in English Language Arts/Literacy (ELA) and mathematics for all students grades three through 11 improved district-wide each school year from 2014-15 to 2017-18 (California Assessment of Student Performance and Progress, 2018).

Data sources. Sources for this study included 18 individual interviews, comprised of:

- two interviews with each superintendent
- one interview with each of four district-level continuous improvement officers (e.g. Assistant Superintendent, Chief Improvement Officer) in each district, and
- one interview with each of three school-level leaders (e.g. Principal, Assistant Principal) in each district.

I also collected district documents such as strategic plans, district communications and research reports for analysis. Please see Table 1 below for more details regarding how the selected data sources were intended to address the research questions.

Table 1

Data Sources to Answer Research Questions

	Individual superintendent interviews (4)	Individual interviews with district-level continuous improvement officers (8)	Individual interviews with school-level leaders (6)	Documentation
Subquestion 1: How do those acknowledged as effective executive leaders of district-wide continuous improvement describe what they think, do and focus on to create the conditions for such improvement in their districts?	X			X
Subquestion 2: What do district-level continuous improvement officers and school-level leaders of their districts' continuous improvement efforts identify as essential aspects of what their executive leaders think, do and focus on to create successful conditions for their improvement work?		X	X	X
Subquestion 3: How do the perspectives of executive leaders, district-level continuous improvement officers and school-level leaders compare within and across districts?	X	X	X	X

Interview sampling. Superintendents were invited directly by the researcher to participate in this study. (Please see Appendices A and B for sample invitation email messages and scripts.) Within each district, district-level continuous improvement officers and school-level leaders were selected via snowball sampling (Atkinson & Flint,

2001), starting with asking each superintendent for a list of district continuous improvement officers and principals who played an essential role in leading continuous improvement across the district. Those named by their superintendent were invited by the researcher to participate in individual interviews on a voluntary basis. (Please see Appendices C and D for sample invitation email messages and scripts.) Subsequently, some initial interviewees identified additional leaders of the effort, who in turn received an invitation from the researcher to volunteer for an individual interview.

***Identification of documents*.** During the individual interviews, participants were asked to share documentation that they believed helped to explain their perspectives on the research questions.

Data Collection

Data collected to answer the first research subquestion captured superintendents' perceptions of what they did to create the conditions for continuous improvement in their districts, whereas the data collected for Subquestion 2 focused on the perspectives of district continuous improvement officers and principals regarding what their executive leaders did to support them in continuously improving. Because district-wide continuous improvement required the contributions of staff throughout the organization, it was important to understand the executive leaders' role in creating the conditions for this type of improvement from varied perspectives. Subquestion 3 focused on analyzing the similarities and differences in the data within and across districts and roles.

Data collection methods: Interviews. Protocols informed by Seidman (1998) were used to conduct individual, semi-structured interviews with superintendents (see Appendix E). Tomlinson (1989) informed the design of interview protocols for the

district continuous improvement officers and principals (see Appendix F). This level of structure enabled cross-case analysis while retaining the flexibility to explore contextual details particular to specific cases.

Seidman's (1998) three interview series for in-depth, phenomenological interviewing provided the basic structure for interviews with superintendents. In Seidman's approach, the first interview focuses on the participant's life history related to the study topic, the second centers on what they actually do in their work, and the third invites them to reflect on and make sense of their experiences. This structure is particularly conducive to "understanding the experience of other people and the meaning they make of that experience" (Seidman, 1998, p. 3), which was a good match for understanding superintendents' perspectives on how they work to create the conditions for continuous improvement in their districts. Due to practical and time constraints, the first two interviews were condensed into one, and the second superintendent interview followed the structure of Seidman's third.

Tomlinson's (1989) hierarchical focusing method was used to guide the interviews with the continuous improvement officers and principals in each district. This approach is designed to address the interviewer's dilemma of needing to focus on a specific research question and simultaneously elicit the participant's authentic perspectives and definitions of issues related to the topic at hand. It is conducted by first explicating the researcher's understanding of the key elements of the interview topic in a hierarchical organization (similar to an outline format). The researcher then decides which elements to focus on in the interviews and organizes questions to address them in a visual hierarchy that facilitates a "gradual progression" from more-open ended to more

closed. The interview is performed in a non-directive manner intended to minimize researcher guidance and recorded, and then the transcript is analyzed (Tomlinson, 1989, p. 162).

Using this method, an interview agenda was constructed based on the initial conceptual framework that started with broad, open-ended questions and evolved toward more specific probing questions as needed to address the key ideas of the framework. (Please see Appendix G for the interview agenda.) This approach allowed for eliciting participant's authentic perceptions while maintaining a focus on the purpose of the study. With the informed consent of study participants, recordings were made of all interview responses. In-person interviews were captured in audio form with a voice recorder. The Zoom video conferencing application was used to perform and record interviews conducted remotely. Some of these recordings included video, but only audio recordings were used for transcription and analysis per the recommendation of reviewers at the Institutional Review Board (IRB). Following the interviews, transcriptions were provided to interviewees to verify the information.

Data collection methods: Documents. During each interview, participants were also asked to share any documentation that helped to futher explain their perspectives on the topics discussed. The documents they produced included board reports, data summaries, district communications, staff training materials, strategic plans, skills rubrics and publications about the district.

Data Analysis

Data analysis for this study involved multiple rounds of coding and analyzing the data collected. Transcripts were uploaded into the Dedoose application, which supported

coding and data analysis. Coding was completed in two rounds. In the initial round, data were coded according to an initial code list (see Appendix H) derived from the conceptual framework as well as codes emerging from the data. The second round focused on refining the codes and recategorizing data to better reflect emergent understandings. Analytic memos were used throughout the process, first to capture new understandings and patterns in the data, and then to synthesize the data to construct new meaning that would ultimately inform the revision of the conceptual framework. Please see Table 2 below for a summary of data sources, methods and analyses.

Table 2

Data Sources, Methods and Analyses

Source	Rationale	Sample	Method	Analyses
Superintendent interviews	Understand superintendents' perspectives on how they created conditions for district-wide continuous improvement	(2) Superintendents who lead continuously improving districts	Two 90 minute, semi-structured individual interviews with each superintendent	Interview responses were recorded, transcribed and coded. Analytic memos compared and contrasted results within and across districts and informed the revision of the conceptual framework for executive leadership of district-wide continuous improvement.
District-level Continuous Improvement Officer interviews	Understand perspectives of district continuous improvement officers driving district-wide continuous improvement regarding how the superintendent created the conditions for the success of these efforts	(4) District Continuous Improvement Officers within each district, for a total of 8 interviews	One 60 minute semi-structured individual interview with each district continuous improvement officer	Interview responses were recorded, transcribed and coded. Analytic memos compared and contrasted results within and across districts and informed the revision of the conceptual framework for executive leadership of district-wide continuous improvement.

Source	Rationale	Sample	Method	Analyses
School-level leader interviews	Understand perspectives of principals/ assistant principals leading continuous improvement about how superintendents created the conditions for them to succeed	(3) Principals/ assistant principals within each district, for a total of 6 interviews	One 60 minute semi-structured individual interview with each principal/ assistant principal	Interview responses were recorded, transcribed and coded. Analytic memos compared and contrasted results within and across districts and informed the revision of the conceptual framework for executive leadership of district-wide continuous improvement.
Documents	Triangulate data from documents with data from interviews to increase strength of findings	Publicly available documents and documents volunteered by interview participants during interviews	Requested and searched for documents	Documents were reviewed and used inform the analytic memos.

Data analysis: Interviews. Following each interview, I sent audio recordings to Rev.com for transcription. Upon receiving each transcript, I read through it and compared any inaudible or illogical portions with the audio recording and edited the transcript to improve its accuracy. I then sent it to the interviewee and asked them to please check it for accuracy within the next two weeks. After receiving confirmation from the interviewee or waiting the specified time, I uploaded the transcript into Dedoose for coding.

I intitially coded interview transcripts according to a code list derived from this study's conceptual framework (see Appendix H). Emergent codes were added as they became evident in the the data. In a succeeding, second round of coding, preliminary codes were revised and amended to reflect further emergent understandings, and the transcripts were reexamined and excerpts were recategorized in light of these revisions.

Data analysis: Documents. I began analysis by reading through each of the documents shared by interviewees. Based on this initial reading, I determined whether each document pertained to this study's research questions. Collected documents that were excluded from further analysis included instructional resources for specific subject areas and grade levels, departmental organizational charts and district promotional materials. Those that were deemed relevant to understanding how executive leaders create the conditions for continuous improvement in their districts were coded according to the revised codes that resulted from the second round of interview coding.

Theory building and testing. Following coding of interview transcripts and documents, I organized second round codes into categories that guided the revision of the draft conceptual framework. As part of this process, I used analytic memos to synthesize the data "into higher level analytic meanings" (Miles, Huberman & Saldana, 2014, p. 95). These memos first distilled patterns in the data which helped to answer Subquestions 1 and 2 for each district. I then compared findings from the superintendents, followed by a comparision of the two districts' findings related to Subquestion 2 to produce cross-case analytic memos for the first two subquestions. To address Subquestion 3, I considered the results of cross-role and cross-case comparisions for all roles and districts studied.

As part of this analysis, I considered the "credibility" (McGinn, 2010) of the evidence related to the various claims comprising the findings for each domain. I defined credibility in terms of relevance and frequency. Relevance consisted of mention of the same or similar ideas across districts and/or across role groups. Frequency concerned the number of times a particular concept was mentioned within an interview or document as well as across interviews and documents. All findings were reported and discussed in the

following Position Paper section of this study; however those that were based on the most credible evidence, as defined above, were selected for more detailed reporting.

In my write up of findings, I occasionally adopt participants' own words (emic concepts) to serve as a label for a more general concept. When I introduce that concept, I use double quotes to indicate that the phrasing is taken from participants themselves. If the participant's words are used as a label, I indicate this with a footnote.

Research Ethics

This study was conducted in accordance with ethical research principles, and methods were designed to minimize risk of harm. I consulted with officials from UVA's IRB office to determine how to recruit participants and how to address issues of confidentiality. I sent invitations to join in the study directly to prospective participants to reduce potential feelings of obligation to participate in a study of their district. Prior to their interviews, participants were asked to review and sign an informed consent agreement (please see Appendices I and J). As part of this agreement, participants were presented with the option to be personally identified in the data or to have their identity kept confidential. None of the participants chose to keep their identity confidential. I also obtained consent to record all interviews, transcripts were provided to participants for verification, and participants were informed of their right to withdraw from the study at any time. Finally, I provided a near-final draft of this paper to Dr. Greco, Mr. Navo, Mr. Golla, and Ms. Jones (the former and current superintendents of each district) for a member check.

Researcher Bias

As previously mentioned, I am a current employee of the Carnegie Foundation for the Advancement of Teaching, and the topic of this research is integral to my work. Furthermore, the Foundation has a distinct perspective on the nature of continuous improvement in education, which could unduly prejudice my investigation. I have also had a long–standing interest in continuous improvement as an approach to changing our education systems to better meet the needs of all students. Having worked in the field of quality improvement for over a decade, I have developed a belief that the actions of the top, formal executive leader are fundamental to creating the conditions for successful, organization-wide continuous improvement.

To reduce the impact of researcher bias, I constructed semi-structured interview protocols with the aim of eliciting the perspective of those being interviewed and reducing the influences of my preconceived ideas on their responses. I also intentionally look for evidence and findings that were discrepant with my pre-conceived views and the perspective of the Carnegie Foundation. Finally, I also consulted with knowledgeable colleagues at the Carnegie Foundation and those with improvement science and education leadership expertise in the course of analyzing and interpreting my findings.

Summary

This study sought to investigate what executive leaders of exemplary continuously improving K-12 districts think, do and focus on. Data was collected in the form of semi-structured interviews with superintendents, district-level continuous improvement officers and school-level leaders, and relevant documentation from the districts. Findings from the study were analyzed to answer the proposed research

questions and produce a refined conceptual framework for district-level leadership of continuous improvement informed by relevant research and practice. Those findings, their implications for refining the conceptual framework and the revised product are described in detail in the next section.

SECTION FOUR: POSITION PAPER

Findings

As described in the Methods section, the primary research question for this study is: **What do executive leaders of exemplary K-12 public school districts think, do and focus on to create the conditions for continuous improvement that produce district-wide improvements in student outcomes?** Three subquestions focus further on how executive leaders answer this question; how district-level continuous improvement officers and school-level leaders of district continuous improvement efforts describe what their executive leaders think, do and focus on; and comparing perspectives within and across roles and districts.

In this section, I present findings derived from analysis of the interviews and documents from Menomonee Falls and Sanger Unified School Districts. I begin with an overview and background on each superintendent and their approaches to continuous improvement in their districts. As noted in Methods, I then select the most credible findings and report them according to the overarching domains of the initial conceptual framework: *Think, Do* and *Focus*.

Superintendent Overview

School District of Menomonee Falls. Dr. Greco is a career educator who served as a classroom teacher, reading specialist, principal, central office leader and superintendent in multiple districts across the region, including a term as an elementary school principal in the School District of Menomonee Falls earlier in her career. While pursuing her Ph.D. in education, Dr. Greco recounts that she discovered the work of W.

Edwards Deming and became a student of continuous improvement and related disciplines such as systems thinking and change management. In later years, she extended her learning about leadership for operational excellence by becoming a Baldridge examiner, and cultivated a connection with the Carnegie Foundation to learn how to address what she termed "wicked" problems of practice more effectively.

When she took the reigns in Menomonee Falls, she engaged with the board and community to develop a shared vision and measures for the district's success. She also secured board support and funding for a change strategy that would involve staff and students across the whole district in learning and applying improvement thinking, methods and tools in their work. According to Dr. Greco, this intentional focus on the instructional and operational "sides of the house" reflected her perspective that system-wide improvement requires the engagement and problem solving efforts of every person in the system. One of her first steps was to engage Studer Education to support the district in defining, measuring and developing everyone to deliver "service excellence."[7] This work engaged all staff in focusing on meeting the needs of the people they served and created standards for everyone's behavior that were eventually linked to the district's performance management system. According to multiple district leaders, it served to shift the culture toward greater collaboration and collective ownership for results, which established a solid foundation for further improvement work.

[7] According to Studer Education, service excellence "means serving colleagues, serving educational professionals, and serving others. When we build a culture of service excellence in our schools, we are committed to creating great places for students to learn, for teachers to teach, and for parents to have confidence that their children are receiving a great education." (Studer Education, 2016). Menomonee Falls describes service excellence as: "Accountability, teamwork, professionalism, respect and communication," and its Service Belief Statement is, "In the School District of Menomonee Falls we respond quickly to serve our customers in a kind and friendly way by listening and owning problems to achieve customer focused solutions" (School District of Menomonee Falls, 2017, p. 39).

Shortly after embarking on the service excellence work, Dr. Greco reports that she began to develop the skills of district and school leaders to lead improvement. This multi-year effort included training in project management, Lean/Six Sigma (Brook, 2014) improvement tools and Kepner-Trego's (2014) approach to decision-making, and then supporting the leaders to immediately apply what they learned in their own work. As part of this work, the leadership team instituted a routine of reporting measurable progress on key improvement initiatives to the board every 45 days, creating cycles of improvement that were significantly shorter than their prior annual review process. In tandem, she provided professional development and coaching for teachers to learn to apply the PDSA (Plan, Do, Study, Act) Cycle to every unit (1-2 weeks) to improve their classroom instruction. Over the course of her seven-year tenure, most staff developed significant expertise in using improvement methods to improve their work (C. Golla, personal communication, March 26, 2019), and multiple groups of teachers worked together to address long-standing instructional challenges ranging from reducing the number of students requiring remedial math in 9th grade to improving English language outcomes for all students.

Sanger Unified School District. Sanger's turnaround began in 2004 when Marc Johnson and Rich Smith were hired as Superintendent and Deputy Superintendent respectively (David & Talbert, 2013). Leading key cultural shifts[8] to enable district-wide continuous improvement in student achievement year after year was central to their approach. According to Mr. Navo, one of Johnson and Smith's initial core strategies was

[8] "From professional isolation to collaboration and responsibility," "from following the textbook to diagnosing student learning needs," "from principals as managers to principals as leaders of adult learning," and "from top-down mandates and compliance to reciprocal accountability" (David & Talbert, 2013, p. 7).

to implement DuFour's (2004) model of Professional Learning Communities (PLCs) district-wide.[9] These PLCs were guided by four questions[10] that focused collaborative team activity at every organizational level on completing cycles of planning, doing, reflection and learning (David & Talbert, 2013). Reflecting on their experiences, leaders in Sanger described learning their way into creating tight, data driven feedback loops that drove rapid adjustment in instruction and in the district's support for teachers in response to student needs. They also pointed out how the district complemented the PLCs with targeted professional development for teachers in the areas where student performance lagged the most. For example, Ms. Adela Jones, Associate Superintendent, recounted how their early efforts were characterized by a focused push to improve the achievement of English Language Learners. According to Mr. Navo, Johnson and Smith also gave principals more autonomy in exchange for strict accountability to meet improvement targets, and demonstrated their commitment to improvement by letting go of those who were unable or unwilling to produce results. A final key part of their improvement model was to develop an intentional pipeline for growing strong district leaders from within so that the culture and practices they developed could be more easily preserved (David & Talbert, 2013).

Mr. Navo, the district's superintendent from 2014 to 2018, portrayed himself as a product of Sanger's leadership pipeline. He described leading one of Sanger's federally sanctioned elementary schools to achieve the honor of becoming a state Distinguished

[9] Professional Learning Communities are characterized by three "big ideas": "Ensuring that students learn," "A culture of collaboration," and "A focus on results" (DuFour, 2004).

[10] 1) "What do we want students to learn?, 2) How will we know if they have learned it?, 3) How will we respond if they have not learned it?, 4) How will we respond when learning has already occurred?" (David & Talbert, 2013, p. 13)

School during Mr. Johnson and Mr. Smith's tenures as a formative experience in his development as a leader. Having spent 14 years of his education career in the district prior to taking on the superintendency, Mr. Navo saw himself as having built substantial social capital with colleagues and he deeply understood the district's new culture and approach because he had experience building it. However, because he jumped from school-level leadership to the superintendency without taking on a central office role in the interim, he reported having a steep learning curve when he first entered the role.

As superintendent, Mr. Navo continued the district's focus on improving student learning, but broadened the vision from raising achievement on state tests to ensuring that every student has "options and opportunities" upon graduation. He also intentionally worked to create psychological safety to innovate and "fail forward" in pursuit of creating deeper learning for students, while strengthening the district-wide data infrastructure, decision-making processes and improvement routines that enabled continuous improvement.

Having provided an overview of each superintendent's background and their approaches to continuous improvement, I now turn to reporting findings according to the overarching domains of the initial conceptual framework, "think," "do," and "focus." Within each domain, I summarize high-level findings related to each of the research subquestions and then describe in more detail findings that further illuminate key concepts related to executive leadership for continuous improvement.

How Leaders Think

The findings about how leaders think to create the conditions for continuous improvement describe the mental models, values and beliefs held by the superintendents

in Menomonee Falls and Sanger Unified that enabled them to create such conditions in their districts. In their interviews, superintendents and the other leaders in their districts offered less information about this category of the framework than about what executive leaders do and focus on. Nonetheless, significant themes did emerge from the limited data. The alignment of the ideas expressed by interviewees with the domains of the original conceptual framework for this study is represented in Table 3 below:

Table 3

Summary: What Executive Leaders Think to Create the Conditions for Continuous Improvement – High Level

		Menomonee Falls		**Sanger**	
	Original Conceptual Framework Domain	Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
What Leaders Think	Value Learning	X	X	X	X
	Respect Every Individual	X	X	X	X
	Think Systemically	X	X		X
	Embrace Personal Responsibility	X			X

Across districts and roles, interviewees named *Valuing Learning* and *Respect for Every Individual* as ways of thinking that enabled successful leadership of continuous improvement. Additionally, *Thinking Systemically* was mentioned across roles groups in Menomonee Falls, and by principals and CIOs in Sanger. However, this concept only received brief mention in Sanger and was less prominent in Menomonee Falls responses than *Valuing Learning* and *Respect for Every Individual*. Only Menomonee Falls' superintendent and the Sanger CIOs and principals discussed *Embracing Personal*

Responsibility for system-level outcomes. Because study participants across all district and role groups discussed *Valuing Learning* and *Respect for People* more frequently than the other domains, I report more detailed findings, including emergent themes and concepts related to each of these ways of thinking, in the section below. I do not elaborate on *Thinking Systemically* and *Embracing Personal Responsibility* in Findings, but will return to these domains in the Discussion section.

First, I identify key concepts and report related findings for each way of thinking. (RQ1 and RQ2). I have combined findings from both RQ1 and RQ2 because there was substantial overlap in the content of the responses from superintendents, CIOs and principals, and doing so allows for an integrated discussion of the learning about each concept connected to each district's context. I then compare perspectives within and across roles and districts on how executive leaders think to create the conditions for continuous improvement (RQ3).

Think: Executive leader, CIO and principal perspectives (RQ1 and RQ2). The following section provides further elaboration of the most prominent concepts that emerged from participant interviews: *Value Learning* and *Respect Every Individual*.

***Value learning*.** Related to *Valuing Learning*, both Superintendents described *having a learner's mindset*[11] as a vital predisposition for their improvement work. They also regarded learning as a central component of their leadership strategies, but in different ways. Dr. Greco focused on *leading through supporting others' learning*, while Mr. Navo modeled *being a lead learner*. The CIOs and principals in both districts described their leaders as *lead learners*, and named their superintendents' *belief that*

[11] A phrase used by Mr. Navo to characterize his focus on learning.

everyone can and must learn as an essential part of how they valued learning. Each of these concepts is described in more detail below.

Have a learner's mindset. Both superintendents repeatedly emphasized the importance of having a learner's mindset as a foundation for leading improvement. They described themselves as relentless learners who constantly seek out new ideas and practices, believing that the process of learning was central to their change efforts.

In describing how she came to be a leader of continuous improvement, Dr. Greco offered, "I've done a ton of reading, a ton of research, a ton of development over the course of my career," and yet she thought that she had much more to learn. She explained, "When you are talking about improvement, you are never gonna arrive. There are always gonna be things that you can think more deeply about." In tandem, these comments illustrate Dr. Greco's demonstrated commitment to her own learning, and her belief that a never-ending pursuit of new learning is essential to improvement.

Mr. Navo similarly noted how he sought out both formal and informal professional learning opportunities throughout his career, and elaborated further on the concept of having a learner's mindset by linking it to having a willingness to change in response to new information. In the process of describing important foundations for Sanger's improvement journey, Mr. Navo commented,

> It's that learner's mindset. It's that attitude. And then the continuous improvement of (being) willing to look at that data and feed the system the data and respond to the data and change your practices as a result. If you're not willing to change any practices as a result of anything you've looked at then you're not really on a continuous improvement journey.

Mr. Navo recognized that having a "learner's mindset" was inextricably linked to maintaining a willingness to change his own behavior, and that these attitudes underscored his ability to lead improvement.

Lead through supporting others' learning. Dr. Greco explicitly named leading through developing people as learners as a primary strategy for leading improvement. Early in her career, as a new principal, Dr. Greco realized that asserting her formal authority was often not an effective way to get her staff to change their behavior. As she explained, "You can't power your way through improvement, it's about learning, influence and building capacity of the people that you are attempting to lead, whether it's kids or adults." She understood that ensuring that everyone in the organization was learning enabled her to lead improvement efforts effectively.

In particular, Dr. Greco held a strong belief that it was essential to involve everyone in learning from the beginning of the improvement effort because supporting people's learning tends to increase their engagement. Her rationale for investing in organization-wide training with Studer Education was grounded in this belief. As she explained, "…the work with Studer, you've got building secretaries engaged, and building custodians engaged. So that's the piece that the learning matters, the including all of the stakeholder groups matters." Dr. Greco believed that if people experienced learning and growth, they would become more engaged in the district's work to continuously improve.

Be a lead learner. Being a "lead learner" was central to Mr. Navo's perception of his approach to leadership, a view that was shared by the other leaders in his district. The CIOs and principals in Menomonee Falls also described Dr. Greco as a lead learner, even

though she did not use that language to describe herself. Each of these perspectives is elaborated upon below.

Mr. Navo emphasized the importance of his modeling a growth mindset and on making an effort to learn new information and skills as a way to build respect and credibility as a leader. As an example, he described when he was a principal trying to lead his school to improve the scores of English language learners:

> I went back to school and got my English language development certificate…I became a little bit more dangerous because I knew what I was looking for…It was at that moment where I realized that I became a lead learner in that process. That the system began to shift. The teachers realized, oh, he's got his [stuff] together. He knows what he's talking about. But it was a respect. It wasn't a, oh, I can't hide from him now. It was a respect that I made the effort to learn.

Mr. Navo credited his investment of time and effort in personally learning about the problem they were trying to solve as the catalyst for increasing teachers' respect for him and his leadership and, consequently, their level of effort to address the problem.

Reflecting on his leadership as a superintendent, Mr. Navo connected this type of credibility earned through learning with effective leadership of improvement. He explained, "I really believe that when you talk about system change, that if your leadership is not leading learning and learning alongside teachers, educators have a hard time respecting the system where leadership is not elbow to elbow with you." Mr. Navo valued his own, public learning as a way to build the respect with followers necessary to engage in improvement efforts.

Echoing Mr. Navo's articulation of how he displays *Valuing Learning* in practice, Sanger's Director of Pupil Services, Kimberly Salomonson, offered her own example about how learning undergirded Mr. Navo's approach to leadership for improvement. As she described,

> In our cabinet meetings, he very relentlessly and very tirelessly builds his capacity and his knowledge for things so that he can have that voice, he can understand what's happening, and he can be part of the shift, the move.

Ms. Solomonson understood Mr. Navo's learning efforts as supporting both his ability to have an informed perspective in decision-making, and his ability to effectively lead change. In further conversation, she also credited his learning and public productive struggle with building trust among teachers and support staff. Additionally, her comments implied support for Mr. Navo's observation that his learning engendered respect and credibility.

Though Dr. Greco did not describe herself as a "lead learner," her CIOs and principals noticed that she modeled *Valuing Learning* for her staff. For example, Ms. Susie Thomas, Associate Principal at the high school in Menomonee Falls, described Dr. Greco as "always learning…she's setting the example for what we all should be doing. Continuing to learn more, connect to her work, connect and improve her work." From Ms. Thomas' perspective, Dr. Greco demonstrated the dedication to learning in service of improvement that she expected to see in every staff member through her own efforts to learn.

Believe that everyone can and must learn. CIOs and principals in both districts named this superintendent belief about students as essential to fostering a district-wide,

shared conviction that "all means all," meaning that every student can make progress and do well. This became a mantra in Sanger that expressed a core belief in their collective responsibility to support every child's learning.

In Menomonee Falls, leaders expanded the definition of "all means all" from a sole focus on student learning to include staff at every level. As Ms. Sara Doerr, District Literacy Coordinator, explained,

> [W]hen I say all means all, it means that when we talk about all, we mean all children, we mean all staff members from our district administration staff, our teaching staff, our custodial staff, our kitchen staff. When we talk all, we really truly mean all.

Her comments described a belief in everyone's ability to learn that was foundational to her district's approach to improvement. She and other CIOs and principals explicitly named this belief as an essential part of Dr. Greco's thinking that enabled her to effectively engage the rest of the district in their improvement journey.

Summary. Within this domain, there was variation in the key concepts that participants associated with *Valuing Learning* across roles and districts. Table 4 below lists these key concepts and indicates which ones were discussed each by district and role group.

Table 4

Summary: Value Learning Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Value Learning	Have a learner's mindset	X		X	
	Lead through supporting others' learning	X			
	Be a lead learner		X	X	X
	Believe everyone can and must learn		X		X

Respect every individual. Study participants rarely explicitly used the term "respect;" however, they frequently emphasized the importance of *valuing people*, regardless of role or status, as an essential way for leaders to think when creating the conditions for continuous improvement. Across districts and role groups, they recognized that their shared belief in the significance of everyone's contribution was foundational to their organizations' ability to achieve excellence.

Differences between the two districts surfaced in regard to how the superintendents most frequently enacted these beliefs about people. Dr. Greco emphasized *enabling everyone to make a meaningful contribution* to something larger than themselves, whereas Mr. Navo prioritized *understanding people's needs and supporting them to do their best work.* The CIOs and principals in Sanger confirmed Mr. Navo's approach and in both districts, they portrayed their leaders' beliefs about people

as fundamental to making them feel valued and to building an organizational culture that supported continuous improvement. Elaborated descriptions of each of the key concepts they mentioned follow.

Value people. In describing her motivation for leading continuous improvement in her district, Dr. Greco repeatedly emphasized making a difference for the people who work and go to school in the district. According to her, "[T]his is fundamentally about giving people worth, whether they're children or adults." Her whole approach to leadership was rooted in ensuring people felt valued.

The CIOs and principals in Menomonee Falls offered multiple examples of how Dr. Greco's leadership contributed to people's sense of worth. Rick Fechter, Director of Facilities in Menomonee Falls' description of his staffs' perception of Dr. Greco was one of many similar comments made by others across the district: "Our superintendent seems to be down to earth, she notices us, she knows who we are, that means she values what we're doing." Through noticing people's work and getting to know them as individuals, Dr. Greco communicated her belief in their importance. These actions reinforced and made credible her consistent message that people were the districts' greatest resource in its quest to ensure all students succeed.

In Sanger, the CIOs and principals described how Mr. Navo's deep sense of caring about the district's staff and students made them feel valued. As Mr. Kesterke, Area Administrator, asserted, "It's not about him, it's not about an ego or a paycheck…he genuinely cares and wants this to be the best place for employees and for kids." It was clear to him and others across the district that Mr. Navo was motivated by a desire to improve people's lives. Fairmont Elementary's principal, Jared Savage, made a

similar observation about Mr. Navo. He explained, "He makes everyone feel valued and he really does care about the students and it's not about him." Knowing that their Superintendent truly cared about them appeared to be an important way for people to feel valued for their efforts to improve.

Enable everyone to make a meaningful contribution. As mentioned above, Dr. Greco spoke of feeling profoundly motivated to improve people's lives through creating a workplace where they could make a difference that matters to the community and to themselves as well. When asked about her biggest points of pride in her work as a leader, she replied, "In the people, hands down. It is not any one of the awards. It's seeing an army of people feel good about what they do, and proud of where they work. That's really my biggest…source of pride." Echoing Deming's (2000) advice to remove barriers to pride for everyone, Dr. Greco expressed the belief that the most significant way to *Value People* was to ensure their work gave them a sense of meaning. As she explained, a continuous improvement effort is

> …really not just about improving outcomes for the community. You're really improving these people's lives. Whether they're an administrator, a classroom teacher. This work is really hard to be able to get up in the morning and feel like you really are that meaningful contributor to something larger than yourself.

She prioritized improving her staff's quality of life through giving them the opportunity to engage in consequential work as one of the most important products of engaging in continuous improvement. Dr. Greco sought to demonstrate that she valued people by leading in ways that supported her staff to contribute meaningfully and feel a sense of worth through their work.

Understand people's needs and support them to do their best work. Mr. Navo repeatedly expressed his care and concern for each member of the Sanger community, and described how he leveraged what he termed his "social capacity" to understand staff, student and community needs to inform district strategy and make deliberate choices about how to interact with individuals to best support their success. As he explained,

> …for me, that is a social intelligence factor I think that I brought to this work in terms of my self-awareness and my relationship with awareness, and just my social capacity to understand what people were needing at that time. That was a strength for me. That was an area that I thought really matched well with the needs of the organization at that time, which may not have been appreciated in other districts depending on where they were.

Here, he names "social intelligence" as a primary asset in his leadership because it helped him to understand his staff's needs. Moreover, he points out the particular alignment of capacity and intelligence that he brought and what the district needed at the time.

In further conversation, he elaborated on how he worked to meet those needs within the district context that he inherited from Mr. Johnson and Mr. Smith. Mr. Navo had experienced his predecessors leading with a strong emphasis on accountability, and with support primarily targeted at improving standardized test scores to lift the district out of sanctions from the state. At the start of his tenure, once scores had jumped significantly and PLC instructional improvement routines were in place, Mr. Navo saw that people needed a new kind of support to continue to improve. His assessment of his staff caused him to rethink the relationship between accountability and support, and to work to foster a culture that encouraged risk-taking and made it safe to fail in the service

of learning. He understood that to remove the next layer of barriers to student achievement, everyone in the organization would need to feel empowered to try out possible solutions and learn quickly from the effort, which could only happen in an environment of psychological safety. Without letting go of the vision of ensuring options and opportunities for every child, he saw what people currently needed to work effectively toward that vision and then focused his work on providing it.

The CIOs and principals in Sanger affirmed Mr. Navo's espoused ability to diagnose the needs of his staff and his commitment to meet them. They lauded his efforts to ensure that professional development for teachers aligned with what they needed most immediately to improve instruction, and repeatedly testified that they and their staff tangibly felt his support. Part of this support included working with individuals to help them figure out how they can be more effective contributors to district goals. As Ms. Salomonson described,

> […] he is very, very good at putting the right people in the right place with the right skill set at the right time. Always finding a place for people, even if they're not being successful in the space that they're in. It's honoring our relationship with that person and finding a place where they shine.

In her comment, she spoke to his "social intelligence" and how he used it to match people's strengths with district needs. Rooted in *Valuing People*, Mr. Navo created conditions for them to make their greatest contributions to the overall success of the organization.

Summary. Although their explicit use of the term "respect" was infrequent, superintendents, CIOs and principals in both districts expanded on the idea of *Respecting*

Every Individual included in the original conceptual framework in that they described the superintendents as *valuing people, enabling everyone to make a meaningful contribution, and understanding people's needs and supporting them to do their best work.* Based on these findings, I am replacing my original phrasing of *Respecting Every Individual* with *Value People.* In the subsequent Discussion section I discuss revisions to my original framework in detail. Please see a summary of the key concepts related to *Valuing People* discussed by each district and role group in Table 5 below:

Table 5

Summary: Value People Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Value People	Value people	X	X	X	X
	Enable everyone to make a meaningful contribution	X			
	Understand people's needs and support them to do their best work			X	X

Think: Comparing perspectives across roles and districts (RQ3). Over all, superintendents and their staff offered similar descriptions of what I have defined as attributes of 'think' - the mental models, values and beliefs that support executive leadership of continuous improvement. In both Menomonee Falls and Sanger, and across roles, interviewees placed the most emphasis on *Valuing Learning* and *Valuing People* as critical ways of thinking to create the conditions for improvement. However, distinctions

across roles and contexts emerged with deeper examination of the key ideas that different groups expressed within the larger themes.

In Menomonee Falls, Dr. Greco often connected her ways of thinking with their strategic implications for her leadership. As an avid learner herself, she understood supporting others' learning as her primary lever for engaging them in in the district's improvement journey. Her deep respect for people and her belief that everyone deserves to feel a sense of self-worth and pride in their work informed her choice to lead in ways that enabled every person, regardless of role or status, to make a meaningful contribution to the overall goals of the district. Dr. Greco's knowledge of systems theory, stemming from her doctoral studies, was evident in how she defined the whole district as the unit of change and in how she, as the leader of the whole system, took personal responsibility for improving the outcomes that the current system was producing. Many these ways of thinking enumerated above also aligned with aspects of Deming's (2000) 14 key principles,[12] another cornerstone of her early learning about improvement.

The CIOs and principals in Menomonee Falls did not explicitly connect Dr. Greco's thinking with her leadership strategy, but their comments did describe observable evidence of their superintendent's articulated thoughts and values. In regard to learning, the principals and CIOs emphasized Dr. Greco's modeling of lead learner behaviors and her dedication to communicating and acting on the belief that all students and staff can and must learn for the district to improve. They also described how Dr. Greco made them and their staff members feel valued through her deliberate inclusion of everyone in the district's improvement efforts and her noticing of people and their contributions.

[12] Deming's principles include: #6 Institute training on the job, #7 Institute leadership, #12 Permit pride of workmanship, and #13 Encourage education. (Deming, 2000, pp. 23-24)

Mr. Navo's descriptions of his own thinking reflected deep personal values and lessons learned from experience more than specific strategies or theory related to improvement. He attributed much of his success as a leader at multiple organizational levels to his ability to garner respect and credibility through publicly leading learning and learning alongside his staff. His seemingly natural inclination to care deeply for others' well-being and to support them in doing their best work became central to his approach to the superintendency, both because he had long-standing relationships with the people he led, and because a respectful, supportive approach to leading improvement appeared to be a good fit for the needs of district personnel at the time he took office.

The Sanger CIOs' and principals' descriptions of how their superintendent's ways of thinking supported his ability to create the conditions for continuous improvement in the district directly aligned with Mr. Navo's. They consistently recognized Mr. Navo's modeling of relentless learning, his focus on understanding staff needs and commitment to supporting everyone's success as demonstrations of his *Valuing Learning* and *People*.

Across districts, the biggest differences surfaced in regard to the leadership strategies to enact specific values rather than the values themselves. In regard to *Valuing Learning*, Dr. Greco described leading through supporting others' learning, whereas Mr. Navo emphasized modeling himself as a lead learner and learning alongside others in the district. Related to *Valuing People*, Dr. Greco was most motivated by creating conditions for people to make a meaningful contribution and feel a sense of pride and worth through their work. While the distinction is subtle, Mr. Navo's acute focus on people's individual needs and ensuring that they were set up for success represented a slightly different view of how to lead in ways that *Value People* that built on his own skills and strengths.

Having completed my discussion of findings regarding how leaders think, I now turn to examining what leaders do. As in the above section, I first identify key concepts and report findings related to *What Leaders Do* to create the conditions for continuous improvement (RQ1 and RQ2). I then compare perspectives within and across roles and districts (RQ3).

What Leaders Do

The findings about *What Leaders Do* to create the conditions for continuous improvement concern the superintendents' behaviors and actions to enable their district's improvement efforts to flourish. How the executive leader actions described by study participants aligned with the domains in the original conceptual framework is illustrated in Table 6 below:

Table 6

Summary: What Executive Leaders Do to Create the Conditions for Continuous Improvement – High Level

		Menomonee Falls		**Sanger**	
	Original Conceptual Framework Domain	Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
What Leaders Do	Set a Vision, Purpose and Strategy Focused on Results for Students	X	X	X	X
	Develop Capability	X	X	X	X
	Transform the system	X	X		
	Create a Culture of Improvement	X	X	X	X
	Span Boundaries	X	X		X

Interviewees from each district and role group named superintendent actions that *Set a Vision, Purpose and Strategy Focused on Results for Students*; *Developed Capability*; and *Created a Culture of Continuous Improvement*. There was more variation across districts and roles in regard to *Transforming the System* and *Spanning Boundaries*. In Menomonee Falls, Dr. Greco described creating and implementing a theory of change, which included intentionally working to shift mindsets and behavior across the district to change the system to be capable of better performance. These efforts to *Transform the System* were recognized by her principals and CIOs. While Sanger leaders experienced many shifts in expectations and behavior in the course of their improvement journey, they more frequently described it as a gradual evolution than a system transformation strategy initiated by the top leader. In regard to *Spanning Boundaries*, Dr. Greco referenced her own efforts to build a stronger bridge between her district and the larger community in the context of *Thinking Systemically* about how to ensure student success. In both districts, CIOs and principals also mentioned the superintendents' efforts to break down silos within the district. However, they described this superintendent activity to get disparate parts of the system to work together more effectively in the context of alignment or system integration rather than boundary spanning. Because *Set a Vision, Purpose and Strategy Focused on Results for Students*; *Develop Capability*; and *Create a Culture of Continuous Improvement* surfaced with greater frequency in interviews than the other domains and because they were mentioned in the responses of all participant groups, I describe the key concepts and variation within each of these domains below. I will return to *Transform the System* and *Span Boundaries* in the Discussion.

What leaders do: Executive leader, CIO and principal perspectives (RQ1 and RQ2).

Set a vision, purpose and strategy focused on results for students. While the leaders in Menomonee Falls and Sanger both cared deeply about dramatically improving student outcomes, the content of each district's vision and strategy varied significantly, reflecting each superintendent's knowledge and experience as well as district context. As I explain in more detail below, Menomonee Falls' vision involved the *pursuit of instructional and operational excellence through learning* whereas Sanger's focused on *achievement, options and opportunities for all students.*[13] In both cases however, the vision and strategy were carefully crafted to engage and empower everyone in the community in an aligned, collective improvement effort. These functions were articulated by the superintendents and noted and appreciated by CIOs and principals across contexts.

Menomonee Falls: The pursuit of instructional and operational excellence through learning. In Menomonee Falls, Dr. Greco came to the superintendency having learned continuous improvement theory and methods as part of her doctoral studies and believing in this approach as a way to dramatically improve results in schools. Further, her school board members hired her to make significant improvements in the operations of the district and she started her tenure right after Wisconsin's new governor, Scott Walker, committed to annual reductions in public school funding. In regard to formulating a vision and strategy, she knew that to ensure the success of every child, she

[13] Words and phrase I adopted from Sanger interviewees themselves.

would need everyone to work toward both instructional and operational excellence. The district would need to improve student outcomes while simultaneously reducing costs.

Dr. Greco also recognized that the improvement work that she wanted to lead needed to be grounded in results that mattered to the entire community, including the board, staff, parents and students. As Dr. Greco explained, "It's got be improvement for that greater good. It has to be valued by stakeholders within the organization that you are serving." The vision could not be hers alone. It needed to reflect community values and a shared purpose to serve as an effective driver of continuous improvement.

Through engaging all of relevant stakeholder groups, Dr. Greco led the district to adopt the mission statement, "Engage. Learn. Improve." and their vision, "The relentless pursuit of excellence, one person at a time" (Menomonee Falls Schools, n.d.). Together, the mission and vision reflect a commitment to engaging everyone in the pursuit of getting better, with learning and continuous improvement as core strategies. Notably, they emphasized staff and student learning and excellence rather than instruction or student outcomes.

Dr. Greco understood that the mission and vision needed to be made actionable through clearly defining associated system-wide goals and measures. For this reason, she contracted with Studer Education to facilitate a process to engage the board in creating a district-wide scorecard which identified the following 'pillars': Quality Student Achievement; People; Service; Health and Safety; Finance; and Supervisor Evaluation (School District of Menomonee Falls, 2017-2018). Once established, these pillars and their associated measures clarified the meaning of system-wide excellence and served to focus improvement efforts on shared goals. They also enabled everyone within the

district to see the connection between their work activities and their contributions to meeting these district goals. Currently, scorecard progress is reported to the board and district leadership team on a 45-day cycle.

Sanger: Achievement, options and opportunities for all students. Sanger's context and the professional experiences of its superintendent were also important for understanding their current vision and how it was set. As I described in the district and superintendent overviews, Mr. Navo was a principal in the district in 2004 when Superintendent Marc Johnson initiated the district's turnaround efforts, which were motivated by a strong desire to avoid additional sanctions from the state. At that time, many of Sanger's schools had been identified as failing, and take over by the state was imminent if student results did not improve. During the tenure of Mr. Johnson and his successor, Mr. Rich Smith, the district vision focused on dramatically improving student outcomes as measured by standardized tests through improving teachers' ability to deliver effective instruction.

When Mr. Navo was appointed to the superintendency, he wanted to expand that vision to focus on serving the whole child and engaging everyone in making the district the best place for students. To him, this included giving teachers and administrators space to innovate toward better preparing children for success in life versus performing on tests. He also believed that the moral imperative of serving all children and ensuring that they have bright futures would be a more compelling motivator for engagement. Sanger's current vision, "All students will have the options to demonstrate what they learn and the opportunities to be successful and achieve their dreams" (Sanger Unified

School District, n.d.) reflects the expanded focus on student success that drove Mr. Navo's work during his tenure.

Sanger's goals and measures, however, continue to reflect its legacy of focusing on student test scores. The district's current overall goals are to, "Raise all students' achievement, close the achievement gap between sub-groups, and ensure a safe environment" (Sanger Unified School District, n.d.). All schools and departments align their annual goals to these district goals, and the district's data dashboard enables everyone to see how each entity is performing in relation to these goals. The district has a shared calendar which guides an annual, system-wide routine of reporting and analyzing different data each month in accordance with reporting requirements for the state.

Across contexts the CIOs and principals described their districts' visions and strategies in much the same language as their superintendents. Leaders in Menomonee Falls emphasized the importance of instructional and operational excellence in tandem, whereas those in Sanger focused more exclusively on impacting student learning and achievement. Where they converged was in their descriptions of the utility and importance of their districts' shared visions and strategies in their improvement efforts. I elaborate on these shared perspectives below.

CIO and principal perspectives: The vision empowers everyone to improve. Leaders in both districts observed that having a clear vision and strategy created the conditions in which staff felt empowered to engage in improvement and innovate toward shared goals. In a comment typical of her role group, Ms. Thomas in Menomonee Falls described her superintendent's role as, "You have a clear vision, and clear mission, clear

goals, and you empower people to help try and solve the problem." The superintendent's clarity around what the district was collectively trying to accomplish enabled individuals to productively contribute to improvement. Ms. Thomas elaborated that having those things in place "…allows us to choose what our most important work is." This comment signaled a recognition that shared clarity made it possible for individuals within the organization to make decisions that further aligned their work with overall vision and strategy. It distributed decision-making authority and responsibility about how to work to achieve the organization's goals to everyone, rather than just the top leaders.

Leaders in Sanger echoed and further illustrated these ideas. Ms. Adela Jones, Associate Superintendent, asserted that as a result of having a clear, district-wide vision "[A] custodian, grounds person, the maintenance, they all know their role in our vision of student achievement." The vision enabled staff at every level to understand how their work contributed to the students' success. People were empowered to act because they knew their role in supporting the district to achieve its vision. Recalling that Mr. Johnson set a district-wide vision focused on student achievement when he was an elementary school principal, Mr. Kesterke, Area Administrator, described the impact as, "It empowered us because it was from the district level and everyone is involved. It empowered us to encourage collaboration, group work, sharing." As a mid-level leader he took new action to build a collaborative work environment, knowing that the district supported and expected him to do so. Mr. Kesterke also noted how the clear district vision improved his teachers' receptivity to addressing the poor performance of one of their colleagues:

> For a long time…it was the principal's problem. And now in schools, teachers recognize that it's a school problem because that first grade teacher that's failing for whatever reason is gonna impact second, third, fourth, fifth sixth, all the way up because they're gonna lose the foundational skills.

Having a clear district vision raised the teachers' awareness of the impact of one of their colleague's poor performance on long-term student outcomes. This type of clarity about the district's vision and goals across organizational levels galvanized principals and teachers in schools to act in new ways to improve how they worked.

CIO and principal perspectives: District-wide goals and measures drive organizational alignment. The CIOs and principals also frequently credited the establishment of clear district-wide goals and measures with driving their priorities and keeping their work aligned with the district's vision. For example, in Menomonee Falls, the scorecard enabled them to focus their efforts according to one or more of the five pillars rather than a level or department, which served to break down silos and foster district-wide alignment. As Principal Grimm described, "Our scorecard system that we have keeps people focused…on the right work. So we have every building, every department, has their scorecards that are consistent with each other...and that keeps all the departments, everybody working on the same goal." The scorecard system that Dr. Greco worked to establish drove alignment of efforts across traditional boundaries. Though more specifically focused on student data, Sanger's data dashboard played a similar role in driving aligned improvement priorities in that district. School and classroom level changes were required to directly support measurable district improvement goals.

Summary. Study participants across roles and districts confirmed the importance of setting a system-wide vision with corresponding goals and measures. In contrast to the phrasing in the original conceptual framework for this study, *Set Vision, Purpose and Strategy Focused on Results for Students,* purpose was implied by the vision rather than articulated as a separate idea. Further, Menomonee Falls' vision and mission were not explicitly focused on student outcomes. Based on my findings, a more appropriate title for this domain would be *Set System-wide Vision, Goals and Measures,* which I discuss further in the Discussion section of this capstone.

The content of the two districts' visions were significantly different in that one focused on learning as the core strategy for achieving operational and instructional improvement, and the other emphasized student achievement, options and opportunities. However, the visions played similar roles in both districts: empower people to engage in improvement and align their efforts. Notably, participants also discussed empowerment and alignment in relation to their districts' improvement cultures and their superintendents' ongoing efforts to *Promote Organizational Alignment,* and will therefore be discussed in more detail in later sections describing those findings. Please see a summary of the key concepts related to *Set System-wide Vision, Goals and Measures* discussed by each district and role group in Table 7 below:

Table 7

Summary: Set System-wide Vision, Goals and Measures Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Set system-wide vision, goals and measures	Pursue instructional and operational excellence through learning	X	X		
	Commit to achievement, options and opportunities for all students			X	X
	Craft vision to empower everyone to improve	X	X	X	X
	Establish system-wide goals and measures to drive alignment	X	X	X	X

Develop capability. The superintendents in both Menomonee Falls and Sanger adopted *Developing Capability* as a core strategy for leading continuous improvement. They saw accelerating learning as the primary way to enable people to improve toward ambitious goals. Dr. Greco argued that, "You can't lead without leading through the hearts and minds of other people…you can't be effective unless the development occurs in the people you are trying to affect." To her, connecting with people and growing their skills was an essential component of leadership for improvement. Mr. Navo similarly connected the district's ability to continuously improve with building capacity in district staff.

CIOs and principals in Sanger and Menomonee Falls broadly affirmed *Developing Capability* as an essential part of what their superintendents did to further their districts' strategies for continuous improvement. Like their superintendents, they saw learning as the primary way to support people to improve toward ambitious goals. Furthermore, although they named it as necessary, many also expressed gratitude for the district's investment in growing their skills and knowledge on the job. Ms. Grimm's comment that, "I have really appreciated all the levels of professional development, and support, and guidance, and training," was typical of many interviewees. The leaders saw *Developing Capability* as a valuable benefit of working in a continuously improving district.

Developing Capability was universally named as a core improvement strategy, and both districts *invested in capability development aligned with district vision and goals*. The variations across their visions and goals led the districts to prioritize some different skills, knowledge and audiences in their development efforts, however there were some significant similarities in both content and methods. Additionally, a couple of clear, emergent themes related to *Developing Capability* surfaced across superintendent, CIO and principal interviews in both districts. First, study participants described their processes to *develop leaders from within* as essential to sustaining and accelerating their continuous improvement efforts. Second, they repeatedly described an essential synergy between the superintendents' *holding other leaders accountable* and their enabling capability development. Both of these concepts were not represented in the study's original conceptual framework. Below, I illustrate how *Developing Capability* was

accomplished in each district, elaborate on each of the emergent concepts related to capability development and discuss similarities and differences across contexts.

Invest in capability development aligned with district vision and goals. In Menomonee Falls, Dr. Greco began her tenure with the aspiration to build all staff to become "an army of improvers" who possessed the mindsets and skills to realize the vision of becoming a continuously improving district. From her perspective, the people closest to the work at every level and in every division needed to learn to solve problems and remove barriers to achieving the vision, and development was the only way to get them there.

Dr. Greco started with shifting mindsets and culture across the district. She engaged Studer Education to facilitate a process to engage all staff in defining and committing to service excellence. This created a shared understanding of the behaviors that each person in the district was expected to exhibit and shifted everyone's focus toward meeting the needs of their customers (the people that they worked to serve), whether they were students, families or other staff. It also gave staff across the district a shared, measurable goal and common language and tactics to focus their initial attempts to improve.

Menomonee Falls' primary strategy for improving instruction across the district was to develop all teachers to embed PDSA cycles in their instructional planning for the year and for each instructional unit. Dr. Greco hired Jim Shipley and Associates to provide initial training for all teachers, and then invested in further developing site-based improvement coaches who supported teachers in deepening their practice at each of the schools. Over time, the district developed its own rubric for describing teachers' skill

progression in incorporating continuous improvement into their practice and created its own customized training to further support teacher learning (School District of Menomonee Falls, 2016).

A key part of bringing improvement cycles to the classroom was to engage students as the "users" of instruction. Using the PDSA structure, teachers created routines to work with students to set individual and class learning goals, plan instructional strategies that best supported their students' learning, collect and analyze data together to determine the effectiveness of instructional units and make adjustments to improve instruction in the next cycle. Over time, it has become common to post visualizations of class performance data on the walls, and for students to develop the self-awareness needed to advocate for learning in ways that are most effective for them. The PDSA routine, which leaders from Menomonee Falls reported as being practiced consistently and supported with skilled coaching, provided a structure for teachers and students to continually improve their abilities to teach and learn.

Finally, Dr. Greco invested in developing leaders to have the capability to develop the people who work for them. She understood that school- and district-level leaders needed to be able to model and teach improvement skills, methods and behaviors to enable their staff to learn and consistently apply them in their work. Here she doubled down on training her cabinet and principals in a portfolio of improvement capabilities, including "Evidence-based Leadership,"[14] systems thinking, project management, Kepner-Trego (2014) problem solving and decision-making approaches and the Lean/Six

[14] The Evidence-based Leadership Educational Framework (Studer & Pilcher, 2015) describes what leaders need to do to achieve performance excellence in their schools and districts. It outlines behaviors to align goals, behavior and processes within the organization.

Sigma improvement tools and methods. In the process, she often attended trainings alongside them to assist with the translation from business to education. As they grew in their skills, Dr. Greco sent teams to conferences and courses and engaged local experts' consulting support to deepen their learning.

Beyond providing time and resources for training and support, Dr. Greco focused her own energy on personally coaching and supporting the learning of her cabinet, explaining, "[P]art of my work is to keep the team thinking deeply." To her, developing district leaders was part of her job, not a priority to be delegated to others. To do this, she constantly asked questions and challenged people's reasoning to push their thinking toward a deeper understanding of improvement in individual and group meetings.

Another approach Dr. Greco often employed was to model applying improvement approaches in her own work and then challenging others to do the same. For example, Studer Education teaches the use of a routine involving individual check-ins, or "rounding" (Studer & Pilcher, 2015, p. 207) with staff about what's going well, problems or barriers they face and celebrations of good work done by others. Problems identified in the check-ins are compiled in "Stoplight Reports" (Studer & Pilcher, 2015, p. 281) that communicate to the team progress in getting those problems solved. Celebrations are shared via "shout out" emails to the whole district. After they all received training, Dr. Greco did check-ins with the cabinet and showed them how to follow up using the Stoplight Reports and sending shout-outs. She then required each of them to test the process with their direct reports and share what they did with the rest of the leadership team. Over time, the team graduated to tackling more and more sophisticated

improvement problems, such as dramatically reducing suspensions in the middle school or increasing worker safety.

To make time for coaching and reflecting with the cabinet, Dr. Greco reserved half of each bi-monthly leadership meeting for team learning. Sometimes they reflected on their leadership practice as in the example above, and other times they used it for activities such as discussing Harvard Business Review articles or quality improvement books, or doing a "crosswalk" between improvement principles in industry and their work in education.

Finally, Dr. Greco intentionally focused on developing school board members as leaders of improvement. She saw her role as "…developing the board around an understanding of really what an improving organization means, and what is their role in safeguarding dollars for development." Beyond gaining the board's approval, Dr. Greco believed that the board members needed to learn more about continuously improving organizations so that they could better understand what they needed to do to support the districts' improvement efforts, including allocating the necessary funds to support it.

In Sanger, Mr. Johnson instituted Professional Learning Communities (PLCs) as the district's foundational routine for both developing teachers' instructional skills and building a culture of collaborative learning among them. Early in his tenure, he sent a group of principals to DuFour's multiple day training on how to start PLCs, and when they returned he required each of them to institute PLCs in their schools. Principals created structures for teachers sharing a grade-level or department to meet regularly, always focused on answering on the same four questions:

1) What do we want students to learn?

2) How will we know if they have learned it?

3) How will we respond if they have not learned it?

4) How will we respond when learning has already occurred? (David & Talbert, 2013, p. 13)

When done consistently, setting aside time for this routine supported teachers in thinking critically about their own practice and formulating and testing ideas for improvement. It also created the conditions for making instructional practice and student outcomes public to other colleagues in a way that had never occurred before in the district. This fostered a sense of individual accountability for furthering the goals of the school and the district, and encouraged learning from each other about effective practice to support the replication of promising results.

The district paired PLCs with clear improvement goals and aligned professional development in instruction. For example, at the beginning of Sanger's turnaround, state standardized test scores indicated that English Language Learners (ELs) in multiple schools were underperforming, which put the schools at risk of state sanction and takeover. Mr. Johnson set a clear goal of improving EL performance across the district, required principals to include dramatic improvements in EL performance in their annual plans (Sanger Unified Administrative Expectations, 2007-2008), promoted a talented EL specialist to a central office position to drive the district's strategy, and provided targeted professional development for all teachers to improve their classroom instruction to better meet the needs of EL students. Principals were expected to learn alongside their teachers to demonstrate the importance of the effort and to acquire the content knowledge they would need to lead improvement in this instructional area in their schools. Implementing

learned practices and adjusting instruction based on data about EL student performance then became a key focus of the PLCs. The district has since used this same strategy for improving toward other district-wide goals such as literacy proficiency for all students across all grade levels.

As a former principal who implemented PLCs and led his school to dramatically improve student outcomes, Mr. Navo recognized the centrality of the strategies described above to the district's improvement efforts. However, he also thought that creating and sustaining opportunities for school principals to learn together was similarly essential to the district's improvement journey. In his experience as a principal, he felt a sense of comradery with his peers in the district as they struggled together to learn to lead dramatic shifts in culture and practice at their schools. Having time and encouragement to do so was essential to him as he did this difficult work. From his perspective, he "…couldn't stress enough that we never get to where we improve and we never develop a philosophy of continuous improvement if principals aren't sitting and sharing and learning from one another." Mr. Navo thought that Sanger's success had hinged on the principals forming a learning community, and as Superintendent he was committed to ensuring that his principals had the same opportunity. Scheduling monthly principal meetings focused on cross-district learning was one way that Mr. Navo attended to this need.

Mr. Navo also placed prime importance on decision-making as a way to *Develop Capability*. He saw his role as empowering people to make decisions and learn from them, because, "If you don't have the freedom to fail, then you don't have the freedom to make a bad decision then you can't build capacity." Mr. Navo understood that his staff

needed to take ownership over their decisions and their consequences to learn how to make ever-better decisions aligned with the district vision, strategy and goals. The practice of actually being the decision-maker, rather than consulting with or observing others accelerated the learning and built capability.

The superintendent interviews explicated each district's unique approach to *Developing Capability* aligned with its overall vision and goals. Interviews with CIOs and principals in both districts illuminated some of the practical aspects of capability development, which took similar forms across contexts. First, they recognized that the deep and sustained development efforts in their districts could not have taken place without the superintendent protecting time and allocating resources to support individual and team learning. At a basic level, this meant prioritizing the investment of discretionary funds in people development. It also included changing schedules to accommodate weekly times for teachers and leaders to meet to engage in learning routines. For example, both districts aligned departmental and grade level preparation periods and convinced their communities to accept early release times for all students on Wednesdays to give teachers additional meeting time during the regular work day.

Another key consideration in capability development was to keep it practical and simple enough for the learning to be easily understood and applied in practice. In Menomonee Falls, Dr. Greco stressed that at the beginning especially, it was important to make the learning "doable" for busy people by keeping the language and tactics of improvement approachable and "stupid simple." With this last comment she was not downplaying the intellectual capabilities of her staff, but emphasizing that ideas needed to be accessible if she expected people to adopt them in practice. Participants from

Sanger also underscored that staying focused on the same clear goals and routines year after year simplified what they needed to attend to and allowed them to learn deeply in the areas where they needed to improve.

Develop leaders from within. In both districts, leadership development emerged as a central subset of superintendents' work to *Develop Capability*. Key here is the creation of an intentional development pipeline through which staff can learn the mindsets, knowledge and skills needed to advance their capability to lead continuous improvement. Both superintendents recognized that acquiring those skills and learning to align one's behavior with the district culture took years, and that the more the district improved the harder it would be to hire people from the outside who had the skills and contextual knowledge to be able to effectively fulfill complex leadership roles. For both districts, leader development was also a core strategy to retain outstanding staff.

As described above, in Menomonee Falls, Dr. Greco invested most heavily in the district leaders' development, with the goal of supporting them to embed routines into their work that simultaneously increased their leadership effectiveness and caused them to learn how to improve their practice based on rapid cycles of feedback. These leaders were then expected to use what they learned to create and implement formal succession plans with each of their staff so that multiple people became prepared to take on their role in the event that they were promoted or left the district.

The Sanger approach to leader development began with intentionally selecting teacher leaders for school-based PLC's, and promoting those who were most successful in aligning their team's work with the district vision and goals to school-level leadership positions such as instructional coach and principal. More than a decade into the district's

improvement efforts, everyone in the district central office, including Mr. Navo, has risen through the ranks of the district, learning Sanger's culture and the skills to lead effectively within that district's context by progressively taking on more responsibility within a system that has stayed on a consistent course. As Mr. Kesterke explained,

> [W]hen we look for leaders and principals, we grow our own. We try to groom people and coach people so that they have the potential to backfill as people leave the district, rather than going outside and expecting someone to come in and just be part of the culture.

Here, he described Sanger's leader development strategy as a way to sustain the organization's improvement efforts and recognized that leaders hired from the outside were unlikely to be a good fit for the district. From this perspective, developing the capability for improvement necessarily included developing people to lead improvement.

Hold other leaders accountable. Both superintendents described ensuring accountability as an essential complement to the support that they provided to develop the capability of their leadership teams. From their perspectives, receiving the necessary support and being held accountable were both necessary for people to be able to meet high expectations. Beyond participating in training and team learning, district and school leaders needed to act to further the district's vision, strategy and goals, and it was the Superintendent's responsibility to ensure that they followed through. Further, this responsibility was one of the few that rested with the Superintendent alone, as no one else in the district had the position or authority to do so.

Principals and CIOs in both districts agreed with their superintendents that holding other leaders accountable was an important way that the executive leaders

created the conditions for continuous improvement. They also similarly highlighted the interaction between accountability and support, describing both as necessary for people to reach high expectations. Further, multiple leaders introduced the idea of mutual or reciprocal accountability,[15] describing it as a two-way street in which one party is answerable for meeting expectations and the other takes equal responsibility for supporting the first person's success. Not all interviewees viewed the accountability they experienced as mutual, but they did describe their current superintendents' actions as pairing accountability with support, with more emphasis on the support.

How each superintendent maintained a healthy balance of accountability and support for *Developing Capability* varied across contexts. In Menomonee Falls, a key to Dr. Greco's improvement strategy was to develop district and school leaders first so that they could develop their teams by modeling and coaching new skills and behaviors. While she expected staff to be on a continuum of performance in the early stages of change, she needed her leaders to consistently follow through on the "Always Actions"[16] (Studer & Pilcher, 2015) that formed the foundation of the district's improvement approach. Dr. Greco initially held leaders accountable for "the process," meaning making genuine attempts to do the Always Actions, apply their learning to improve their own practice or ensure their staff acted in alignment with the district strategy. She did so through regular individual meetings, and by raising questions about required actions with

[15] The term "reciprocal accountability" was coined by Richard Elmore (1997, as cited in Elmore, 2000) which he describes as follows: "If the formal authority of my role requires that I hold you accountable for some action or outcome, then I have an equal and complementary responsibility to assure that you have the capacity to do what I am asking you to do" (p.21).

[16] Studer Education describes "Always Actions" as "actions that teachers should perform every day in their classroom to help students achieve" (Studer & Pilcher, 2015, p. 203). In Menomonee Falls, interviewees also used the term Always Actions to refer to required leader behaviors and routines.

the leadership team. For example, when leaders were learning PDSA cycles, she would ask the team, "What was your target and how did it actually come out?"

Over time, Dr. Greco also began to hold leaders accountable for outcomes, and one of the more difficult but necessary aspects of the job was counselling out or letting go of a few people who were not able to meet high expectations despite sustained support. Not doing so would have jeopardized the opportunity for everyone who reported to those leaders to perform at their best, thereby compromising the system's chances for achieving excellence.

In their current district context, Menomonee Falls' leaders felt responsible to the process and to produce improved outcomes. They described feeling accountable to both model behavior aligned with a positive improvement culture and relentlessly pursue district goals.

While Menomonee Falls' accountability focus evolved over time from process to outcomes, Sanger's shifted in the opposite direction. When he became superintendent, Mr. Smith held principals accountable for improving their students' test scores. According to Mr. Navo, "Rich came in and … established a culture of you've got to get better and we'll support you. But you've got to get better… And so there was an accountability to student achievement that we needed at that time." Here Mr. Navo acknowledged that he thought Mr. Smith's form of accountability was important during that phase of the district's turnaround. This is notable because other principals, Mr. Navo's peers at the time, who did not produce the expected gains were subjected to public shaming and eventually let go.

This approach to accountability helped to produce multiple years of sustained improvement in scores, but with the advent of the Common Core, Mr. Navo thought that principals needed more flexibility to learn their way into leading their staff to produce deeper levels of student learning. He shifted to holding his team accountable to "the conversation," meaning that they needed to align all of their efforts and decision-making with the vision of creating options and opportunities for all students, with less emphasis on test scores as the sole measure of success. Reflecting on this decision, Mr. Navo maintained

> I think taking the focus off of scores really helped, and being accountable to the communication and the conversation… For me, I think, if I came in and shifted my accountability to…outcome-based being the priority measure of our district, it would not have coalesced this energy that we have right now.

In highlighting "the conversation," he described his emphasis on engagement and process over a strict focus on test scores as an important factor in motivating the district's ongoing improvement efforts. Mr. Navo still held people accountable to carrying out the vision and strategy of the district, often expressed as the "tights,"[17] but the test scores became a smaller part of the total accountability picture. Sanger CIOs and principals affirmed in their interviews that Mr. Navo had taken a different approach, although they most often still identified individual student outcomes, instead of "the conversation" as the focus of accountability. However, they did credit him with managing the balance of

[17] Loose-tight leadership is a concept DuFour, DuFour and Eaker (2008) use to describe an effective approach to leading effective learning communities. It involves promoting teacher autonomy and creativity by staying "loose" about how teachers advance the school's vision and values, while simultaneously remaining steadfastly "tight" about the need for everyone to adhere to shared vision, values and priorities as they try different strategies to achieve them.

accountability and support such that he made more space for innovation than there had been under prior superintendents.

Summary. While superintendents, CIOs and principals all recognized *investing in capability development* as a cornerstone leading continuous improvement, the focus of these efforts varied because they were *aligned with the vision and goals of each district*, which differed. Dr. Greco prioritized developing everyone to deliver "service excellence," supporting teachers to use PDSA cycles to improve instruction, and developing leaders in using Evidence-based Leadership (Studer & Pilcher, 2015) approaches and more advanced tools and methods related to improvement. She also included board members among those in whom she sought to develop capability to lead and support continuous improvement. In Sanger, capability development focused primarily on teachers and principals and aligned with the district's instructional priorities.

At a practical level, the superintendent's role in both districts was to set the agenda for capability development and prioritize the allocation of time and resources needed to support it. The executive leaders also ensured that new learning was simple and practical, and they set expectations for embedding learning routines into people's work that served to foster and reinforce new ways of thinking.

Across contexts, two additional key concepts related to *Developing Capability* emerged. First, participants described strategic efforts to, as Mr. Kesterke in Sanger described, "grow their own," meaning to *develop leaders from within* their districts to become effective leaders of continuous improvement. They also noted the interdependence between *Developing Capability* and accountability, and described the responsibility of *holding leaders accountable* as residing with the superintendent. Table

8 below summarizes key concepts related to *Developing Capability*. Please note that while the table appears to show that leaders across the districts gave very similar responses, a closer look at the findings for this domain suggests significant differences stemming from the variations in the districts' visions and goals.

Table 8

Summary: Develop Capability Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Develop capability	Invest in capability development aligned with district vision and goals	X	X	X	X
	Develop leaders from within	X	X	X	X
	Hold other leaders accountable	X	X	X	X

Create a culture of improvement. Having described participant responses related to how leaders *Set system-wide Vision, Goals and Measures* and *Develop Capability*, I now turn to a discussion of how such leaders *Create a Culture of Improvement*. Across contexts, the superintendents, CIOs and principals all described having the right organizational culture as a necessary foundation for continuous improvement, and they emphasized culture as an important domain of superintendent responsibility. Some even named their district's culture as the most important factor in their district's success and lamented that the leadership work to cultivate it was under-appreciated in comparison to the technical aspects of improvement. As Mr. Corey Golla, Director of Learning in Menomonee Falls, explained, "I've felt at times it's like we didn't talk enough about the

leadership component to this of just the challenges of shifting mindsets and the culture that needs to be in place to support all of this work." He was expressing a concern that improvement could not happen without leaders building a cultural foundation for its success.

In fact, both superintendents described establishing the right culture as a pre-requisite for improvement. Mr. Navo, referencing Margaret Wheatley (1992), argued that there are cultural pre-conditions for improving your processes, systems, and structures: "[Y]ou have to get that stuff solid…for the other stuff to fall into place." Similarly, Dr. Greco portrayed getting organizational culture right as "…an early part of the work" because changing the culture of the organization was necessary to get system-wide improvement.

The CIOs and principals interviewed also recognized that the superintendent played a key role in shaping culture. As Mr. Lopez, Area Administrator in Sanger, described, "[T]hey set the tone for the rest of our organization…for how we conduct and act ourselves… So what that person at the top does, it shows a lot of what we stand for." In his comments, he acknowledged the disproportionate impact of the superintendent's actions on the district's culture. To him and other district and school level leaders, attending to culture was both a necessity and an opportunity for executive leaders of continuous improvement.

Superintendents, CIOs and principals in both districts consistently cited four aspects of culture that were necessary to support system-wide continuous improvement: *psychological safety*, *transparency, collaboration*, and *relentless focus on improving toward the vision*. Additionally, Mr. Navo and the CIOs and principals in Sanger named

innovation. Each of these facets of culture is described in turn below, followed by an explanation of the actions superintendents took to shift their organizations' cultures to support improvement.

Psychological safety. For the superintendents, creating a sense of "psychological safety"[18] in their staff was a difficult but critical step in empowering them to take risks to try new ways of working, and to surface and act to solve problems in their path. As Mr. Navo explained, it was important to "…create a psychological safety…in such a way that…the people in the organization felt free to be more creative, to be more innovative, to make mistakes." He understood that safety allowed people to experiment, possibly fail, and learn from the experience, and all of these activities were essential to the district's successful continuous improvement.

While the superintendents' descriptions of their focus on psychological safety were somewhat strategic, CIOs and principals in both districts described psychological safety as the attribute of their organizational culture they valued most. Collectively, they characterized it as a sense of trust, the absence of blame, feeling empowered, knowing others will assume positive intent, and encouragement and support to take risks.

The most salient examples illustrating what a safe culture looks and feels like came from leaders in both districts who explicitly called out creating psychological safety around the use of data as a fundamental shift in their districts' cultures that enabled continuous improvement. For example, Ms. Salomonson described a process of intentionally changing how they viewed data as a key part of their district's transformation:

[18] Phrase used by interviewees to characterize one aspect of their organizational culture.

> When we started that process, we had to sit down, and we had to make promises to one another. We had to have agreements about how we were going to look at that data and that data was going to be the voice that drove all of us to action, that the data didn't get to be a leverage point or a finger pointing or an accusatory tone. That data was just data, and then it wasn't meant to be looked at as something that was negative and pointing fingers and trying to find fault in the system, or fault in a person. It was really finding the gaps in our system.

Her comments describe a deliberate, collective effort to set a new norm of using data to understand how the system is currently performing and spur improvement activity, rather than as a way to identify specific individuals to blame for poor results. Recognizing the system rather than the individual as the focus of improvement efforts created the safety they needed to use their data as a resource to inform their actions.

In Menomonee Falls, the culture around data evolved in similar ways. In describing its current use, Mr. Golla included many of the same ideas mentioned by Ms. Solomonsen:

> We just look at the data as a snapshot of where we are. It's not a judgment about who we are. It's not a judgment about what we might be. It's just [these are] the results that we're getting for the work that we're presently doing and while sometimes we might be disappointed we should just say we're disappointed in the results, not disappointed in the people that work to get the results. Because everybody's working hard and everybody's committed.

Here, Mr. Golla offered an understanding that when data is used to support improvement, it is not used to judge individual performance or motivation. He implied that problems

are rooted in the work, not the people, which is a fundamental component of a culture of safety.

Transparency. In both districts, study participants described transparency as an essential underpinning of their improvement cultures. As Stephanie Rodriguez, Principal at Madison Elementary in Sanger asserted, "Transparency is probably the biggest difference between Sanger Unified and some other districts." For study participants, having a culture of transparency meant that information about processes, practices, performance and problems was readily and broadly shared, and that people were willing to be vulnerable and open about their successes and struggles. They also described transparency as engaging in open, honest communication, particularly about one's own learning or issues that might feel uncomfortable to discuss. Interviewees often credited this kind of transparency with contributing to building trust and psychological safety among staff because without it, problems and opportunities to improve remained hidden and the rate of people's learning was diminished.

Beyond these shared understandings of transparency, a couple of CIOs in Sanger introduced some additional nuance to how they understood this concept in their context. Mr. Kesterke in Sanger spoke of "reciprocal transparency," in which leaders were forthright in their communication, kept people informed and shared direct, immediate feedback. In return, leaders expected their staff to be open with information, identify concerns and ask for help when needed. Ms. Salomonson also described a slightly different interpretation of transparency, in that she extended it to the entire district community. She noted that Mr. Navo "has created a transparency where we as leaders don't get to work except in glass boxes, like we work in a transparent model, and we

work in an accountable model to our parents and our kids, for sure." Here, she associated transparency more closely with accountability than trust, yet emphasized its importance as a part of the culture that superintendents foster to support continuous improvement.

Collaboration. Collaboration was another aspect of culture named across roles and contexts as important specifically for supporting continuous improvement. In Sanger, interviewees repeatedly referred to their district's "collaborative culture," and district publications (Sanger Unified School District, n.d.) specifically name it as a foundation for continuously improving toward district goals. Further, the district's Transformational Leadership Rubric (Sanger Unified School District, n.d.) set the expectation for leaders to build it. One of three categories on the rubric is "Group vs. Individual." Within this category, target leader behaviors include "Expects and supports staff to learn from each other in multiple ways that develop their capacities" and "Leaders' actions are primarily directed to develop group and function of teams."

This emphasis on team learning and effectiveness directly supported cultivating a team identity. As Mr. Kesterke described it, "We're all in this together" and people were there to support one another in doing difficult work. This team identity was important within leadership and departmental teams, but also extended beyond their immediate colleagues to feeling a sense of interdependence and co-ownership for the success of the whole district.

This last aspect of collaboration represented the most common view of collaboration in Menomonee Falls. Dr. Greco argued that the district needed to be "your first team," and one of the tenets of the district's Evidence-based Leadership (Studer & Pilcher, 2015) approach was to eliminate "we/they behavior" (Kuktelionis, 2019),

meaning that communication and actions that reinforced artificial boundaries or social groups, or shifted blame to others, could not be tolerated. The district intentionally fostered a collective sense of responsibility for working together, often across traditional organizational boundaries, to achieve their vision.

A few leaders explicitly connected capacity for collaboration with mutual learning. For example, Ms. Doerr in Menomonee Falls offered,

> […] if I collaborate and share my learning with others, that may make their learning easier or quicker or some of their improvements that they're going to make go a little bit easier 'cause they can learn from what I've learned. So this idea of sharing and collaboration I think is really important.

To her, collaboration enabled learning to take place more easily and facilitated the improvement process. Sharing learning to accelerate each other's improvement progress in this way was an important component of collaboration that surfaced in both contexts.

Relentless focus on improving toward the vision. In both districts, the superintendents coupled their efforts to create psychological safety, transparency and collaboration with a *relentless focus* on making rapid progress toward achieving the district's vision. They named this concentrated, insistent attention as crucial for maintaining motivation and momentum for their organization's improvement efforts. As Dr. Greco contended, people need to believe that they "can always get better." She was intent on creating a shared sense of urgency to progress in their improvement journey, knowing that they would never arrive.

In their interviews, the CIOs and principals in both districts honed in on their superintendents' dedication to focusing everyone on working toward their district's

vision and goals, and pushing them to continually improve. They also shared how their leaders did this through asking tough questions and consistently signaling an urgency for everyone to keep taking steps to get better. Ms. Thomas in Menomonee Falls portrayed Dr. Greco as "relentless in her pursuit of getting better," explaining that,

> [W]e can always do something else and…she's relentless about us trying to do more. Not trying to do more, because more implies like your plate is getting fuller, but you can take another step towards our goal.

Ms. Thomas felt Dr. Greco pushing her and her colleagues to keep making forward progress in their improvement efforts.

In Sanger, staff felt this same kind of relentlessness from Mr. Navo, and it was always focused on delivering the best possible experience for their students. Echoing many of his colleagues, Mr. Kesterke described how Mr. Navo communicated this sense of urgency:

> He presses people, he pushes you. He pushes you to be better. He pushes you to know answers. And it's in a coaching, supportive way; it's not a demeaning or hammering you way. But he expects a lot out of his people because he expects the best for kids.

Important here is Mr. Kesterke's linking of Mr. Navo's actions with his motivation to produce the best possible outcomes for students. This unyielding, personal attention to improvement toward the district's vision was common to both superintendents and was widely recognized as a driver in their districts' improvement efforts.

Innovation. Leaders across roles and districts discussed having a clear *Vision and Goals* and investing in *Capability Development* as catalysts for *innovation.*

However, it is also worth noting that Mr. Navo and the CIOs and principals in Sanger identified *innovation* as an important facet of their improvement culture. They described their district as a place that encouraged "out-of-the box thinking" in which the superintendent alternatively allowed, supported and celebrated people's efforts to stretch themselves and try out new ideas. Closely linked to psychological safety, having a culture of innovation meant feeling encouraged to take risks in service of improvement.

Leader actions to create a culture of improvement. Dr. Greco and Mr. Navo reported engaging in a range of activities to nurture the type of organizational culture supportive of improvement detailed above. They built relationships and social connections with people that engendered trust. They persistently communicated, modeled and recognized desired behaviors, including celebrating successes from the board room to the classroom. As they pushed people to continually take the next step to improve, they also created opportunities for staff to feel pride and ownership in their work, and, as Dr. Greco described, to feel "connected to something bigger than yourself." Finally, they were visible and present, and they regularly checked in with people doing the work at every level of the organization.

The CIOs and principals in both districts concurred with their leaders about what they did to *Create a Culture of Improvement*. Of all these actions, however, these leader most appreciated their superintendents' efforts be "cheerleaders" who recognized their contributions as valuable to the organization and who celebrated everyone's successes. They highlighted that both Mr. Navo and Dr. Greco noticed what people did in meaningful ways, and those in Menomonee Falls praised Dr. Greco's system of collecting and broadly sharing emailed "shout outs" (Studer & Pilcher, 2015) to

recognize staff across all departments for exemplary performance. As a result, staff felt valued and significant. Mr. Chris Carlton, Manager of Facilities in Menomonee Falls described the effect as, “It's powerful, if you have a sense of worth in what you're doing, that makes you wanna come to work. It makes you wanna make people happy, you feel like you're a part of something.” He linked the superintendent’s recognition to increasing the staff’s motivation to continue their improvement efforts. Knowing that their work mattered to the superintendent mattered to their leadership teams and staff.

In Menomonee Falls, a small number of leaders also called out Dr. Greco’s intentional engagement and support of everyone in the effort to improve as an important early action that she took to build an improvement culture. As described earlier in *Develop Capability*, Dr. Greco invested in district-wide professional development to create a culture of service, and built systems and routines with her leaders to ensure that everyone received regular feedback and support to align their behavior with the new culture they were constructing together. Starting in this way enabled her to work with operational departments early on to deliver ‘quick wins,’ such as dramatically reducing workplace injuries and response times for technical issues, which made an early, tangible difference in generating momentum for improvement across the district. As Ms. Thomas, described,

> Pat's investment into the operational side of the house, our custodians, our kitchen, our administrative assistants, our educational assistants, her investment in their development has really, I think that's one of the keys to making a difference, to why the culture feels different here.

Ms. Thomas highlighted how Dr. Greco's inclusion of and investment in all staff to enable them to contribute to improvement efforts made a difference in shifting their district's culture.

One key activity that Sanger participants identified as central to changing the culture in their district was establishing Professional Learning Communities (PLCs) across the district. These communities served to foster trust and collaboration among instructional staff and helped them to recognize their interdependence. As described in the earlier section presenting findings for *Develop Capability*, the PLCs also served as forums for developing leaders who learned and could advance the district's culture.

Finally, multiple interviewees in Sanger also attributed positive aspects of their current culture to Mr. Navo's decision to ease the emphasis on test scores as the primary measure used for accountability purposes. They reported feeling more psychologically safe and supported to innovate as a result.

Summary. Participants in all roles and both districts affirmed the centrality of *Creating an Improvement Culture* to the "*Doing*" of leadership for continuous improvement, with the superintendents asserting that having the right culture was an important foundation for successful improvement efforts. Within this domain, all leaders named *psychological safety*, *transparency,* and *relentless focus on improving toward the vision* as important components of a culture supportive of improvement. The CIOs and principals in both districts also emphasized *collaboration*, and those in Sanger named *innovation* as another important aspect of their improvement culture.

The superintendents in both districts took many similar actions to build their desired organizational culture, including building trusting relationships, modeling and

recognizing desired behavior, being visible and present and celebrating successes. This last activity held the most meaning for the CIOs and principals and their teams. However, there were some key differences in the districts' strategies for shifting culture. Menomonee Falls invested heavily in everyone's development and engagement in improvement efforts, whereas Sanger leveraged its PLCs for shifting mindsets and behaviors. Please see Table 9 below for a summary of the key concepts related to *Creating a Culture of Improvement*.

Table 9

Summary: Create a Culture of Improvement Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Create a Culture of Improvement	Establish psychological safety	X	X	X	X
	Ensure transparency	X	X	X	X
	Support a collaborative culture	X	X	X	X
	Relentlessly focus on improving toward the vision	X	X	X	X
	Encourage innovation			X	X

What leaders do: Comparing perspectives across roles and districts (RQ3). At a conceptual level, superintendents, CIOs and principals across both districts were remarkably aligned in their thinking about what their executive leaders did to create the conditions for continuous improvement in their districts within the domains of *Setting a System-wide Vision, Goals and Measures; Developing Capability;* and *Creating a*

Culture of Improvement. They named identical key concepts related to *Developing Capability*, and their responses varied only slightly in the other domains. Further, they all portrayed the superintendent as actively and personally involved in the work of each domain. These superintendents sought broad engagement and relied on the integral involvement of other district and school-level leaders, but they also took responsibility for actually doing the facilitating, communicating, modeling, pushing, asking questions, building relationships, and supporting and holding people accountable that system-wide improvement requires.

The most significant distinctions surfaced between contexts, and the most striking one appeared to be connected to differences in the foci of the districts' vision, goals and measures. Menomonee Falls' vision to pursue operational and instructional excellence through learning aligned with the district's prioritization of capability development that fostered district-wide engagement and built improvement capacity. In contrast, Sanger emphasized growing the skills to participate in PLCs and providing effective instruction to further their vision of achievement, options and opportunities for all students. Consequently, how each district developed its leaders and what the superintendent held those leaders accountable to do were also different.

Other contextual variables seemed to influence the different paths taken in the evolution of each district's improvement culture. While the districts' current cultures have many similar elements, they have not always been so aligned. Sanger's turnaround was precipitated by dismal outcomes for some student groups and impending state takeovers of many of its schools, and the superintendent at the time put more emphasis on accountability for results than support. Mr. Navo's more recent efforts to create the

safety and freedom to innovate, and to prioritize engaging in the "conversation" or improvement process rather than focusing solely on test scores came only after the district had achieved stability and recognition for pulling itself out of failure. Dr. Greco began with a heavier focus on engagement, defining excellence and establishing a psychologically safe culture. Her focus has evolved toward a culture in which staff members simultaneously feel safe to take risks and a relentless push to produce ever better results. It is notable that finding the right balance between support and accountability, and creating an environment that is at once safe, transparent and relentlessly focused on pursing a shared vision surfaced as two main leadership challenges in both districts.

One additional difference between the districts appeared related to culture. Participants in Sanger emphasized the importance of innovation whereas those in Menomonee Falls did not mention the term. The closest concept that they described was effective problem solving, which surfaced in relation to improvement capability rather than culture.

Having completed my discussion of findings regarding *What Leaders Do*, I now turn to examining *Where Leaders Focus Efforts* to create the conditions for continuous improvement. As in prior sections, I first consider RQs 1 and 2 simultaneously for each key concept and then discuss findings related to RQ3.

Where Leaders Focus Efforts

The findings about where leaders focus efforts concern the high-leverage areas where the superintendents apply concentrated attention and build the organizational infrastructure to advance continuous improvement in their districts. The table below

shows the alignment of study participants' responses with the domains in the original conceptual framework.

Table 10

Summary: Where Leaders Focus Efforts to Create the Conditions for Continuous Improvement – High Level

		Menomonee Falls		Sanger	
	Original Conceptual Framework Domain	Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Where Leaders Focus Efforts	Promote Organizational Alignment	X	X	X	X
	Create an Effective Improvement Infrastructure:	X	X	X	X
	• Disciplined improvement methods	X	X	X	
	• Effective use of data	X	X	X	X
	• Develop leaders from within	X	X	X	X

Across districts and role groups, study participants affirmed that leaders of system-wide continuous improvement need to attend to *Promoting Organizational Alignment* and ensuring that the district develops an *Effective Improvement Infrastructure*. Within the second category, building the capacity for *effective use of data* and *developing leaders from within* were mentioned by superintendents, CIOs and principals in both districts. However, as previously discussed, *developing leaders from within* also surfaced as a capability development strategy. Both role groups in Menomonee Falls and Mr. Navo in Sanger also recognized establishing *disciplined improvement methods* as an important component of their improvement infrastructure.

Beyond the domains articulated in the original conceptual framework, two additional key concepts surfaced regarding the districts' improvement infrastructures.

Mr. Navo and CIOs and principals in both districts highlighted *establishing effective decision-making processes* as important for expediting improvement. Dr. Greco also noted the importance of *connecting with external organizations and resources* to accelerate learning around difficult, deeply entrenched problems. To that end, she had already involved herself in a community-wide collective impact[19] effort that fostered collaboration among many of the systems and organizations that sought to promote children's well-being in Menomonee Falls. However, the question remained for her, "How do you connect with the networks out there that have figured out more than you have on the key problems that you have, and where do you look for that?" She lamented that Menomonee Falls lacked a reliable process for learning from others about their most pressing problems of practice.

Given that both role groups and districts named *Promoting Organizational Alignment* and *Developing an Effective Improvement Infrastructure* as important areas of focus for superintendents, I further illustrate the key ideas within each domain below. In regard to *Improvement Infrastructure*, I focus on describing responses related to *disciplined improvement methods*, *effective use of data*, and *establishing effective decision-making processes*. Although the idea of *developing leaders from within* could also be considered a part of an improvement infrastructure, I do not address it here as I discussed it previously in relation to *Developing Capability*. Further, because Dr. Greco was the sole interviewee to mention *connecting with external organizations and resources*, I do not elaborate upon this idea in more detail below.

[19] A community wide, collective approach to improving student achievement pioneered by the Strive organization. Key elements of collective impact include a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations. (Kania & Kramer, 2011).

Focus on: Executive leader, CIO and principal perspectives (RQ1 and RQ2).

Promote organizational alignment. The need for the superintendent to continually work to align all of the organization's systems, processes and activities with the district's vision surfaced as a prominent theme across contexts and roles. Dr. Greco and Mr. Navo described promoting alignment as a constant endeavor requiring daily attention, and they leveraged many of the work activities I have discussed in prior sections to do so. Through *Setting a System-wide Vision, Goals and Measures* that clearly described the district's common aim and ways of knowing whether they were moving toward it, they set a foundation of shared understandings that made alignment possible. Their efforts to *Develop Capability* supported staff to learn the skills and behaviors they needed to work more effectively toward achieving the district's vision. Further, in *holding other leaders accountable,* the superintendents supported and required the other leaders in the district to adopt new behaviors aligned with their learning and district goals. As I discuss in the next section, the superintendents also employed their *Improvement Infrastructure* in service of alignment.

In addition to all of these activities that contributed substantially to aligning efforts, study participants discussed specific superintendent actions that they associated chiefly with *Promoting Organizational Alignment*. The superintendents, CIOs and principals from both districts named *communicating clear, consistent messages* and *allocating resources to achieve the vision* as important work that the superintendent did time after time to align everyone's efforts toward achieving the district's vision.

Communicate clear, consistent messages. Both Dr. Greco and Mr. Navo said that they needed to clearly, consistently and strongly articulate their district's vision, goals

and strategy at every opportunity to *Promote Organizational Alignment*. Dr. Greco described sending the same message "one thousand times in one thousand different ways" to constantly make connections between the improvement work and what the district was trying to accomplish. As Mr. Navo explained, the role of the superintendent was "…communicating with the system around what we're doing, why we're doing it and how it helps our goals and initiatives." This emphasis on messaging 'what, why and how' on every possible occasion, along with setting clear expectations for all departments, divisions and schools to work toward district-wide goals was central to both superintendents' approaches to communication.

Part of the content of their communication was to explicitly describe aligned behaviors to help people translate the vision into their own work. In Menomonee Falls, Dr. Greco allocated discussion time in many leadership team and board meetings to ensure that they all shared a common understanding of how they needed to function as a district, and of the implications of their shared vision for each of their individual roles. As described in *Develop Capability*, she also invested in a district-wide process to establish first the standards of service excellence, and later the Always Actions (Studer & Pilcher, 2015), both of which spelled out specific behavioral expectations for all staff. In tandem, these standards and Actions provided unambiguous guidance to staff at every level regarding how they needed to act, and provided a common reference point for Dr. Greco's "thousand conversations" to help people see how to align their activities with the district's vision and goals.

In Sanger, Mr. Navo described his role in providing clarity about what is "loose" and what is "tight."[20] He thought his communication needed to help his staff deeply understand the boundaries and responsibilities implied by the vision and strategy of the district. As an example, Mr. Navo offered,

> I spend a lot of time as a superintendent ensuring that our principals understand what the goals are, what the initiatives are, what the values of the district are, what the foundation of the district is built on and translating that into the actual work that we are doing.

He invested his time in helping his staff see the connections between the district's vision, values, strategy and goals, and the contribution of their specific work. For Mr. Navo, this type of work was not limited to the principals, but extended from the boardroom to the classroom and across all departments.

Mr. Lopez, Area Administrator in Sanger, described Mr. Navo's communication efforts from a staff perspective. He called out Mr. Navo's ability to reflect back to the staff what he sees happening in the district as playing a key role in promoting alignment. According to Mr. Lopez, Mr. Navo's ability to "…be clear about the strengths and weaknesses and be able to say what we're doing about those things that aren't perfect yet, that aren't getting us there" was crucial to promoting everyone's understanding of how they needed to continue to change to continuously improve. For him, effective superintendent communication included offering clear, actionable feedback that enabled people to calibrate their own work and see how they could more effectively contribute to accelerating improvement.

---

[20] See footnote 18 for a discussion of "loose-tight leadership" (DuFour, DuFour & Eaker, 2008).

In addition to helping his staff connect their work to the vision, Mr. Navo also named the importance of building communication networks as foundational to his effectiveness in promoting alignment. For example, Sanger instituted a communication process that ensured that every department and building team learned of cabinet level decisions within 24 hours after meetings. Further, Mr. Navo had built trusting relationships throughout the organization that made it possible for him to check in with staff across the district to learn how the decisions were communicated and received. In tandem, these formal and informal processes enabled him to keep a pulse on alignment on an ongoing basis, and make quick corrections or intervene if needed.

While clarity and consistency in the superintendent's messaging surfaced as significant across both districts and roles groups, the CIOs and principals were particularly emphatic that being able to count on consistency was vitally important for continuous improvement. In both districts, they stressed the importance of staying the course over time and having leaders who delivered a consistent message day after day, year after year. They saw leading the direction of the district as the superintendent's and board's role, and credited their leaders with creating long-term continuity that supported their improvement efforts. Ms. Rodriguez in Sanger described the impact as,

> […] the fundamental beliefs, the core values that we have as a district, we haven't added 15, we haven't changed our vision 20 times. We said, 'This is where we're going, 100%, all in, and we're going to get better, and better, and better at it every single year.'

To her, having a consistent direction enabled the district to continually improve toward a stable vision rather than repeatedly changing course. Getting better each year would not have been possible without that consistent message coming from the top.

Mr. Corey Golla, Director of Learning in Menomonee Falls, who at the time of his interview had been recently appointed to follow Dr. Greco as superintendent when she retired in June 2018, echoed Ms. Rodriguez's point. He joked that he had heard Dr. Greco's consistent message for so many years that he could recite her words from memory. Joking aside, he appreciated that as a result of Dr. Greco's unswerving efforts, the whole district had a deep, shared understanding of its vision and goals. He saw that he had the opportunity as superintendent to deepen and accelerate the district's improvement because of the alignment Dr. Greco was able to create through her consistent communication.

Allocate resources to achieve vision. Resource allocation figured prominently in Menomonee Falls' improvement story. As I described in the district and superintendent overviews, after Dr. Greco was hired as superintendent she put on hold all discretionary spending, including for school supplies and routine professional development. Simultaneously, she persuaded the board to allocate $400,000 to support the district's improvement efforts, which primarily consisted of capability development for leaders from all buildings and departments that aligned with the district's mission, vision and strategy. Early in their improvement journey, operational teams such as the Facilities department learned to improve their processes to deliver better service and reduce costs simultaneously, which enabled them to reallocate funds to support instruction. Reductions in worker's compensation claims due to safety improvements enabled the

district to protect Kindergarten aids from layoffs when the governor cut state education funding. Savings from improved cleaning routines and increased energy efficiency were similarly used to support improvements in the classroom.

Dr. Greco saw resource allocation as a way to send a clear message across the district about her commitment to and the benefits of the district's continuous improvement journey. Interviews with her principals and CIOs indicated that this message was received, as these leaders frequently mentioned resource allocation as a tangible expression of ongoing organizational alignment. Ms. Doerr's comments were similar to many of her colleagues, when she explained that Dr. Greco's actions communicated a "…very clear opportunity and direction on what the expectation is, where we were going, and how everything that we were bringing on should align with that mission and vision." She and her colleagues saw Dr. Greco's actions related to resource allocation as a clear signal regarding what she expected from them going forward. Through her new approach to resource allocation, Dr. Greco modeled aligned decision-making concretely and impactfully.

While no single instance stood out for Sanger, a similar emphasis on resource allocation as an integral means of promoting alignment emerged from the interviews. Ms. Jones spoke for many of her colleagues in describing Mr. Navo's message as, "[We] put our resources where we say we're going with our priorities, so if we're saying, college and career readiness is a priority that (is where) we put all of our both human and financial resources." She saw a direct relationship between district goals and resource allocation. In Sanger, this type of alignment was often realized by carefully selecting professional development to align with instructional goals, allocating leader time to focus

on key initiatives and ensuring that school goals and budgets reflected district priorities. Ultimately, it was the superintendent's role to ensure that everyone understood how to do this, and that it happened consistently.

Summary. The superintendents in both districts *communicated clear, consistent messages* and leveraged *resource allocation* to *Promote Organizational Alignment*. They repeatedly conveyed the same message, employing a range of communication strategies to set clear expectations and continually deepen people's understanding of how to translate the district's vision into their everyday work. Further, their public and steady resolve to only spend time and money to directly support their districts' vision and goals sent a strong signal about the organization's priorities. Please see Table 11 below for a summary of the key concepts related to *Promoting Organizational Alignment.*

Table 11

Summary: Promote Organizational Alignment Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Promote Organizational Alignment	Communicate clear, consistent messages	X	X	X	X
	Allocate resources to achieve the vision	X	X	X	X

Create an effective improvement infrastructure. *Creating an Effective Improvement Infrastructure* refers to the collection of actions that executive leaders take to develop systems, structures and routines to support continuous improvement work and make it practical for staff throughout the organization. It is distinct from intentions,

exhortations, or implementation of programs or processes that are not directly supportive of building organizational capacity for improvement. *Using disciplined improvement methods, using data effectively* and *establishing effective decision-making processes* were named as key elements of *Creating an Effective Improvement Infrastructure* in both districts, although the emphasis on each varied across contexts and roles. I describe each in more detail below.

Use disciplined improvement methods. Both superintendents asserted that building a system of common improvement language, processes, tools and methods across the district was an important support for continuous improvement, however this effort was much more prominent and deliberate in Menomonee Falls. The idea of improvement as a 'discipline' as opposed to an activity also surfaced more frequently in that district.

Dr. Greco approached leading improvement with a foundation of knowledge gained from her studies of improvement experts such as W. Edwards Deming, Clint Studer and Anthony Bryk of the Carnegie Foundation, and she had developed an informed view of the principles, methods and tools that staff in various roles and levels of the district would need to reliably contribute to system-wide continuous improvement. For Dr. Greco, continuous improvement meant approaching the work with an understanding of what was needed from the perspective of the person you are trying to serve, and then "reducing hassle, removing barriers, and solving problems" (a reference to Ahlstrom, 2015). As previously described in the *Develop Capability* section of the findings, she worked to ensure that staff members across the district were developed to use common ways to reliably do all three of these things by piecing together training in a

portfolio of improvement capabilities from multiple sources. Studer's processes enabled Dr. Greco to establish expectations and feedback loops around district-wide goals, and the Model for Improvement (Langley et al., 2009), including PDSA cycles, guided Menomonee Falls' routines for regular reflection and learning grounded in the scientific method. Further, the district drew on the domains of project management, effective decision-making and quality improvement for additional tools and processes to guide and accelerate larger scale improvement efforts. Key here was that these shared approaches and tools became embedded in work routines that were common across the district, such that when anyone encountered a hassle, problem or barriers, the way to address it was commonly understood and routinely followed.

As described in *Develop Capability*, learning and spreading these shared methods placed a particular responsibility on the CIOs and principals across the district. First, they needed to become skilled practitioners capable of leading their teams through disciplined processes to achieve true improvement. Dr. Greco and Mr. Golla worked deliberately to build this capability, efforts that were recognized by other district leaders, including Ms. Doerr. As she described,

> Pat (Greco) and Corey (Golla) have done a nice job of making sure that those people who are kind of leading the charge of systems improvement have those tools in their tool belt to see the system, to see the different processes, and before we actually make an improvement, they have a series of tools that they can use to understand how that improvement is gonna impact other processes.

Here, Ms. Doerr described leaders as being prepared to "see the system,"[21] a pre-requisite step to making change in a disciplined quality improvement process. Further, her comment made an implied reference to an approach to problem solving that all of these leaders were expected to follow.

Menomonee Falls' leaders, however, did not only need to learn the tools and approaches themselves, but they also needed to be able to teach others to do the same in the course of making improvements together. Part of their essential role in system-wide improvement was to involve and develop those who actually interact with the processes that need to be improved, helping them to see the interdependencies between processes and make improvement recommendations. As they did this, people at all levels across the whole district learned a shared, disciplined approach to improving their work.

In Sanger, Mr. Navo recognized the need for disciplined improvement methods, and described the district as having adopted various tools and approaches over time as varying needs arose. Explained Navo, "In my opinion, the continuous improvement journey…involves things like building capacity, improvement science, establishing problems of practice, Plan-Do-Study-Act processes that we just did but didn't have a coherent working map for it." He named important components of improvement methods that Sanger had adopted over time, acknowledging that they had not conceived of these approaches as one, unified system. Perhaps reflecting the organic integration of specific tools and practice over an extended period of time described by Mr. Navo, CIOs

[21] "See the system that produces current outcomes" is one of six improvement science principles as described by the Carnegie Foundation. The others are, "make the work problem-specific and user centered," "focus on variation in performance," "we cannot improve at scale what we cannot measure," "use disciplined inquiry to drive improvement," and "accelerate learning through networks"(Bryk et al., 2015, pp. 12-17).

and principals in Sanger did not mention common improvement tools and methods as an important part of their district's improvement infrastructure. Instead, they focused on the impact of shared routines, or processes and structures built into daily and weekly work to enable learning, such as their PLCs.

Sanger's most cross-cutting and long-standing discipline was the use of the four questions in their PLCs, followed closely by similar cycles of looking at instructional data, learning from it and making improvements that the district established at every level of the organization. Mr. Navo called out this work as central to the district's improvement efforts, arguing that people have to be

> […] willing to look at that data and feed the system the data and respond to the data and change your practices as a result. If you're not willing to change any practices as a result of anything you've looked at then you're not really on a continuous improvement journey.

He saw that if practice did not change in response to new information and learning, then improvement could not actually occur. It is also notable that, in his observation, he described many essential elements of improvement cycles, without using the language of specific quality improvement tools such as the PDSA. Rather than implementing an explicit system of specific improvement methods, Mr. Navo focused on establishing and maintaining the meeting structures and critical routines that disciplined teachers, principals and district leaders to make real change in response to new information.

Use data effectively. Leaders in both districts described needing a powerful data infrastructure to support their disciplined improvement work. To continuously improve, staff across the district required quick access to meaningful data, as well as the routines

and culture to use that data effectively. Mr. Navo and Dr. Greco both commented extensively on their investment in building this part of the district's infrastructure. Interestingly, the CIOs and principals rarely mentioned their superintendents in relation to supporting their ability to use data effectively, however the importance that they placed on this support appeared to validate their superintendents' focus on building this aspect of infrastructure.

Leaders in Sanger and Menomonee Falls described a wide range of data needs related to supporting improvement work. First, they needed summative measures of progress toward goals linked to the district's vision that remained consistent over time as much as possible. This information was necessary for accountability purposes and to drive annual or quarterly planning. In addition, they placed high value on formative data that could drive shorter cycle improvement and enable them to make immediate adjustments in response to student needs. Data-driven weekly, bi-weekly or unit-based improvement cycles were common in both Sanger and Menomonee Falls. The leaders also appreciated when they could draw from multiple quantitative and qualitative measures, segment student groups and make connections across data sets to answer key questions. A few also valued measures of "deep learning" that could indicate progress toward Common Core standards when available, and multiple Menomonee Falls leaders highlighted the importance of pairing outcomes data with process measures indicating how well they were able to do the work that they expected to produce a certain result.

Ms. Doerr offered an explanation of the type of student data and process data that she needed in tandem to better target improvement efforts. The information she valued was:

> […] not all just big student data. Some of it's some shorter cycle information. And then we also look at what I would call systems data. So how many teachers are giving their unit assessment by the weeks that they thought they were gonna give it? How many of the teachers are able to consistently administer a mini lesson given our guidelines? So those are some of the examples of data that I look at.

Ms. Doerr wanted to be able to see connections between what teachers were doing in the classroom and the short and long-term impacts on student learning. Because she understood that results are driven by process, knowing whether intended changes in practice were actually implemented enabled her to make a more specific diagnosis of what problems needed to be solved to make progress toward overall goals.

The CIOs and principals in both districts also recognized that district conditions and data-related capacities made a fundamental contribution to their effective use of data. As described in *Create a Culture of Improvement*, the safe, transparent cultures that the districts worked hard to cultivate enabled them to better leverage a data system that delivered broad, easy access to information. It was the culture that enabled the sharing of sensitive group and individual data, and the productive problem solving around it. They also named user-friendly data reports that reduced the need for tedious and time-consuming number crunching, teacher training in data analysis and data-driven decision-making, establishing common formative assessments within grade levels and subject areas, and team routines to look at data together regularly as additional essential supports. Having described the nature of the data and supports for its use that were valued by leaders in both districts, I now describe the nature of data use in each context in more detail.

In Sanger, Mr. Navo guided his team to build data systems that would make it easy for staff to get the information they needed to make decisions and know if the changes they were making were actually causing an improvement. In alignment with their vision focused on options and opportunities for all students, Sanger's data systems primarily housed student-related data connected to state and federal priorities, the local assessments (both formative and summative) that drove instructional decision-making in schools, and data from parent and student satisfaction surveys. This combination allowed everyone to track many aspects of student progress toward annual and shorter-term goals. As Mr. Navo explained,

> We have data now that uses our Illuminate and our Power School[22] and feeds our system in real time so I can pull up at any time and see where kids at Lincoln [Elementary] are with relationship to third grade reading.

His comment communicated the value he placed on being able to track individual students' ongoing academic progress. Having multiple sources of data accessible in one system enabled informed decision-making at all levels about what changes to adopt and what to test next.

Comments from other district leaders further illuminated how they used data for continuous improvement. As an example, Ms. Rodriguez, Principal at Madison Elementary School, described leveraging data to enable teachers to notice and respond immediately when something is not working:

> Say we give an assessment on Friday, we're meeting in our PLC the next day. If 20% of our kids were way far below where they needed to be for that standard

[22] Illuminate and PowerSchool are data systems designed for K-12 education.

> immediately the next day we're either working with our RSP[23] teacher and having them come in and teach different skills to those students, a different way of thinking for that math concept while the rest of the kids move on, or we're deploying within the classrooms of that grade level to reteach that strategy.

At her school, their weekly routine of giving common formative assessments, analyzing the results together in their PLC, diagnosing problems, and making and executing immediately on a plan to address those problems for each student enabled them to make rapid cycle adjustments in response to student needs. They needed useful data to be available at the time they needed it to inform their continuous improvement efforts.

In Menomonee Falls, Dr. Greco described building the needed data infrastructure as a "heavy, heavy lift" that was never completed. Her role as Superintendent was to hire a highly skilled director of technology into her cabinet, and then push for the development of a data system aligned with the vision and goals of the district and designed to support improvement. Dr. Greco identified her work to create a commonly owned scorecard (described in *Set System-wide Vision, Goals and Measures*) as a necessary prerequisite for driving the design of the data system to include both operational and instructional measures, as all data and its use in the district needed to link back to the vision that was measured by that scorecard. Further, because the data system also needed to deliver "small data fast" about processes as well as outcomes, Dr. Greco put significant effort into ensuring the use of common unit assessments across grade levels and subjects.

[23] RSP, or Resource Specialist Program, teachers work with students who qualify for special education services to provide individualized instruction to meet specific student learning needs.

Mr. Golla elaborated on the district's vision for using these multiple data sources to inform decisions:

> I think if teachers are able to see the quantitative outcomes in relation to what they're trying to do or that sort of hard data and they can combine that with what they observe and what they feel and what feedback they're getting from students. I think that gives them a nice combination of information to know what they want to do next. When we start getting into process mapping, you can really add a third piece in there so you can say this is how we teach a student to read. This is the result…that process is getting. This is what it feels like with the students and the teachers and it seems like that, all that information comes together. Now you've got a very informed team or individual to be able to make some powerful decisions about what to do next.

Here, Mr. Golla described an approach to considering formative and summative assessment data alongside process data to gain a deeper understanding of what needed to be improved to support specific students. Mr. Golla saw the district's data system as ideally having the capacity to view all of these sources of data in tandem to drive improvement efforts. While he recognized that the district did not have this capacity system-wide at the present, he was encouraged by intentional steps that they were taking in that direction.

Other Menomonee Falls leaders mentioned additional aspects of data use where the district had made progress, but where they also saw room for growth. Dr. Greco identified that, in addition to formative assessments, the district needed other useful, quick cycle data to inform decision-making around instruction. Mr. Nennig similarly

spoke to the challenges of identifying helpful, predictive leading indicators of student success, as well as of getting that formative data into their system efficiently. The latter needs to done on a short enough cycle to productively adjust instruction in a way that does not burden teachers with time-consuming data entry. He and many others also shared their learning that the data they take time to collect and report needs to answer a key question and drive action. As Mr. Golla observed,

> We've gotten very good at creating reports. What we have to get better at is making sure we question what we're trying to answer first and then getting the right report or the right data set to answer that question. Only dig deeper as we need to, as more questions surface when we're trying to solve a specific problem.

Having interesting data reports did not necessarily result in deeper learning needed to solve problems, and producing data that were not used to make change just wasted time and resources. Together, these observations pointed to future opportunities for further accelerating the district's capacity to learn and improve.

Establish effective decision-making processes. Mr. Navo perceived Sanger's decision-making processes as central enablers of the district's improvement efforts because they reduced bottle necks and allowed people to respond rapidly to information and quickly learn from the results of their action. As Superintendent, it was his role to ensure that for each decision his staff knew, "[W]ho is responsible for the decision and who are they going to collaborate with and when does the decision have to be made and what things need to be considered." To that end, he designed and communicated specific processes that he expected everyone to follow and pro-actively developed his cabinet's decision-making capacity by giving them feedback about how to make decisions that

were on their plate. For Mr. Navo, pushing problem solving toward the front line, bringing people with needed expertise into the decision-making process, and keeping himself out of decisions he did not need to make signaled an effective process. His desired result was for decisions to quickly penetrate the system and enable rapid responses to student needs, and he was proud to report that, compared to peer districts, Sanger scored the highest among peer districts on a "Decision Effectiveness Survey" administered by Bain & Company and the Stuart Foundation.

Other Sanger leaders shared Mr. Navo's perspective on their need for him to institute and maintain clear and efficient decision-making processes that serve to advance district goals. Mr. Martinez, Associate Superintendent, described the superintendent's role as

> establishing those clear paths, establishing those clear opportunities to say the decision is going to land in this particular position or this particular individual, and they will secure whatever inputs we believe are necessary a part of making a decision. And then allowing for the resources to also have accessibility to move an idea forward.

Mr. Martinez thought that clarity around how a decision would be made and executed needed to come from the superintendent. The combination of clear roles and access to resources to act once a decision was reached made for an effective process.

Dr. Greco did not discuss her district's decision-making process directly in her interviews beyond mentioning the training from Kepner-Trego, and Mr. Golla was the only one to address the topic among Menomonee Falls' other leaders. However, his remarks described a significant shift in the district's approach to decision-making toward

empowering people on the frontline to make decisions about their work using specific frameworks in tools. As Mr. Golla explained, before beginning their improvement journey,

> […] we may have set schedules and procedures or we might have made decisions about which intervention should be used as administrators that may or may not have direct experience in that work but it was just we had the power to make it. We had the authority to make those decisions so we made them.

Those in leadership roles made the decisions that they had the authority to make, regardless of whether doing so furthered the district's improvement aims. However, their learning about continuous improvement, led by Dr. Greco, caused district leaders to realize that people doing the work hold the most expertise and knowledge about it, and that they "…want to be empowered to make decisions and (become) leaders of their own work." With that in mind, the district has sought to develop people across the district to use improvement and decision-making frameworks and tools to analyze data and make decisions about their practice. From Mr. Golla's perspective, it has been a journey of pushing authority toward the frontline and giving the tools and support to everyone to make good decisions to improve their work.

Summary. While the title for this domain in the original conceptual Framework was *Create an Effective Improvement Infrastructure*, participants did not address "effectiveness" in their comments. Instead, they described the systemic supports that enabled them to continuously improve. Further, "create" implies that putting this infrastructure in place involves creative work on the part of the superintendent. Though this work may involve some original thinking, study participants described the

superintendent's role primarily as enabling the infrastructure to be built by guiding its design, engaging skilled people and allocating resources. Based on these findings, I rename this domain as *Build Infrastructure to Support Improvement.*

Please see Table 12 below for a summary of the key concepts within *Building Infrastructure to Support Improvement*.

Table 12

Summary: Build Infrastructure to Support Improvement Key Concepts

		Menomonee Falls		Sanger	
		Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
Build Infrastructure to Support Improvement	Use disciplined improvement methods	X	X	X	
	Use data effectively	X	X	X	X
	Establish effective decision-making processes	X	X	X	X

Focus on: Comparing perspectives across roles and districts (RQ3). Study participants across roles and districts named *Promoting Organizational Alignment* and *Building Infrastructure to Support Improvement* as important ways that superintendents work to create the conditions for continuous improvement. They described both as requiring personal and ongoing effort, however the second allowed for more delegation than the first. Within the domain of *Promoting Organizational Alignment*, participants indicated uniform agreement that the executive leader needs to *communicate clear, consistent messages* and *allocate resources to achieve the vision*. Further, they

recognized the significant contributions of leader activities to promoting alignment within the domains of *Setting System-wide Vision, Goals and Measures; Developing Capability;* and *Building Infrastructure to Support Improvement*.

There was more variation across contexts in interviewees' articulation of key concepts within the domain of *Building Infrastructure to Support Improvement*. In the case of *use disciplined improvement methods*, Menomonee Falls' approach clearly fit Park et al.'s definition of quality improvement referenced in Section Two, in that they had a "specific and coherent methodology and processes" (Park et al., 2013, as cited in O'Day & Smith, 2016, p. 315) district-wide. Sanger's consistent use of four key questions within Professional Learning Communities could also be considered to align with this definition in regard to improving instruction. However, as Mr. Navo explained, Sanger's approach was organic rather than a deliberate, coherent method with a unified quality improvement methodology, and it did not extend into operations. This difference with Menomonee Falls was reflected in the Sanger CIOs' and principals' silence on this subject.

The area of most convergence between the two districts was *using data effectively*. Leaders in both contexts described what they needed from their data infrastructure to support improving instruction as well as the challenges they faced in regard to data in very similar ways. The key difference was that Menomonee Falls expressed more demand for process data in both instruction and operations.

In regard to *establishing effective decision-making processes*, Sanger's leaders were more vociferous, indicating the importance of their ability to make informed decisions and execute on them rapidly to their ability to continuously improve. Mr. Navo

also linked decision-making to capability development, explaining that people need the freedom to make decisions and learn from them to grow their skills. In Menomonee Falls, Dr. Greco invested in training all of the district leaders in common decision-making processes and Mr. Golla described a shift toward empowering front line staff to make decisions affecting their work. Nevertheless, this topic was rarely discussed in interviews with study participants from Menomonee Falls.

Having described this study's findings, I now turn to a discussion of how these findings address the problem that motivated this inquiry.

Discussion

How education leaders create the conditions for system-wide continuous improvement is poorly understood at the district level, and this gap in research-based knowledge has hampered the Carnegie Foundation's efforts to engage and develop executive leaders to lead effective improvement work. As I explained in the introduction, building a testable, research-based framework that explicates a theory of how district-level leaders act to create conditions for continuous improvement would be an important first step toward accelerating the learning of the Carnegie Foundation and the field about how to grow and nurture effective leaders of improvement in education.

In service of building such a framework, I drafted a provisional framework based on a review of relevant literature across multiple sectors, and reported in detail how superintendents and their CIOs and principals from exemplary districts describe the superintendents' ways of thinking, actions and areas of focus to advance continuous improvement efforts. In the following discussion, I begin with a summary of patterns identified across framework domains, districts and roles. I then consider findings from

the literature alongside those from the exemplary districts I studied to construct a synthesis that contributes to the education field's understanding of how district leadership can best further system-wide quality improvement efforts.

Patterns across framework domains, districts and roles. Within each of the framework domains of *How Leaders Think*, *What They Do* and *Where They Focus Efforts*, I compared perspectives within and across districts and roles. I now turn to considering response patterns across all framework domains. I first identify patterns across districts and then discuss patterns across role.

Patterns across districts. The most apparent difference across districts related to the original conceptual framework involved the degree to which the framework matched participant responses. The responses from the superintendent and the principals and CIOs in Menomonee Falls were almost universally aligned with the original framework's domains, with the exception of *Embrace Personal Responsibility*, which was not mentioned by the principals and CIOs. In contrast, Sanger's superintendent was alone in identifying *disciplined improvement methods* as a key part of an *Improvement Infrastructure*, the district's principals and CIOs discussed *Embrace Personal Responsibility*, *Think Systemically*, and *Span Boundaries* when their superintendent did not, and neither group mentioned *Transform the System*. As such, the original framework appeared to be a better fit for describing what the superintendent did to create the conditions for continuous improvement in Menomonee Falls than in Sanger.

Other key differences between districts emerged within domains. As I mentioned in the summary of *What Leaders Do*, the content of the vison, goals and strategies of each district diverged in significant ways. Menomonee Falls emphasized pursuing operational

and instructional excellence through learning whereas Sanger's vision focused on increasing achievement, options and opportunities for all students through improving instruction. In essence, Menomonee Falls primarily built capacity to accelerate organizational and individual learning, whereas Sanger's main focus was on building capacity to improve instruction. Over the years, Sanger has accelerated its ability to learn through the improvement cycles integrated into its PLCs, however the district was not as explicitly focused on learning how to learn or "producing expert problem solvers" (School District of Menomonee Falls, 2017, p. 30) throughout the system.

These differences in vision, goals and strategies appeared to drive the superintendents to prioritize varied target audiences, methods, content and skills in their efforts to *Develop Capability*. Menomonee Falls' intentional inclusion of all staff and students and emphasis on consistent use of Evidence-based Leadership (Studer & Pilcher, 2015) and improvement tools and methods contrasted with Sanger's PLCs and focus on developing teachers' expertise in specific pedagogical approaches and content and improving principals' instructional leadership capabilities. Differences in *Improvement Infrastructure* also seemed related to the divergent visions, goals and strategies, in that Menomonee Falls recognized having *disciplined improvement methods* as central to their efforts and Sanger placed more importance on *effective decision-making.* Interestingly, however, both of these aspects of infrastructure were perceived as accelerating learning that enabled improvement.

Considering all of these differences across contexts as a whole, it could be argued that Park et al.'s (2013) definition of continuous improvement described in the literature review, with its emphasis on taking a systems perspective, measuring processes as well as

outcomes, having a "specific and coherent methodology and processes" (as cited in O'Day & Smith, 2016, p. 315) for improvement, and embedding quality improvement into everyone's daily work fits Menomonee Fall's approach better that Sanger's. From one perspective, Sanger's journey is more aligned with Elmore's (2000) definition of continuous improvement,[24] which includes the core ideas of sustained, system-wide improvement and engaging people in cycles of learning without requiring some of Park et al.'s (2013) more specific criteria mentioned above. However, it also appears that Sanger's standard, data informed cycles of inquiry within PLCs did form coherent methods and processes for improvement, at least in regard to instruction. While those in the district did not conceive of their approach as explicitly derived from the field of quality improvement, others have recognized a connection between using professional learning protocols and approaches to continuous improvement in industry (McDonald et al., 2012).

How the districts came to take these different approaches to improvement appears to be deeply rooted in each district's context and the knowledge and experiences of its leaders. Both districts were not performing well prior to beginning improvement efforts, but Sanger had been labelled as one of the lowest performing districts in California and was experiencing more immediate pressure from state to rapidly improve test scores. The community also had much higher poverty rates and proportions of students of color and English Language Learners. Menomonee Falls was at risk of federal sanction for poorly serving its students with special needs, however it had the reputation of a low value

[24] "Change with direction, sustained over time, that moves entire systems, raising the average level of quality and performance while at the same time decreasing the variation among units, and engaging people in analysis and understanding of why some actions seem to work and others don't." (Elmore, 2000, p. 13)

district more than a failing one (Milwaukee Magazine, 2008, as cited in School District of Menomonee Falls, 2017). Sanger's board responded by hiring Mr. Marc Johnson to dramatically improve student test scores, while Menomonee Falls' board, without having a specific approach in mind, sought a superintendent who could strengthen their district's operations and develop the capacity to use its resources more effectively to better serve all of its students. Once hired, Mr. Johnson focused on shifting the culture and improving instruction, approaches that were continued by Mr. Rich Smith and Mr. Navo. In Menomonee Falls, Dr. Greco had a different opportunity to leverage her vast knowledge of quality improvement to build an integrated and system-wide approach to pursuing excellence.

Given all of the differences described above, it is notable that the district responses converged so frequently in regard to the most important enablers of continuous improvement in their districts. In both cases, participants across roles and districts emphasized how important it was that leaders *Valued People* and *Learning*, and *Aligned the Organization* around clear and consistent *System-wide* Vision, Goals and Measures. Promoting *psychological safety* and encouraging *collaboration* while *relentlessly pursuing goals* and ensuring *transparency* were all vital components of the *Culture of Improvement* that participants in both districts named. Further, superintendents in both districts were described as striking the right balance of support and *accountability* to drive *Capability Development*.

Patterns across roles. Unlike the differences across contexts, there were few distinguishable patterns across roles. The only instance of responses dividing according to role groups was that CIOs and principals interpreted *Valuing Learning* in part as

believing that everyone can and must learn and superintendents did not explicitly describe it in that way. However, the volume of responses across districts and groups related to other supporting concepts of *Valuing Learning* suggests that this difference is not particularly significant. Other occasions when concepts were not named by all participant groups varied according to context or there was no discernable pattern.

What CIOs and principals did have in common was the tendency to place more emphasis on the leader actions that they perceived as personally supporting them to do good work and making them feel valued for their contributions. In particular, *Setting* and *Aligning the Organization* around a clear, consistent *Vision, Goals and Measures*, providing time and opportunities to learn, pushing them and 'having their back,' and taking the time to notice and celebrate successes were mentioned frequently as highly valued leader activities.

One other pattern surfaced that was likely not due to role or context. Dr. Greco had the most instances of describing an aspect of executive leadership to support continuous improvement that was not mentioned by anyone else. She described herself as *leading through supporting others' learning, enabling everyone to make a meaningful contribution, investing in board development*, and *connecting with external organizations and resources.* No one else raised these topics. Given Dr. Greco's unusual focus for her doctoral studies, it is likely that these insights may be due to her deep exposure to these ideas.

Having identified patterns across districts and roles, I now discuss findings from the literature in conjunction with those from the exemplary districts to construct a synthesis of learning related to each framework domain. As in the Findings section, I

first discuss *How Leaders Thin*k, followed by *What They Do* and *Where They Focus Efforts*.

What leaders think: A synthesis. As illustrated in the Findings section, *Valuing Learning* and *Valuing People* figured most prominently in study participants' discussions of what leaders think to create the conditions for continuous improvement, and a number of key concepts emerged in their responses. Having identified these concepts I returned to the literature reviewed for this study and compared the more nuanced, emergent understandings from the districts with the ideas presented in the literature. In Table 13 below, I present a summary of the comparison between findings from the cases and the literature. Domains described in detail in the Findings are found in white rows, and those that were not treated in-depth in the presentation of Findings are listed in gray rows. Following the table, I elaborate on the comparisons between the cases and the literature for each domain.

Table 13

Summary: What Executive Leaders Think to Create the Conditions for Continuous Improvement - Comparison Across District and Literature Sources

			Menomonee Falls		Sanger		Literature	
			Supt	Ps & CIOs	Supt	Ps & CIOs	Healthcare & Industry	Education
What Leaders Think	**Value Learning**	Have a learner's mindset	X		X		X	X
		Lead through supporting others' learning	X					
		Be a lead learner		X	X	X	X	X
		Believe everyone can and must learn		X		X		
	Value People	Value people	X	X	X	X	X	X
		Enable everyone to make a meaningful contribution	X					
		Understand people's needs and support them to do their best work			X	X	X	X
	Think Systemically		X	X		X	X	X
	Embrace Personal Responsibility		X			X	X	X

Value learning. Within the domain of *Valuing Learning*, the concepts of *having a learner's mindset* and *being a lead learner* were named most consistently across the cases and the literature. Both superintendents, and literature from healthcare (Berwick, 1996; Toussaint and Ehrlich, 2017), industry (Spear, 2009) and education (Park et al. 2013) emphasized the importance of *having a learner's mindset*, meaning constantly seeking out new knowledge and ideas, and acknowledging that there is always more to be learned. Toussaint and Ehrlich (2017) also highlighted humility and curiosity as pre-requisite mindsets for learning, and though the superintendents did not explicitly name them, their behaviors as *lead learners* appeared to align with these mindsets. According

to principals and CIOs in both districts, the superintendents invested time and effort in their own learning, changed their thinking and behavior in response to new information, and consistently and publically modeled learning mindsets and behaviors in their interactions with staff across the district. These same behaviors appear in Spear's (2009) description of the leader as "Learner in Chief" (p.294) and Lucas and Nacer's (2015) articulation of learning as a "core improvement habit" (p.8).

The other two concepts related to *Valuing Learning* raised by participants were not found in the literature related to *How Leaders Think*. *Leading through supporting others' learning*, as articulated by Dr. Greco, illustrated one of the reasons she valued learning, but may be more accurately categorized as a leadership strategy that prioritizes *Developing Capability*. This strategy is described in the literature and will be included in the discussion of the *Developing Capability* domain. Within the concept of *believing everyone can and must learn* the CIOs and principals expressed different understandings of "everyone" across districts, and there was no other mention of this idea by the superintendents or in the literature reviewed. Given the relative weakness of the evidence for this idea, I have omitted it from the key concepts for this domain.

Please see Table 14 below for a summary of the key concepts related to *Valuing Learning* that are supported by study participants and the literature. Note that in this case, the proposed and revised domains are the same. For some of the following domains, however, I will offer new domain names to more accurately reflect the combined learning from the study and the literature.

Table 14

Value Learning Key Concepts

Proposed Framework Domain	Revised Framework Domain	Key Concepts

Value Learning	Value Learning	• Have a learner's mindset
		  ○ Constantly seek out new knowledge and ideas
		  ○ Be humble and curious
		• Be a lead learner
		  ○ Invest time and effort in your own learning
		  ○ Change in response to new information and experience
		• Model learning mindsets and behaviors

Value people. As discussed in Findings, I decided to rename this domain as *Valuing People* to better reflect the ideas of study participants. Closer examination of the key concepts in the literature (Shingo Institute, 2016; Toussaint & Ehrlich, 2017; Schwahn & Spady, 2000; David & Talbert, 2013) and in the interviews revealed that *respecting every individual* (the original domain name) and *believing that everyone's contribution matters* to the organization were both important ways of thinking for leaders to create conditions for continuous improvement. As with *Valuing Learning*, Dr. Greco expressed her belief as a leadership strategy to *enable everyone to make a valuable contribution*, which will be further discussed as one aspect of *What Leaders Do* to foster a culture of improvement. The other key concept raised by Sanger's leaders was that the superintendent must *understand people's needs and support them to do their best work.* A similar idea surfaced in the literature as well, expressed as providing support for people to fulfill their potential (Shingo, 2016; Schwahn & Spady, 2000). I prefer the Sanger leaders' 'description of this concept in that they connect *Valuing People* with supporting

their success at work, which is more explicitly aligned with the work of the superintendent than helping people to 'fulfill their potential.'

Please see Table 15 below for a summary of the key concepts related to *Valuing People* that are supported by study participants and the literature.

Table 15

Value People Key Concepts

Proposed Framework Domain	**Revised Framework Domain**	**Key Concepts**
Respect Every Individual	Value People	• Respect every individual • Believe that everyone's contribution matters • Understand people's needs and support them to do their best work

Think systemically. The concept of *Thinking Systemically* was not discussed by study participants nearly as often as *Valuing Learning* and *Valuing People,* and was therefore not selected for deeper treatment in the *Think* portion of the Findings section. It was, however, mentioned by all role groups except for Sanger's superintendent, and it surfaced as a strong theme across the industry and education literature (Shingo, 2016; National Policy Board, 2015; Park et al, 2013; LeMahieu et al., 2017, Bisby et al, 2009, Davit & Talbert, 2013; Kirp, 2013; McLaughlin & Talbert, 2003). Key concepts present in the literature and interviews included *believing that the district is the unit of change* and that *district-level outcomes must take precedence in driving everyone's work*. Leaders were also described as needing to *understand how all the district's functions contribute to achieving its vision* and *appreciating the relationships and interdependencies within and between processes and systems*.

Please see Table 16 below for a summary of the key concepts related to *Thinking Systemically* that are supported by study participants and the literature.

Table 16

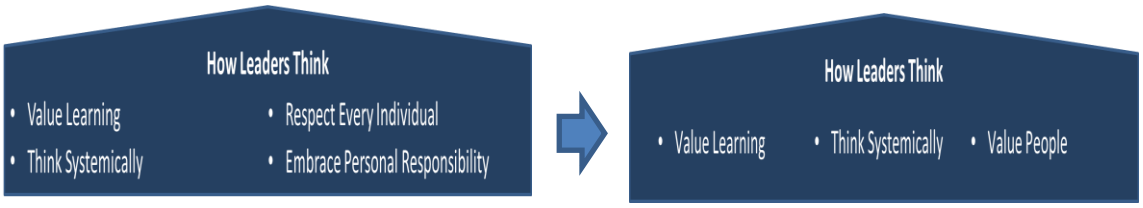
Think Systemically Key Concepts

Proposed Framework Domain	**Revised Framework Domain**	**Key Concepts**
Think Systemically	Think Systemically	Understand: • that the district is the unit of change • how all district functions contribute to achieving the vision • that district level outcomes take precedence in driving everyone's work • the relationships and interdependencies within and between processes and systems

Embrace personal responsibility. Though the idea of system leaders needing to accept responsibility for their organization's performance and for taking action to improve it is supported in the literature from healthcare, industry and education, it was rarely discussed by study participants. On the occasions it was mentioned, interviewees refered to the need for superintendents to personally take action to advance improvement efforts rather than needing to own the system's current poor performance. In neither Menomonee Falls nor Sanger did this concept surface as essential to the superintendents' success. It will therefore be omitted from the revised framework.

Revised framework: How leaders think. Having presented a synthesis of the study's findings and the literature, I will now revise the *Think* portion of this study's conceptual framework to reflect the learning described. I highlight these revisions in Figure 3 below, and elaborate upon the meaning of each revised domain in Table 17,

which combines the descriptions of key concepts related to each of the domains in the revised framework.



Original Framework Revised Framework

Figure 3. Original and revised framework domains describing how leaders think.

Table 17

How Leaders Think: Key Concepts

	Framework Domain	Key Concepts

How Leaders Think	Value Learning	• Have a learner's mindset
		  ○ Constantly seek out new knowledge and ideas
		  ○ Be humble and curious
		• Be a lead learner
		  ○ Invest time and effort in your own learning
		  ○ Change in response to new information and experience
		  ○ Model learning mindsets and behaviors

	Value People	• Respect every individual • Believe that everyone's contribution matters • Understand people's needs and support them to do their best work
	Think Systemically	Understand: • that the district is the unit of change • how all district functions contribute to achieving the vision • that district level outcomes take precedence in driving everyone's work • the relationships and interdependencies within and between processes and systems

What leaders do: A synthesis. As in the section about what leaders think, I reexamined the ideas presented in the literature to compare them with the emergent concepts from the case studies within the domains related to *What Leaders Do*. In Table 18 below, I present a summary of this comparison. Again, the domains described in

detail in the Findings have a white background, and those that were not treated in-depth because they were less resonant and mentioned less frequently are indicated in gray. More detailed comparisons between the cases and the literature for each domain follow the table.

Table 18

Summary: What Executive Leaders Do to Create the Conditions for Continuous Improvement Comparison across District and Literature Sources

			Menomonee Falls		Sanger		Literature	
			Supt	Ps & CIOs	Supt	Ps & CIOs	Healthcare & Industry	Education
What Leaders Do	**Set system-wide vision, goals and measures**	Pursue instructional and operational excellence through learning	X	X			X	
		Commit to achievement, options and opportunities for all students			X	X		X
		Craft vision to empower everyone to improve	X	X	X	X		
		Establish system-wide goals and measures to drive alignment	X	X	X	X	X	X
	Develop capability	Invest in capability development aligned with district vision and goals	X	X	X	X	X	X
		Develop leaders from within	X	X	X	X	X	X
		Hold other leaders accountable	X	X	X	X		X

	Create a Culture of Improvement	Establish psychological safety	X	X	X	X	X	X (trust)
		Ensure transparency	X	X	X	X	X	X
		Support a collaborative culture	X	X	X	X		X
		Relentlessly focus on improving toward the vision	X	X	X	X	X	X
		Encourage innovation			X	X	X	X
	Transform the System		X	X			X	X
	Span Boundaries		X	X		X	X	X

Set system-wide vision, goals and measures. The literature and study partcipants all align around the necessity for the leader to set a clear, compelling vision for the organization as a pre-requisite for improvement. As discussed in the literature review and the findings, this vision needs to articulate a *shared purpose* (Deming, 2000), *build will and engagement*, and *empower everyone* to participate in the improvement effort (Schwahn & Spady, 2000; Swenson et al., 2013; Spear, 2009). There was also clear agreement on the need to *establish system-wide goals and measures to drive organizational alignment* with the vision (e.g. Swenson et al., 2013; Spear, 2009; Park et al. 2013).

The differences across literatures and contexts surfaced in regard to the content of the vision. Menomonee Falls' vision to *pursue instructional and operational excellence through learning* aligned more closely with the healthcare and industry literatures examined in that the district emphasized learning across the whole organization, supported by quality improvement methods, as the primary strategy for achieving the vision (Deming, 2000; Spear, 2009). As discussed in the Findings, Sanger opted to

commit to achievement, options and opportunities for all students, which reflected the education literature's theme that organization's vision and strategy must be focused on driving improvement in student outcomes (National Policy Board Standards, 2015; Bisby et al., 2009; David & Talbert, 2013; Kirp, 2013; McLaughlin & Talbert, 2003; Park et al., 2013). This dichotomy may point to an opportunity for school districts to adopt the strategy of intentionally engaging everyone in the pursuit of excellence through learning, while staying focused on the ultimate goal to "promote each student's academic success and well-being" (National Policy Board Standards, 2015). The latter speaks to education's shared purpose, whereas the former leverages everyone's problem solving capabilities deployed to remove barriers to achieving it wherever they exist across the organization.

Please see Table 19 below for a summary of the key concepts related to *Setting System-wide Vision, Goals and Measures*.

Table 19

Set System-wide Vision, Goals and Measures Key Concepts

Proposed Framework Domain	**Revised Framework Domain**	**Key Concepts**

Set a Vision, Purpose and Strategy Focused on Results for Students	Set System-wide Vision, Goals and Measures	• Set a vision to:
		  ○ Pursue excellence through learning
		  ○ Promote each student's academic success and well-being[25]
		That:
		  ○ Reflects a shared purpose
		  ○ Engages and empowers everyone to improve
		• Establish system-wide goals and measures to drive alignment to vision

[25] National Policy Board Standards (2015)

***Develop capability*.** In regard to *Developing Capability*, the literature across disciplines described the leader's role as supporting people to *learn how to continuously improve* their work (e.g. Honig, 2013; Leithwood, 2010; Spear 2009; Swenson et al., 2013). Key here is the focus on learning to learn versus learning to implement a specific initiative or program. This focus surfaced as more prominent in Menomonee Falls than in Sanger, however, both districts studied invested heavily in *capability development aligned with their vision and goals* that also served to *foster an improvement culture* and taught staff specific skills and instructional practices to fill gaps in expertise to *improve their job performance*. While the literature and study findings appear to indicate that developing the core capabilities of continuous improvement is necessary, the district cases appear to indicate that this is not a sufficient focus for people in school districts to gain the skills and knowledge they need to achieve system-wide improvement.

The second key concept related to *Developing Capability* present in the literatures and cases is that of leaders needing to develop others to be able to lead improvement (e.g. Spear, 2009; Park et al. 2013; National Policy Board, 2015). To do this, leaders need to *learn the mindsets, knowledge and skills necessary to lead continuous improvement* themselves, which includes learning to *grow the core capabilities of improvement* in others. The districts studied also specified that this involves *developing leaders from within* to fulfill the unique demands of leadership in their context, including the need for leaders to be able to *model behavior aligned with the district's vision and culture.*

Finally, study participants from both districts emphasized the importance of the superintendent *holding other leaders accountable* as part of supporting them to develop the capability to meet high expectations. This involved the superintendent using their

influence and positional authority to ensure that other district leaders actually changed their behavior in response to their learning. This concept was not present in the literature reviewed related to capability development, although David and Talbert (2013) did discuss Sanger's "reciprocal accountability" as an important element of the district's culture. Further, on the topic of alignment, the literature supports the need for leaders to align all structures, programs, processes and behaviors with the district vision and goals and ensuring consistent implementation of the organization's strategy (Shingo, 2016), which necessarily involves ensuring that leaders' behavior supports this alignment. Though the pairing of accountability with support as a strategy for capability development is not a strong theme in the literature as it was in the district cases, ensuring that other leaders change their behavior appears to be an important part of creating the conditions for continuous improvement.

Please see Table 20 below for a summary of the key concepts related to *Developing Capability*.

Table 20

Develop Capability Key Concepts

Proposed Framework Domain	Revised Framework Domain	Key Concepts

Develop Capability	Develop Capability	• Invest in capability development aligned with district vision and goals that:
		  ○ Fosters an improvement culture
		  ○ Builds capacity for better performance
		  ○ Supports staff in learning how to continuously improve
		• Develop leaders from within to:
		  ○ Learn the mindsets, knowledge and skills necessary to lead continuous improvement
		  ○ Grow the core capabilities of improvement in others
		  ○ Model behavior aligned with the district's vision and culture
		• Hold other leaders accountable

Create a culture of improvement. Four aspects of culture were commonly identified across both districts studied: *psychological safety, transparency, collaboration,* and *relentless focus on improving.* All of these concepts were also represented in at least one discipline's literature, with *psychological safety* (or trust) and *transparency* making recurring appearances in the literature concerning continuous improvement in industry, healthcare and education (e.g. David & Talbert, 2013; Kirp, 2013; Elmore & Burney, 1998; Shingo, 2016; Swenson et al., 2013). CIOs and principals in Sanger also highlighted *innovation* as an important part of their improvement culture, a concept that was echoed in literature from multiple disciplines but not by other study participants.

In addition to describing the above aspects of an improvement culture, there were specific leader actions to cultivate such a culture that surfaced in both the literature and the case studies. As I described earlier in *Valuing People*, Dr. Greco described ensuring

that people can make a valuable contribution as a leadership strategy. While this strategy was not described in the literature, healthcare and industry sources and the districts alike described the need for leaders to *communicate, model and recognize desired behaviors* and *celebrate people's contributions and successes* (Shingo, 2016; Studer & Pilcher, 2015; Swenson et al, 2013). Further, education sources (Aguillard & Goughour, 2006; Kirp, 2013; and McLaughlin & Talbert, 2013) echoed the study participants' emphasis on *building trusting relationships*.

Please see Table 21 below for a summary of the key concepts related to *Creating a Culture of Improvement.*

Table 21

Create a Culture of Improvement Key Concepts

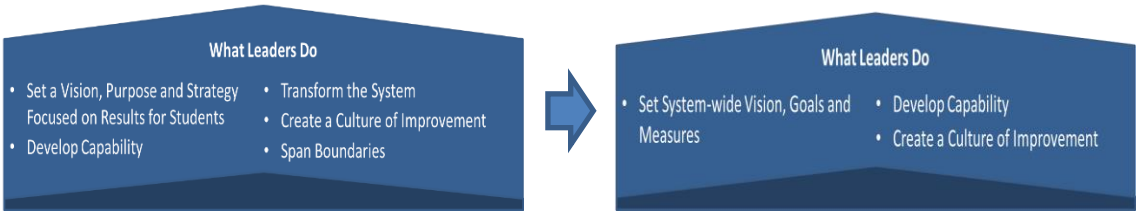
Proposed Framework Domain	**Revised Framework Domain**	**Key Concepts**

Create a Culture of Improvement	Create a Culture of Improvement	• Establish a culture of
		  ○ psychological safety
		  ○ transparency
		  ○ collaboration
		  ○ relentless focus on improving toward the vision
		• To do this:
		  ○ Communicate, model and recognize desired behaviors
		  ○ Recognize contributions and celebrate successes
		  ○ Build trusting relationships

Transform the system and span boundaries. The two remaining original domains describing what leaders think to create the conditions for continuous improvement, *Transform the System* and *Span Boundaries*, were more prominent in the literature than in interviews with study participants. In the literature, *Transforming the*

System referred to leaders moving beyond making changes within the system to actually "altering the system itself" (Lunenberg, 2010). While participants in Menomonee Falls recognized Dr. Greco's efforts to change their system to be capable of better performance, participants in both districts more often used the language of system-wide alignment rather than transformation to describe the major shifts catalyzed by their superintendents. Related to *Spanning Boundaries*, the key concept that surfaced in both the literature and the districts was the need for the leader to *break down organizational siloes*. Because study participants did not use the language of "boundary spanning," and this concept specifically supports organizational alignment, it will be included in *Promote Organizational Alignment* in the following section.

Revised framework: What leaders do. Please see Figure 4 below for a summary of my proposed revisions to the original conceptual framework based on the above synthesis of literature and study findings. The key concepts related to each domain of the revised framework are summarized in Table 22 below the figure.



Original Framework Revised Framework

Figure 4. Original and revised framework domains describing what leaders do.

Table 22

What Leaders Do: Key Concepts

	Framework Domain	Key Concepts
	Set System-wide Vision, Goals and Measures	• Set a vision to: ○ Pursue excellence through learning ○ Promote each student's academic success and well-being[26] That: ○ Reflects a shared purpose ○ Engages and empowers everyone to improve • Establish system-wide goals and measures to drive alignment to vision
	Develop Capability	• Invest capability development aligned with district vision and goals that: ○ Fosters an improvement culture ○ Builds capacity for better performance ○ Supports staff in learning how to continuously improve • Develop leaders from within to: ○ Learn the mindsets, knowledge and skills necessary to lead continuous improvement ○ Grow the core capabilities of improvement in others ○ Model behavior aligned with the district's vision and culture • Hold other leaders accountable
	Create a Culture of Improvement	• Establish a culture of ○ psychological safety ○ transparency ○ collaboration ○ relentless focus on improving toward the vision • To do this: ○ Communicate, model and recognize desired behaviors ○ Recognize contributions and celebrate successes ○ Build trusting relationships

Where leaders focus efforts: A synthesis. Across districts and role groups, study participants' responses aligned with both of the original framework's domains describing *Where Leaders Focus Efforts*: *Promote Organizational Alignment* and *Create an Effective Improvement Infrastructure.* However, as described in the Findings, I argued for changing the second domain's title to *Build Infrastructure to Support*

[26] National Policy Board Standards (2015)

Improvement. As in the sections about *How Leaders Think* and *What Leaders Do*, I have compared the ideas in the literature with emergent understandings that surfaced through participant interviews. In Table 23 below, I present a summary of the comparison between findings from the cases and the literature studied. Following the table, I elaborate on the comparisons between the cases and the literature for each domain.

Table 23

Summary: Where Executive Leaders Focus their Efforts to Create the Conditions for Continuous Improvement Comparison across District and Literature Sources

			Menomonee Falls		Sanger		Literature	
			Supt.	Ps & CIOs	Supt.	Ps & CIOs	Healthcare & Industry	Education
Where Leaders Focus Efforts	**Promote Organizational Alignment**	Communicate clear, consistent messages	X	X	X	X	*Emphasize the importance of ensuring the organization's culture, systems, processes and structures support its vision, goals and strategy.*	
		Allocate resources to achieve the vision	X	X	X	X		
	Build Infrastructure to Support Improvement	Use disciplined improvement methods	X	X	X		X	X
		Use data effectively	X	X	X	X	X	X
		Establish effective decision-making processes	X	X	X	X	X	X

Promote Organizational Alignment. The literature related to this domain emphasizes the need for leaders to *ensure that the organization's culture, systems, processes and structures support its vision, goals and strategy* (e.g. Childress, Elmore & Grossman, 2006; Shingo Institute, 2016; Honig, 2013) more than it describes specific leadership strategies for doing so. As such, it aligns with the study's participants'

descriptions of the work to *Promote Alignment* as ongoing and intimately linked to leadership work in many other domains.

There are few specific recommendations in the literature about how to *Promote Organizational Alignment,* although there are three that stand out for their resonance with study participants' responses. The first is to *integrate new initiatives into the existing strategy in ways that maintain the strategy's coherence* (e.g. Bisby et al., 2009; Honig, 2013; O'Day & Smith, 2016). This is the foundation that enables the leader to *communicate clear, consistent messages* over many years, as was identified as an important leader activity in both districts. The second is to *nurture strong relationships with the board*. McLaughlin and Talbert's (2003) study showed that school board support was a significant predictor of a district's success in its reform efforts, and the district leaders in Park et al. (2013) stressed the importance of such support for the continuous improvement work. This same message was echoed by multiple leaders in Sanger, and, as described in the *Develop Capability* domain in Findings, Dr. Greco went beyond building strong relationships to strategically *developing board members*' understanding of their role *as leaders in the district's continuous improvement efforts*. Third, as discussed in Findings about *What Leaders Do,* there was evidence from multiple sources that leaders work to *break down organizational siloes*.

Responses from study participants in both districts also indicated that the superintendents *allocated resources to achieve the vision*. While this strategy was not specifically mentioned in the literature reviewed, it is directly implied by the need to *ensure that the organization's culture, systems, processes and structures support its*

vision, goals and strategy, as this cannot be accomplished without aligned resource allocation.

Finally, beyond the specific activities of *communication* and *resource allocation*, it is worth noting that the work of *Promoting Organizational Alignment* was intertwined with many of the essential actions that the superintendents took to create the conditions for continuous improvement. They included *Setting System-wide Vision, Goals and Measures*; *Developing Capability,* including *holding other leaders accountable;* and *Creating an Effective Improvement Infrastructure*. These activities are included in other sections of the framework but play an essential role in this domain as well.

Please see Table 24 below for a summary of the key concepts related to *Promoting Organizational Alignment.*

Table 24

Promote Organizational Alignment Key Concepts

Proposed Framework Domain	**Revised Framework Domain**	**Key Concepts**
Promote Organizational Alignment	Promote Organizational Alignment	• Ensure the organization's culture, systems, processes and structures support its vision, goals and strategy: ○ Allocate resources to achieve the vision ○ Communicate clear, consistent messages ○ Break down organizational siloes ○ Integrate new initiatives into the existing strategy in ways that maintain its coherence ○ Nurture strong relationships with board members and develop them as improvement leaders

Build infrastructure to support improvement. The need for *Building an Improvement Infrastructure* that includes *disciplined improvement methods* and *effective use of data* surfaced across the various literatures and study contexts. On the use of data,

the literature mirrored participant responses in calling out the need for a *district-level measurement and data analysis systems* (Agullard & Goughhour, 2006; Kirp, 2013; McLaughlin & Talbert, 2003; Park et al., 2013). Further, the additional districts studied by Park et al. (2013) mirrored Menomonee Falls and Sanger in articulating the need for robust *formative and process-level data* to enable the routine use of disciplined improvement methods.

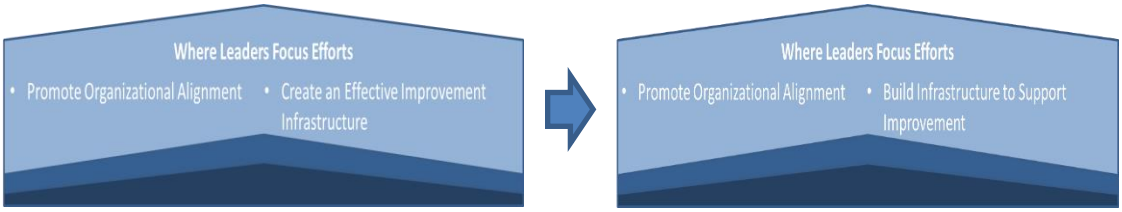
As discussed in the Findings, the leaders in Sanger named *effective decision-making* as another key part of their improvement infrastructure, and Menomonee Falls invested in Kepner-Trego (2014) decision-making training for its leadership. In their study of Sanger, David and Talbert (2013) noted the importance of evidence-based decision-making for the district's improvement progress. Further, sources from industry emphasized the importance of pushing decision-making authority toward the frontline to empower those who do the work to change it (Shingo, 2016; Spear, 2009). Given that there is more convergence on the need for *common processes for making decisions grounded in evidence* than on the specific processes themselves, I will include that need as a key concept related to *Building Infrastructure to Support Improvement*. Please see Table 25 below for a summary of the key concepts within this domain.

Table 25

Build Infrastructure to Support Improvement Key Concepts

Proposed Framework Domain	**Revised Framework Domain**	**Key Concepts**
Create an Effective Improvement Infrastructure	Build Infrastructure to Support Improvement	Improvement infrastructure includes: • Disciplined improvement methods • District-level measurement and analysis systems that include formative and process-level data • Commonly understood processes for making decisions grounded in evidence

Revised framework: Where leaders focus efforts. Based on the above synthesis of literature and study findings, I propose to revise the original conceptual framework as illustrate in Figure 5 below. For each domain, I summarize its key concepts in Table 26 below the figure.



Original Framework Revised Framework

Figure 5. Original and revised framework domains describing where leaders focus efforts.

Table 26

Where Leaders Focus Efforts: Key Concepts

	Framework Domain	Key Concepts
Where Leaders Focus Efforts	Promote Organizational Alignment	• Ensure the organization's culture, systems, processes and structures support its vision, goals and strategy: ○ Allocate resources to achieve the vision ○ Communicate clear, consistent messages ○ Break down organizational siloes ○ Integrate new initiatives into the existing strategy in ways that maintain its coherence • Nurture strong relationships with board members and develop them as improvement leaders
	Build Infrastructure to Support Improvement	Improvement infrastructure includes: • Disciplined improvement methods • District-level measurement and analysis systems that include formative and process-level data • Commonly understood processes for making decisions grounded in evidence

In the preceding section I explained my rationale for amending the original framework to reflect learning from the findings of this study about how executive leaders create the conditions for system-wide continuous improvement. I now aggregate this learning in a revised, working framework to address the problem of practice at the heart of this inquiry.

Working Framework

As I described in the introduction to this study, the Carnegie Foundation recognizes the central role that executive leaders in education play in creating the organizational conditions for successful and sustained improvement efforts. However, scant research currently exists to guide education leaders' efforts to create the conditions for continuous improvement. This study sought to contribute to filling this gap in the field's understanding with the goal of producing a framework grounded in research and the experience of pioneering superintendents who have led successful continuous

improvement efforts in their districts. The preceding sections have described the findings from field research in detail and considered them alongside relevant literature from healthcare, industry and education. The following working framework, illustrated in Figure 6 and described in detail in Table 27 represents my understanding of the most credible findings from research and practice about how executive leaders in education think, what they do, and where they focus their efforts to create the conditions for continuous improvement in their organizations.

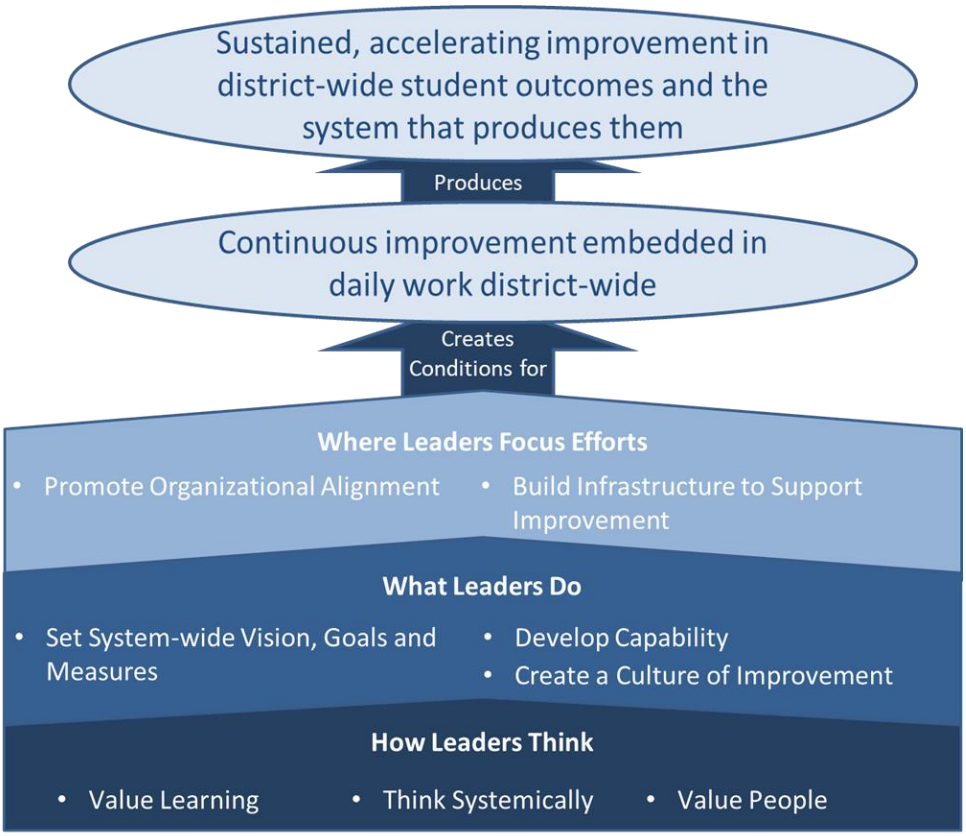


Figure 6. Working conceptual framework for district-level leadership of continuous improvement.

Table 27

Working Conceptual Framework for District-Level Leadership of Continuous Impovement: Key Concepts

	Framework Domain	Key Concepts

How Leaders Think	Value Learning	• Have a learner's mindset
		  ○ Constantly seek out new knowledge and ideas
		  ○ Be humble and curious
		• Be a lead learner
		  ○ Invest time and effort in your own learning
		  ○ Change in response to new information and experience
		  ○ Model learning mindsets and behaviors

	Value People	• Respect every individual • Believe that everyone's contribution matters • Understand people's needs and support them to do their best work
	Think Systemically	Understand: • that the district is the unit of change • how all district functions contribute to achieving the vision • that district level outcomes take precedence in driving everyone's work • the relationships and interdependencies within and between processes and systems

What Leaders Do	Set System-wide Vision, Goals and Measures	• Set a vision to:
		  ○ Pursue excellence through learning
		  ○ Promote each student's academic success and well-being[27]
		That:
		  ○ Reflects a shared purpose
		  ○ Engages and empowers everyone to improve
		• Establish system-wide goals and measures to drive alignment to vision

	Develop Capability	• Invest in capability development aligned with district vision and goals that:
		  ○ Fosters an improvement culture
		  ○ Builds capacity for better performance
		  ○ Supports staff in learning how to continuously improve
		• Develop leaders from within to:
		  ○ Learn the mindsets, knowledge and skills necessary to lead continuous improvement
		  ○ Grow the core capabilities of improvement in others
		  ○ Model behavior aligned with the district's vision and culture
		• Hold other leaders accountable

	Create a Culture of Improvement	• Establish a culture of
		  ○ psychological safety
		  ○ transparency
		  ○ collaboration
		  ○ relentless focus on improving toward the vision
		• To do this:
		  ○ Communicate, model and recognize desired behaviors

[27] National Policy Board Standards (2015)

		○ Recognize contributions and celebrate successes • Build trusting relationships
Where Leaders Focus Efforts	Promote Organizational Alignment	• Ensure the organization's culture, systems, processes and structures support its vision, goals and strategy: ○ Allocate resources to achieve the vision ○ Communicate clear, consistent messages ○ Break down organizational siloes ○ Integrate new initiatives into the existing strategy in ways that maintain its coherence • Nurture strong relationships with board members and develop them as improvement leaders
	Build Infrastructure to Support Improvement	Improvement infrastructure includes: • Disciplined improvement methods • District-level measurement and analysis systems with formative and process-level data • Commonly understood processes for making decisions grounded in evidence

The above working framework describes my most credible findings across sources about what executive leaders must *think*, *do* and *focus on* to create the conditions for continuous improvement in their districts. As noted earlier in this Discussion, differences in district context, vision, goals and strategies will necessarily drive variation in how leaders enact this framework in practice.

Limitations

In the section above, I presented a working framework that describes how leaders create the conditions for continuous improvement in their districts. I will now discuss the limitations of this research and of the framework itself.

Limitations of this research. As I noted in this study's literature review, the field of research concerning school districts intentionally engaging system-wide in continuous improvement is in its infancy, and primarily consists of individual or multiple case studies. Thus, the conceptual framework guiding this study and the resulting working framework were not grounded in a robust body of relevant education literature. Instead, the initial conceptual framework was constructed to represent common

understandings about the leadership of continuous improvement across education, healthcare and industry, and thereby excluded findings that were unique to the education field. This initial lack of sensitivity to contextual differences across industries in how leaders create the conditions for continuous improvement may have prevented the identification of important aspects of what leaders think, do and focus on in a school district setting.

One example of a finding specific to the education field that may not have emerged due to the methods used to construct the initial framework is the explicit identification of equity as a central concern of education leaders focused on improvement. Given the endemic structural inequities of our education systems and the current policy emphasis on addressing inequitable educational outcomes, educators seeking to continuously improve must attend to seeing the systems that foster and maintain current inequities and consciously apply continuous improvement in the service of changing those systems to reliably produce more equitable results. Sanger's successful efforts to change their methods for supporting English Language Learners demonstrate the power of continuous improvement as a disciplined approach for addressing equity issues. However, valuing equitable outcomes and acting on the system with the explicit intention of increasing equity in education is an important aspect of how education leaders think and what they do that did not surface within the scope of this research.

There are limitations of this study related to the field research as well. This capstone examined two cases of districts that have achieved system-wide continuous improvement as a starting place for exploring the nature of executive leadership for

continuous improvement in the education field. The limited sample of two districts with diverse community contexts and challenges was not intended to be representative of American school districts in general, nor is it large enough to draw any conclusions about the field at large. Rather, this study sought to present two critical cases that are widely recognized as exemplars of effective leadership for continuous improvement as a way of illuminating approaches to district leadership that could eventually contribute to producing a more broadly applicable framework.

Further, as discussed in Findings, the form that leadership for continuous improvement takes in each district studied is highly contextualized, yet this study was not designed to identify the most significant contextual factors or explicitly discuss the ways contextual conditions influence how the working framework is enacted by leaders. For example, the visions and improvement strategies in the two districts studied differed significantly from each other, raising the question of whether there may be important differences in how successful leaders create the conditions for continuous improvement in each type of case.

Finally, research methods for this study were limited to interviews with improvement champions within each district and examining documents volunteered by interviewees. Because there is the risk of people's actual actions not matching their descriptions of what they do,[28] observation of leader behavior and further interviews with members of the district community who do not support the district's improvement efforts

[28] This phenomenon was identified by Argyris & Schön, 1974, as a common gap between people's "theory of action" used to communicate to others how they would behave under certain circumstances and their "theory-in-use" which actually guides their actions.

so strongly could be important sources of information to more accurately understand leadership impact.

Limitations of the working framework. In addition to the limitations attributable to its sources, the working framework is flawed in that it is both broadly scoped and incomplete, and its domains are not completely distinct from one another. Its attention to what leaders think, what they do, and where they focus efforts precludes in-depth treatment of any one identified domain. The descriptive nature of the framework also keeps the focus primarily on the "what" rather than the details of the "why" (rationale) or the "how" (practical details of acting on the framework) of leading successful continuous improvement efforts, yet all of this information is likely to be needed by leaders seeking to learn how to follow a similar path.

Even with a broad scope, this framework cannot address all that executive leaders of system-wide, continuous improvement must attend to. In the effort to identify the most salient characteristics of successful improvement leaders that were supported by multiple sources, it is likely that some facets of what leaders think, do and focus on that are essential for sustained, continuous improvement under specific conditions have been missed. For example, findings from this study suggest that mindsets, actions and areas of focus of successful leaders may vary according to factors such as district stability, community needs or the stage of the district's improvement journey. This research also sought to represent what can be known currently from research and education practice. It is therefore possible that aspects of leadership for continuous improvement known to be important in other industries will also be key in education but are not yet observable in the nascent efforts in this field.

Further, the framework's distinction between the domains of What Leaders Do, meaning their actions and behaviors, and Where they Focus Efforts, related to high leverage areas for effecting change and creating conditions for continuous improvement within their organization, may not contribute to the framework's utility. In practice, these domains overlapped substantially, making them less helpful as organizing constructs than they seemed initially. For example, Develop Capability depends both on individual leader behaviors to develop their teams as improvement leaders, and on putting the organizational infrastructure in place to support system-wide capability development. Future iterations of the framework could be strengthened by making clear distinctions between these two organizing categories or collapsing them into one.

Finally, this study focused exclusively on the role of the "executive leader," which in the two district cases was the superintendent. The findings suggest, however, that the superintendent's efforts are necessary but insufficient for continuous improvement to take hold in a district. An aligned leadership approach that distributes responsibility across levels and buildings appears to be important to the system's successful continuous improvement. This framework does not address what the other leaders across the district need to think, do and focus on, but this is also necessary knowledge for leaders of districts embarking on improvement efforts. It also provides an incomplete view of the systems that the executive leader must put in place for these leaders to behave in specific ways that support improvement, reliably, across the district. While this is addressed in the *build an effective improvement infrastructure* domain, further study of the specific processes and structures that comprise these aspects of

infrastructure could help to pinpoint the essential elements of the systems that need to be in place to support district-wide continuous improvement.

Recommendations for Future Research

This study contributes to an area of research that is in its infancy in the education field, yet there is growing interest in and demand for knowledge about how executive leaders create the conditions for system-wide continuous improvement. Recommendations for future research on this topic include the following:

1. Study additional executive leaders from districts representing a wider variety of contexts (size, demographics, student achievement, community needs, stability, resources, policy environment, school board, years into improvement journey, vision and strategy for continuous improvement, etc.) that have achieved sustained, district-wide continuous improvement. Given the relatively small size and differences in the improvement approaches of the districts studied for this capstone, including larger districts and those embracing different visions and strategies for continuous improvement could be useful for creating a better understanding of how these specific factors influence superintendents' leadership approaches. More generally, further research could seek to identify the contextual variables that most influence differences in how district leaders create the conditions for continuous improvement. To do so, it could focus on testing the whole framework or smaller pieces of it in more depth in multiple contexts.
2. Clearly define system-wide continuous improvement in education to aid in the selection of leaders to study next. For example, does the district need to

explicitly draw on knowledge and methods from the field of improvement science and build quality improvement into everyone's work routines like Menomonee Falls to qualify? Or is Sanger's approach to improving instruction through DuFour's (2004) cycles of inquiry within PLCs also a form of system-wide continuous improvement in education? Is continuous improvement defined by developing systems for accelerating learning about how to improve all work across the district, or could it also be an exclusive focus on continuous improvement of instruction as a primary driver of student achievement? Since the original literature review for this study, Grunow et al. (2018) have worked to further define continuous improvement in education,[29] and their research may be helpful in arriving at common ways to determine which districts are engaged in system-wide continuous improvement.

3. Engage current and aspiring executive leaders in education in testing the framework in practice. Refine the framework based on their feedback to more closely represent *How Leaders Think*, *What They Do*, and *Where They Focus Efforts* to create the conditions for continuous improvement in their districts. Such testing could also be done with leaders at various levels of continuously improving districts to address the question of how leader mental models, actions and areas of focus do or do not vary by role.

[29] As part of a review of the history of continuous improvement and its adoption in the field of education, Grunow et al. (2018) offer five distinguishing features of a continuous improvement approach ("systems produce outcomes," "efforts focus on key processes," "progress requires collective learning and discovery," "front line workers are uniquely situated to learn how to get ideas to work", and as "effective practices are discovered they are spread throughout the organization"), and assert that continuous improvement requires a management strategy that "recognizes that better outcomes are the result of improving the entire system and engaging everyone in the organization in improvement" (p.21).

4. Investigate more deeply the improvement principles that guide the actions of successful executive leaders. Dr. Greco often referred to principles she learned from W. Edwards Deming (2000), the Carnegie Foundation (Bryk et al., 2015) and Studer Education (Studer & Pilcher, 2015) that guided her leadership approach. Mr. Navo referenced Margaret Wheatley's (1992) work on organizational culture and principles of effective-decision-making in describing how he thought about his leadership role. Understanding which principles are most important in guiding leader actions across contexts could help to build out a framework with more universal utility.

Summary

This study was guided by the question, "What do executive leaders of exemplary K-12 public school districts think, do and focus on to create the conditions for continuous improvement that produce district-wide improvements in student outcomes?" To answer this question, I conducted a review of relevant literature and used the findings to construct a provisional conceptual framework. I then used this framework to guide case studies of two executive leaders of exemplary K-12 school districts that have achieved sustained, system-wide continuous improvement. I reported findings from the field research and then examined them alongside findings from the literature to construct a revised, working conceptual framework grounded in research and practice. I concluded with a discussion of the limitations of this study and the framework itself, and recommendations for future research.

SECTION FIVE: ACTION COMMUNICATIONS

In this section I provide action communications that will be shared with the Carnegie Foundation for discussion at a future Social Learning Seminar. These seminars are modeled after academic seminars and serve as opportunities for the thought leaders of the Foundation to learn about recent research and consider new ideas related to the Foundation's work. Attendees include the Foundation's senior leadership (President and Executive Vice-Presidents), senior fellows (Carnegie-affiliated scholars and leaders in the field with specific expertise) and networked improvement group associates and fellows (those responsible for leading networked improvement science-related projects).

Introducing ideas for discussion and feedback at a Social Learning Seminar is the first step in refining and improving them for possible adoption by the Foundation. Through sharing the following paper, I hope to contribute to the Foundation's emerging framework on executive leadership of continuous improvement and collect feedback on how the paper could be revised for publication. The paper summarizes this capstone's background, methods and findings and offers recommendations for further developing the proposed framework resulting from this study. I have also included the text for the meeting invitation and a proposed Social Learning Seminar agenda.

Social Learning Seminar (SLS) Meeting Invitation

Dear SLS Colleagues,

I am very much looking forward to our time together on Monday, (Date).

In preparation for our meeting, please:

- **Read the attached study, "**Executive Leadership for Continuous Improvement in K-12 Public School Districts: A Proposed Framework."
- **Review the attached meeting agenda.**
- **Consider the following questions in preparation for our group discussion:**
  - What questions do you have about the study methods and findings?
  - Which findings should inform the Foundation's emerging framework on executive leadership of continuous improvement? Why would you include those and not others?
  - What do you think of the recommendations offered at the end of the paper? Which would you adopt, adapt or abandon related to the Foundation's work? Why?
  - What recommendations do have for revising this paper for publication? What audience(s) would benefit, and what revisions would you make to ensure the content and style are relevant to them?

Thank you in advance for your thoughtful participation.

Best,
Christina

Social Learning Seminar (SLS) Agenda

Social Learning Seminar (SLS)
Executive Leadership for Continuous Improvement in K-12 Public School Districts: A Proposed Framework
Meeting Agenda

Time	Topic	Objectives	Activities

1:15-1:20 PM	Welcome and agenda review	• Understand meeting goals
		• Answer clarifying questions
		• Adjust agenda as needed to meet goals
			• Review meeting agenda and goals:
			  ○ Inform Carnegie community about study findings
			  ○ Consider utility of study findings in refining the Carnegie Foundation's framework for Executive Leadership of Continuous Improvement
			  ○ Collect feedback on improving the paper for publication
			• Agree on next steps
			• Groups asks questions, suggests amendments to agenda as needed

1:20-1:25	Orientation to study and proposed framework	• Orient SLS group to study and proposed framework	• Christina presents an overview of study methods, and framework structure and content

1:25-1:50	Discussion of methods and findings	• Gain shared understanding of study methods and findings
		• Gather input on how this study should inform the Foundation's emerging framework on executive leadership of continuous improvement
			• Individual write followed by small group discussion to respond to key questions:
			  ○ What questions do you have about the study methods and findings?
			  ○ Which findings should inform the Foundation's emerging framework on executive leadership of continuous improvement? Why would you include those and not others?

1:50-2:10	Implications for Carnegie's work	• Gather input on recommendations for further action	• Think/pair/share followed by whole group discussion responding to the question: ○ What do you think of the recommendations offered at the end of the paper? Which would you adopt, adapt or abandon related to the Foundation's work? Why?

2:10-2:20	Revising the paper	• Gather recommendations for revising the paper for publication	• Individual write followed by whole group discussion: ○ What recommendations do have for revising this paper for publication? What audience(s) would benefit, and what revisions would you make to ensure the content and style are relevant to them?

2:20-2:30 PM	Summary & Next Steps	● Determine next steps, owners and due dates	● Based on prior discussion, Christina proposes next steps, owners and due dates re:
			  ○ Revising the Foundation's executive leadership framework
			  ○ Recommended actions
			  ○ Revising the paper for publication
			● SLS group amends, agrees on next steps

Social Learning Seminar (SLS) Paper

Executive Leadership for Continuous Improvement in K-12 Public School Districts: A Proposed Framework

Christina J. Dixon

Background

The Carnegie Foundation for the Advancement of Teaching recognizes that executive leaders in all sectors serve a critical role in the transformation of their organizations to create a system that has the capacity to continuously and sustainably improve. Across the field of education, however, little is known about the leadership behaviors that enable school district leaders to successfully lead the use of improvement science to solve problems of practice in their settings. The role of leaders in creating the conditions for their districts to continually improve the systems that produce their current outcomes is similarly unclear. How to lead "continuous improvement," usefully defined by Park et al. (2013) as quality improvement[1] embedded in the daily work of individuals across a system, is poorly understood at the district level.

To date, Carnegie's efforts to develop and support district leaders as leaders of continuous improvement have been hampered by a research-practice gap. Building a testable, research-based framework that explicates a theory of how district-level leaders act to create conditions for continuous improvement is an important first step toward accelerating the Foundation's learning about how it can grow and nurture effective

[1] Based on their comprehensive review of relevant literature and change efforts in multiple sectors, Park et al. (2013) have described the five core characteristics of quality improvement as:

1. It is focused on system outcomes for a defined population of beneficiaries – *and* on the processes that lead to these results;
2. It uses variation in performance (including "failure") as opportunities for learning and improvement;
3. It takes a system perspective, with the understanding that systems are designed to get the results they produce, so if you want to change the results, you have to change the system;
4. It is evidence-based, including measurement of not only outcomes but processes (and resources), and this measurement is embedded in the day-to-day work of the system and its participants; and
5. It involves a specific and coherent methodology and processes. Some of the more familiar methods include PDSA (Plan-Do-Study-Act) cycles, "Six Sigma," and "Lean" (as cited in O'Day & Smith, 2016, p. 315).

leaders of improvement in education. In this study I sought to begin to fill the gap by contributing to the education field's understanding of how leadership can best further district-wide quality improvement efforts.

Research Questions

The primary research question guiding this investigation was: What do executive leaders of exemplary K-12 public school districts think, do and focus on to create the conditions for continuous improvement that produce district-wide improvements in student outcomes? I asked three sub questions related to the primary research question:

Sub Question 1: How do those acknowledged as effective executive leaders of district-wide continuous improvement describe what they think, do and focus on to create the conditions for such improvement in their districts?

Sub Question 2: What do district-level continuous improvement officers and school-level leaders of their districts' continuous improvement efforts identify as essential aspects of what their executive leaders think, do and focus on to create successful conditions for their improvement work?

Sub Question 3: How do the perspectives of executive leaders, district continuous improvement officers and school-level leaders compare within and across districts?

Methods

I conducted this study in three phases. I began with developing a draft conceptual framework, then conducted case studies of two continuously improving K-12 public school districts, and concluded with a revision of the framework based on findings in the field.

I based this study's initial conceptual framework on the "three interdependent dimensions of high-impact leadership" in healthcare enumerated in Swenson, Pugh, McMullan and Kabcenell's (2013, p. 6) High Impact Leadership Framework: how leaders think (mental models), what leaders do (high impact behaviors), and where leaders focus efforts (see Appendix 1). I developed the initial framework (see Appendix 2) based on a review of current research-based knowledge about system-level leadership that creates the conditions for continuous improvement and ultimately drives district-wide improvement in student outcomes (Dixon & Eddy-Spicer, 2019). Given that the current research base on this topic in education is quite limited, I considered literature focused on executive leadership for continuous improvement in multiple sectors.

Guided by the synthesis of the literature, I then investigated the nature of such leadership within two exemplary K-12 school districts. I used the strategy of "reputational case selection"[2] to select the sample of superintendents to participate in this study. I consulted researchers and practitioners with knowledge of leadership for continuous improvement for recommendations of superintendents who were leading or had led districts that: a) met the criteria for achieving district-wide continuous improvement as described by Park et al. (2013), and b) showed evidence of improved student outcomes district-wide. I then vetted possible districts to determine whether they actually met the criteria through examining published information about the districts and interviewing researchers engaged in studying them. This process led me to select Dr. Patricia (Pat) Greco, Superintendent of School District of Menomonee Falls in

[2] Reputational case selection is the practice of using the recommendations of knowledgeable authorities to guide the choice of specific case (Goetz & LeCompte, 1984, as cited in Miles, Huberman & Saldana, 2014, p. 3).

Wisconsin, and Mr. Matthew (Matt) Navo, Superintendent of Sanger Area School District in California.[3] Please see Appendices 3 and 4 for background information about each district.

Once the superintendents made an informed decision to participate in the study, I identified CIOs and principals within each district through a snowball sampling method (Atkinson & Flint, 2001). I then conducted individual, semi-structured interviews with each superintendent, and with four district-level continuous improvement officers (CIOs) (e.g. Assistant Superintendent, Chief Improvement Officer) and three school-level leaders (e.g. Principal, Assistant Principal) from their districts. Please see Table 1 below for a summary of interview participants.

Table 1

Number of Study Participants of Each Role

District	Superintendent	District-level continuous improvement officers (e.g. Assistant Superintendent, Chief Improvement Officer)	School-level leaders (e.g. Principal, Assistant Principal)
Menomonee Falls	1	4	3
Sanger	1	4	3

[3] All participants were presented with the option to be personally identified in the data or to have their identity kept confidential. None of the participants chose to keep their identities confidential.

I constructed and used protocols informed by Seidman[4] (1998) to interview superintendents (please see Capstone Appendix E), and Tomlinson[5] (1989) informed the design of protocols for the district continuous improvement officers and principals (please see Capstone Appendices F & G). This level of structure enabled cross-case analysis while retaining the flexibility to explore contextual details particular to specific cases. Additionally, I invited participants to share documentation (e.g. strategic plans, district communications, data reports) that they believed helped to explain their perspectives on the research questions. Please see Appendix 5 for more details regarding how the selected data sources addressed the research questions.

Data analysis for this study involved multiple rounds of coding and analyzing interview transcripts and collected documents. I completed coding in two rounds. In the initial round, I coded the data according to an initial code list (see Capstone Appendix H) derived from the draft conceptual framework as well as codes emerging from the data. In the second round, I focused on refining the codes and recategorizing data to better reflect emergent understandings. I then compared findings from the superintendents, CIOs and

[4] Seidman's (1998) three interview series for in-depth, phenomenological interviewing provided the basic structure for interviews with superintendents. In Seidman's approach the first interview focuses on the participant's life history related to the study topic, the second centers on what they actually do in their work, and the third invites them to reflect on and make sense of their experiences. This structure is particularly conducive to "understanding the experience of other people and the meaning they make of that experience" (Seidman, 1998, p. 3), which was a good match for understanding superintendents' perspectives on how they work to create the conditions for continuous improvement in their districts. Due to practical and time constraints, the first two interviews were condensed into one, and the second superintendent interview followed the structure of Seidman's third.

[5] Tomlinson's (1989) hierarchical focusing method was used to guide the interviews with the continuous improvement officers and principals in each district. This approach is designed to address the interviewer's dilemma of needing to focus on a specific research question and simultaneously elicit the participant's authentic perspectives and definitions of issues related to the topic at hand.

principals first within role groups, then within each case and finally across roles and contexts. I used analytic memos throughout the process, first to capture new understandings and patterns in the data and then to synthesize the data to construct new meaning that would ultimately inform the revision of the conceptual framework. Please see Appendix 6 for a summary of data sources, methods and analyses.

I then compared the findings from the cases with the literature reviewed to highlight convergent and divergent perspectives, and analyzed them further to consolidate what is currently known based on research and practice. I used this analysis to produce a revised conceptual framework for district-level leadership of continuous improvement in education. I describe these findings and the resulting conceptual framework in detail in the following section.

Findings

The varied contexts of the districts studied provide important background for understanding the findings from each case. In the following section, I offer a brief description of each superintendent's experience and their approaches to continuous improvement within their districts as background for the reporting on the findings related to the leadership framework.

District approaches to continuous improvement.

School District of Menomonee Falls. Dr. Greco was a career educator who had served as a classroom teacher, reading specialist, principal, central office leader and superintendent in multiple districts across the region, including a term an elementary school principal in the School District of Menomonee Falls earlier in her career. While pursuing her Ph.D. in education, she discovered the work of W. Edwards Deming and

became a student of continuous improvement and related disciplines such as systems thinking and change management. In later years, she extended her learning about leadership for operational excellence by becoming a Baldridge examiner, and cultivated a connection with the Carnegie Foundation to learn how to address long-standing problems of practice more effectively.

When she took on the role of Superintendent in Menomonee Falls, she engaged with the board and community to develop a shared vision and measures for the district's success. She also secured board support and funding for a change strategy that would involve staff and students across the whole district in learning and applying improvement thinking, methods and tools in their work. This intentional focus on the instructional and operational "sides of the house" reflected Dr. Greco's perspective that system-wide improvement required the engagement and problem solving efforts of every person in the system. One of her first steps was to engage Studer Education to support the district in defining, measuring and developing everyone to deliver "Service Excellence."[6] This work engaged all staff in focusing on meeting the needs of the people they served and created standards for everyone's behavior that were eventually linked to the district's performance management system. It served to shift the culture toward greater collaboration and collective ownership for results, which made for a solid foundation for further improvement work.

[6] According to Studer Education, service excellence "means serving colleagues, serving educational professionals, and serving others. When we build a culture of service excellence in our schools, we are committed to creating great places for students to learn, for teachers to teach, and for parents to have confidence that their children are receiving a great education" (Studer Education, 2016). Menomonee Falls describes service excellence as: "Accountability, teamwork, professionalism, respect and communication," and its Service Belief Statement is, "In the School District of Menomonee Falls we respond quickly to serve our customers in a kind and friendly way by listening and owning problems to achieve customer focused solutions" (School District of Menomonee Falls, 2017, p. 39).

Shortly after embarking on the service excellence work, Dr. Greco began to develop district and school leaders' skills to lead improvement. This multi-year effort included training in project management, Lean/Six Sigma (Brook, 2014) improvement tools and Kepner-Trego's (2014) approach to decision-making, and supporting the leaders to immediately apply what they learned in their own work. As part of this effort, the leadership team instituted a routine of reporting measurable progress on key improvement initiatives to the board every 45 days, creating cycles of improvement that were significantly shorter than their prior annual review process. In tandem, she provided professional development and coaching for teachers to learn to apply the PDSA (Plan, Do, Study, Act) Cycle[7] to every unit (1-2 weeks) to improve their classroom instruction. Over the course of her seven year tenure, most staff developed significant expertise in using improvement methods to improve their work (C. Golla, personal communication, March 26, 2019), and multiple groups of teachers worked together to address long-standing instructional challenge ranging from reducing the number of students requiring remedial math in 9th grade to improving English language outcomes for all students.

Sanger Unified School District. Sanger's turnaround began in 2004 when Marc Johnson and Rich Smith were hired as Superintendent and Deputy Superintendent respectively. Their approach focused on leading key cultural shifts to enable district-

[7] A Plan-Do-Study-Act (PDSA) cycle is "a basic method of inquiry in improvement research" consisting of four steps: planning a change and making a prediction about the results of that change, making the change and gathering data, analyzing data and comparing the prediction with what actually happened, and making a decision about what to do based on what was learned (Bryk et al., 2015, pp. 121-122).

wide continuous improvement in student achievement year after year.[8] One of their initial core strategies was to implement DuFour's (2004) model of Professional Learning Communities (PLCs) district-wide.[9] These PLCs were guided by four questions[10] that focused collaborative team activity at every organizational level on completing cycles of planning, doing, reflection and learning. Over time, staff learned their way into creating tight, data driven feedback loops that drove rapid adjustment in instruction and the district's support for teachers in response to student needs. They complemented the PLCs with targeted professional development for teachers in the areas where student performance lagged the most. For example, their early efforts were characterized by a focused push to improve the achievement of English Language Learners. Johnson and Smith also gave principals more autonomy in exchange for strict accountability to meet improvement targets and demonstrated their commitment to improvement by letting go those who were unable or unwilling to produce results. A final key part of their improvement model was to develop an intentional pipeline for growing strong district leaders from within so that the culture and practices they developed could be more easily preserved (David & Talbert, 2013).

Mr. Navo, the district's superintendent from 2014 to 2018, was a product of Sanger's leadership pipeline. He led one of Sanger's federally sanctioned elementary

---

[8] "From professional isolation to collaboration and responsibility, from following the textbook to diagnosing student learning needs, from principals as managers to principals as leaders of adult learning, and from top-down mandates and compliance to reciprocal accountability" (David & Talbert, 2013).

[9] Professional Learning Communities are characterized by three "big ideas": "Ensuring that students learn," "A culture of collaboration," and "A focus on results" (DuFour, 2004).

[10] 1) What do we want students to learn, 2) How will we know if they have learned it?, 3) How will we respond if they have not learned it?, 4) How will we respond when learning has already occurred? (David & Talbert, 2013).

schools to achieve the honor of becoming a state Distinguished School during Mr. Johnson and Mr. Smith's tenures. Having spent 14 years of his education career in the district, Mr. Navo had built substantial social capital with colleagues and deeply understood the district's new culture and approach because he had experience building it. However, because he jumped from school-level leadership to the superintendency without taking on a central office role in the interim, he had a steep learning curve when he first entered the role.

As superintendent, Mr. Navo continued the district's focus on improving student learning, but broadened the vision from raising achievement on state tests to ensuring every student has "options and opportunities" upon graduation. He also intentionally worked to create psychological safety to innovate and "fail forward" in pursuit of creating deeper learning for students, while strengthening the district-wide data infrastructure, decision-making processes and improvement routines that enabled continuous improvement.

With this overview of each superintendent's experience and their approaches to continuous improvement as background, the next section turns to reporting findings from each district according to the overarching domains of the initial conceptual framework.

Comparison of findings with initial framework. Overall, findings from Menomonee Falls and Sanger regarding *How Leaders Think*, *What They Do*, and *Where They Focus their Efforts* showed substantial alignment with the domains identified in the literature. Across contexts and role groups, study participants identified *Valuing Learning; Respecting Every Individual; Setting a Vision, Purpose and Strategy Focused on Results for Students; Developing Capability; Creating a Culture of Improvement;*

Promoting Organizational Alignment; and *Creating an Effective Improvement Infrastructure* as important aspects of leadership for continuous improvement. *Think Systemically* and *Span Boundaries* surfaced in interviews with all groups except Sanger's superintendent, and *Embrace Personal Responsibility* and *Transform the System* were named by two of four groups of participants. Of these last four domains, *Think Systemically* emerged more prominently in Menomonee Falls than Sanger, and the remaining concepts were less salient in both districts than any of the others. Please see Table 2 below for a summary of how findings from the cases aligned with the draft conceptual framework for this study.

Table 2

Summary: How Executive Leaders Think, What They Do, and Where They Focus to Create the Conditions for Continuous Improvement – High Level

		Menomonee Falls		Sanger	
	Original Conceptual Framework Domain	Superintendent	Principals & CIOs	Superintendent	Principals & CIOs
How Leaders Think	Value Learning	X	X	X	X
	Respect Every Individual	X	X	X	X
	Think Systemically	X	X		X
	Embrace Personal Responsibility	X			X
What Leaders Do	Set a Vision, Purpose and Strategy Focused on Results for Students	X	X	X	X
	Develop Capability	X	X	X	X
	Transform the system	X	X		
	Create a Culture of Improvement	X	X	X	X
	Span Boundaries	X	X		X
Where Leaders Focus	Promote Organizational Alignment	X	X	X	X
	Create an Effective Improvement Infrastructure	X	X	X	X

Note: Domains identified by 3 of 4 groups are highlighted in light gray, and those named by two of four are highlighted in dark gray.

The most apparent difference across districts related to the original conceptual framework involved the degree to which the framework matched participant responses. The responses from the superintendent and the principals and CIOs in Menomonee Falls were almost universally aligned with the original framework's domains, with the exception of *Embrace Personal Responsibility*, which was not mentioned by the principals and CIOs. In contrast, Sanger's superintendent was alone in identifying *disciplined improvement methods* as a key part of an improvement infrastructure, the

district's principals and CIOs discussed *Embrace Personal Responsibility*, *Think Systemically* and *Span Boundaries* when their superintendent did not, and neither group mentioned *Transform the System*. As such, the original framework appeared to be a better fit for describing what the superintendent did to create the conditions for continuous improvement in Menomonee Falls than in Sanger.

Further analysis of the case data within each domain revealed some additional nuanced variations in regard to the concepts study participants associated with each of the high level leadership domains. Further examination of the literature also showed that some of the same concepts were reflected in research from the fields of education and/or healthcare and industry. Please see Table 3 below for a summary of the findings from this analysis across districts, role groups and literatures.

Table 3

Summary: What Executive Leaders Think to Create the Conditions for Continuous Improvement - Comparison across District and Literature Sources

			Menomonee Falls		Sanger		Literature	
			Supt	Ps & CIOs	Supt	Ps & CIOs	Healthcare & Industry	Education
How Leaders Think	**Value learning**	Have a learner's mindset	X		X		X	X
		Lead through supporting others' learning	X					
		Be a lead learner		X	X	X	X	X
		Believe everyone can and must learn		X		X		
	Respect every individual	Value people	X	X	X	X	X	X
		Enable everyone to make a meaningful contribution	X					
		Understand people's needs and support them to do their best work			X	X	X	X
	Think systemically		X	X		X	X	X
	Embrace personal responsibility		X			X	X	X
What Leaders Do	**Set vision, purpose and strategy focused on results for students**	Pursue instructional and operational excellence through learning	X	X			X	
		Commit to achievement, options and opportunities for all students			X	X		X
		Craft vision to empower	X	X	X	X		

		everyone to improve						
		Establish system-wide goals and measures to drive alignment	X	X	X	X	X	X
	Develop capability	Invest in capability development aligned with district vision and goals	X	X	X	X	X	X
		Develop leaders from within	X	X	X	X	X	X
		Hold other leaders accountable	X	X	X	X		X
	Create a culture of improvement	Establish psychological safety	X	X	X	X	X	X
		Relentlessly focus on improving toward the vision	X	X	X	X	X	X
		Ensure transparency	X	X	X	X	X	X
		Support a collaborative culture	X	X	X	X		X
		Encourage innovation				X	X	X
	Transform the system		X	X			X	X
	Span boundaries		X	X		X	X	X
Where Leaders Focus Efforts	**Promote organizational Alignment**	Communicate clear, consistent messages	X	X	X	X	*Emphasize the importance of ensuring the organization's culture, systems, processes and structures support its vision, goals and strategy.*	
		Allocate resources to achieve the vision	X	X	X	X		
	Create an effective improvement infrastructure	Use disciplined improvement methods	X	X	X		X	X
		Use data effectively	X	X	X	X	X	X

		Establish effective decision-making processes	X	X	X	X	X	X

The within-domain analysis summarized in the table above highlighted additional key differences between the districts. First, the content of the vison, goals and strategies of each district diverged in significant ways. Menomonee Falls emphasized pursuing operational and instructional excellence through accelerating adult learning whereas Sanger's vision focused on increasing achievement, options and opportunities for all students through improving the capacity to improve instruction. In essence, Menomonee Falls primarily built capacity to learn more rapidly across the organization whereas Sanger's main focus was on building the capability of teachers and principals to improve instruction. Over years, Sanger had accelerated ability to learn through the improvement cycles integrated into its PLCs, however the district was not as explicitly focused on learning how to learn as a system or "producing expert problem solvers" (School District of Menomonee Falls, 2017, p. 30).

These differences in vision, goals and strategies appeared to drive the superintendents to prioritize varied target audiences, methods, content and skills in their efforts to *Develop Capability*. Menomonee Falls' intentional inclusion of all staff and students and emphasis on consistent use of Evidence-Based Leadership[11] (Studer & Pilcher, 2015) and improvement tools and methods contrasted with Sanger's PLCs and focus on developing teachers' expertise in specific pedagogical approaches and content

[11] The Evidence-based Leadership Educational Framework (Studer & Pilcher, 2015) describes what leaders need to do to achieve performance excellence in their schools and districts. It outlines behaviors to align goals, behavior and processes within the organization.

and principals' instructional leadership capabilities. Differences in *Improvement Infrastructure* also seemed related to the divergent visions, goals and strategies, in that Menomonee Falls recognized having *disciplined improvement methods* as central to their efforts and Sanger placed more importance on *effective decision-making.* Interestingly, however, both of these aspects of infrastructure served to accelerate learning that enabled improvement.

Given all of the differences described above, however, it is notable that the district responses converged so frequently in regard to the most important enablers of continuous improvement in their districts. In both cases, participants across roles and districts emphasized how important it was that leaders *Valued People* and *Learning,* and *Aligned the Organization* around clear and consistent *Vision, Goals and Measures*. Keeping everyone *psychologically safe* and *encouraging collaboration* while *relentlessly pursuing goals* and *ensuring transparency* were all vital components of the culture that participants in both districts named. Further, superintendents in both districts were described as striking the right balance of support and accountability to drive *Developing Capability*.

Revised conceptual framework for district-level leadership of continuous improvement. Next, I compared the most credible findings across the districts and the literature base I used to develop the initial framework to create a new framework grounded in research and practice that explicates a theory of how district-level leaders create conditions for continuous improvement. This new framework is illustrated in Figure 1 below. It is followed by Table 4 which describes the findings within each domain in further detail.

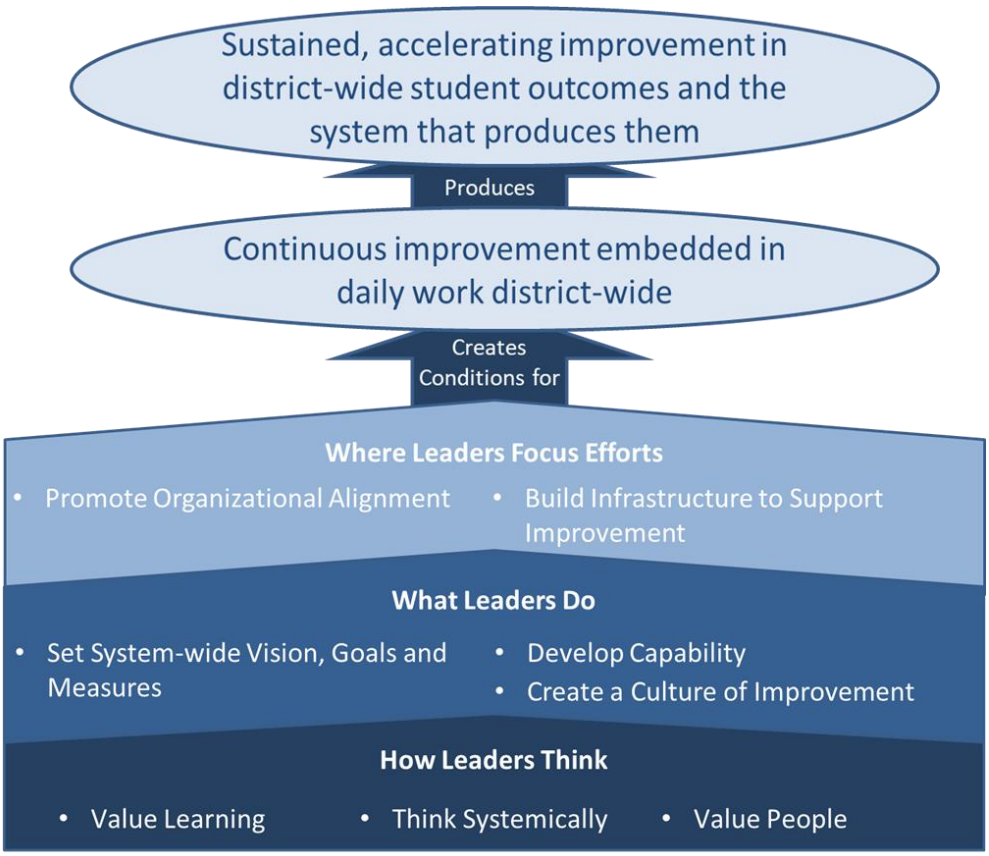


Figure 1. Conceptual framework for district-level leadership of continuous improvement.

Table 4

Conceptual Framework for District-Level Leadership of Continuous Improvement: Key Concepts

	Framework Domain	Key Concepts

How Leaders Think	Value Learning	• Have a learner's mindset
		  ○ Constantly seek out new knowledge and ideas
		  ○ Be humble and curious
		• Be a lead learner
		  ○ Invest time and effort in your own learning
		  ○ Change in response to new information and experience
		  ○ Model learning mindsets and behaviors

	Value People	• Respect every individual • Believe that everyone's contribution matters • Understand people's needs and support them to do their best work
	Think Systemically	Understand: • that the district is the unit of change • how all district functions contribute to achieving the vision • that district level outcomes take precedence in driving everyone's work • the relationships and interdependencies within and between processes and systems

What Leaders Do	Set System-wide Vision, Goals and Measures	• Set a vision to:
		  ○ Pursue excellence through learning
		  ○ Promote each student's academic success and well-being[12]
		  That:
		  ○ Reflects a shared purpose
		  ○ Engages and empowers everyone to improve
		• Establish system-wide goals and measures to drive alignment to vision

	Develop Capability	• Invest capability development aligned with district vision and goals that:
		  ○ Fosters an improvement culture
		  ○ Builds capacity for better performance
		  ○ Supports staff in learning how to continuously improve
		• Develop leaders from within to:
		  ○ Learn the mindsets, knowledge and skills necessary to lead continuous improvement
		  ○ Grow the core capabilities of improvement in others
		  ○ Model behavior aligned with the district's vision and culture
		• Hold other leaders accountable

	Create a Culture of Improvement	• Establish a culture of
		  ○ psychological safety
		  ○ relentless focus on improving toward the vision
		  ○ transparency
		  ○ collaboration
		• To do this:

[12] National Policy Board Standards (2015)

		○ Communicate, model and recognize desired behaviors ○ Recognize contributions and celebrate successes • Build trusting relationships
Where Leaders Focus Efforts	Promote Organizational Alignment	• Ensure the organization's culture, systems, processes and structures support its vision, goals and strategy: ○ Allocate resources to achieve the vision ○ Communicate clear, consistent messages ○ Break down organizational siloes ○ Integrate new initiatives into the existing strategy in ways that maintain its coherence • Nurture strong relationships with board members and develop them as improvement leaders
	Build Infrastructure to Support Improvement	Improvement infrastructure includes: • Disciplined improvement methods • District-level measurement and analysis systems that include formative and process-level data • Commonly understood processes for making decisions grounded in evidence

Recommendations

The purpose of this study was to build a testable, research-based framework that explicated a theory of how district-level leaders create conditions for continuous improvement. My intention was to contribute to the Carnegie Foundation's learning about how it can grow and nurture effective leaders of improvement in education. Based on this study's findings and the resulting framework described above, I offer the following recommendations for future action:

1) **Attend to what leaders think, do and focus on** as the Foundation seeks to learn how to develop and support district leaders as leaders of improvement**.** Findings from the literature and the field support the need for leaders to develop improvement mindsets and mental models, behave in alignment with their improvement goals, and catalyze high leverage changes in their organizations. On this last point, it may be particularly helpful to leaders to

further specify the systems that must be established within their organization to support sustained, continuous improvement.

2) **Leverage improvement learning from outside the field of education**. The significant convergence of findings across various literature, districts and roles suggests that learning from healthcare and industry, fields that have been learning how to lead continuous improvement for decades longer than education, can be relevant and useful to leaders in education. Rather than reinvent the wheel, the Foundation can leverage "analogical scavenging" (Bryk et al., 2015, p. xiii) to learn from other fields about best practices for developing leader capabilities.
3) **Test this framework in practice**, and refine it based on learning from the field about what is most useful and effective for leaders seeking to create the conditions for continuous improvement in their contexts. Possibilities for testing include forming a peer-learning network of interested superintendents, doing focus groups with Spotlight winners and/or leaders of iLEAD school districts, or using it with leaders of organizations participating in partnerships with the Foundation.

As a recognized thought leader in regard to improvement in the field of education, the Foundation is well positioned to build on the learning summarized in the *Conceptual Framework for District-level Leadership of Continuous Improvement* to advance the ability of education leaders to create the conditions for continuous improvement in their districts.

Appendix 1: Three Interdependent Dimensions of High-Impact Leadership

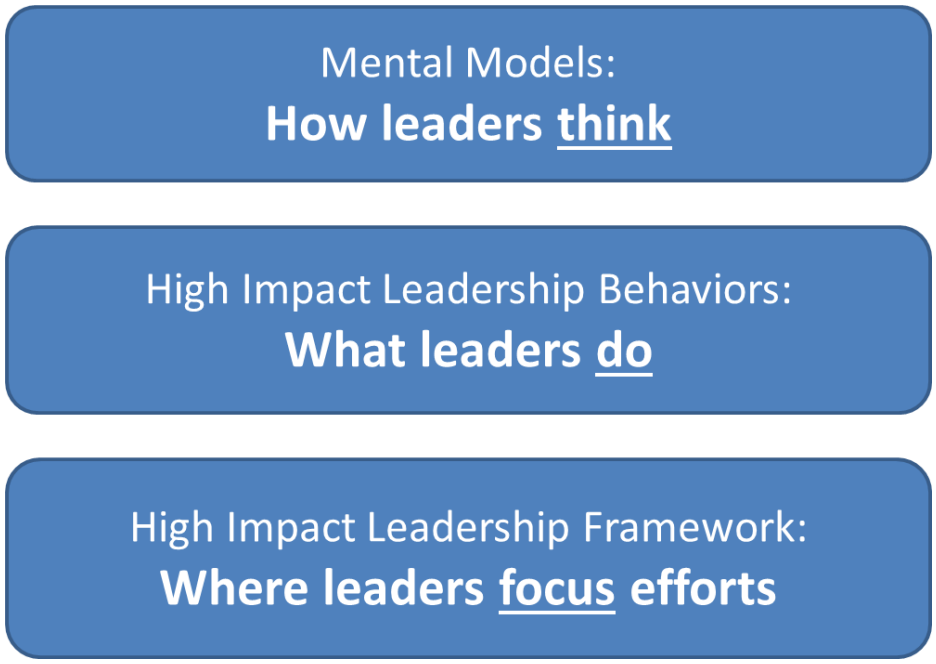
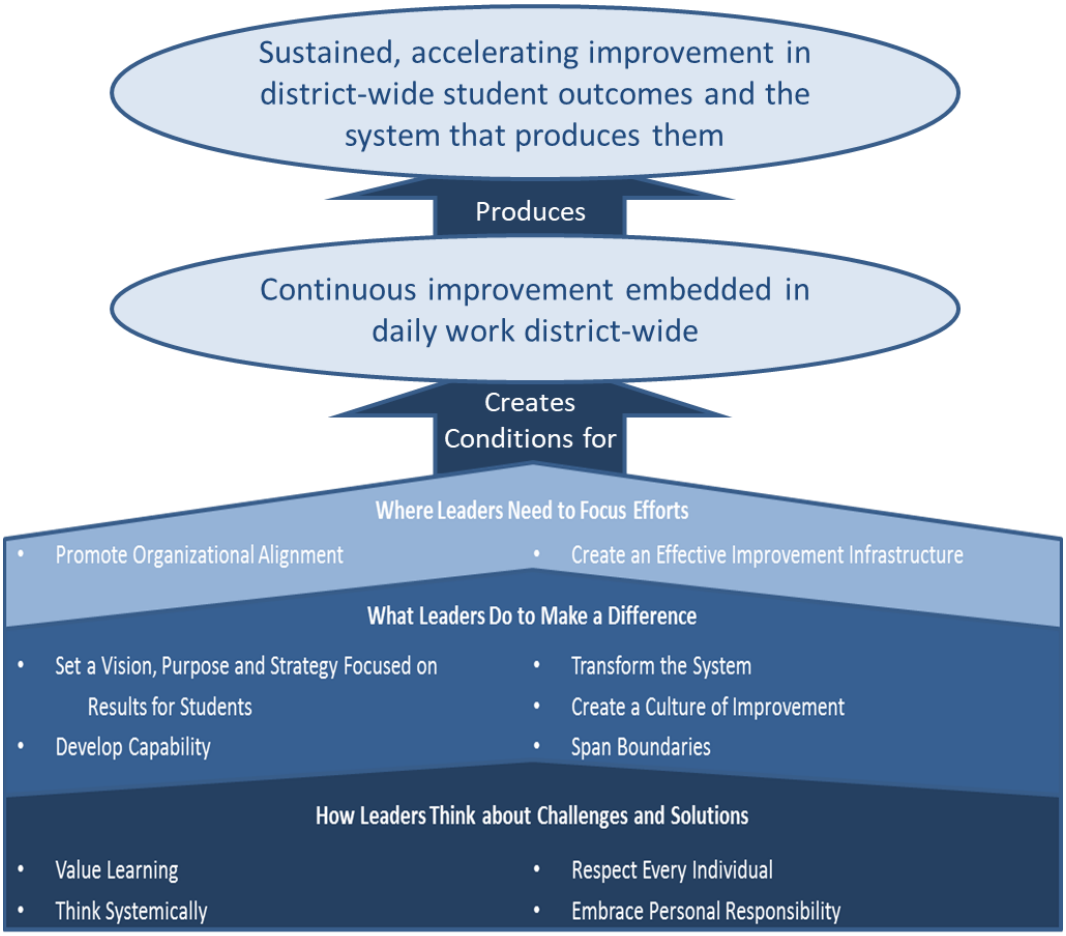


Figure 1. Three interdependent dimensions of high-impact leadership. (Adapted from Swenson et al., 2013, p. 6).

Appendix 2: Initial Conceptual Framework for District Level Leadership of Continuous Improvement



Appendix 3: School District of Menomonee Falls Context

The School District of Menomonee Falls is located northwest of Milwaukee in a predominantly middle class suburb of 37,000 people. Menomonee Falls is the third largest manufacturing community in the state, and is recognized as a safe and affordable for families (School District of Menomonee Falls, 2017). The school district serves approximately 4,000 students (School District of Menomonee Falls, 2017), a student population that has remained relatively stable in recent years (Ballotpedia, n.d.). The student population includes 75% white students and 25% students of color, and 15% of students receive free or reduced price lunch (Public School Review, n.d.). Additionally, the district is responsible for the community education and recreation department, which offers enrichment courses, before and after school care, athletic programs, summer enrichment for students, and senior services. This department serves approximately 13,000 people per year (School District of Menomonee Falls, 2017).

Baron (2017) reports that when the school board hired Dr. Greco in July 2011, it was looking for someone to lead sustained improvement. According to a report by Grunow et al. (2018) of Policy Analysis fo California Education (PACE) and Stanford University, the district was facing significant reductions in aid combined with new revenue limits from the state imposed by newly-elected governor, Scott Walker. It had also been named one of the highest spending and most underperforming district in Wisconsin. Baron (2017) notes that there were major disparities in achievement among racial, ethnic and income groups, and participation in Advanced Placement courses was low (Baron, 2017). Further, Grunow et al., (2018) report that the high school was not meeting No Child Left Behind requirements for special needs students, and middle school suspension rates were among the highest in the region.

Since Dr. Greco's arrival, the district's budget was cut every year in response to state demands, but improvements in operations reducing spending in areas such as workers compensation and energy (Grunow et al., 2018) enabled the district to retain needed staff and resources for improving instruction. In 2014, the school board passed a resolution that "requires the utilization of continuous quality improvement at all levels of the organization that enhances our ability to consistently meet or exceed stakeholder requirements" (School District of Menomonee Falls, 2017, p. 1), reflecting their intention to continue to support an approach that had begun to yield positive results. Suspensions at the middle school dropped from 283 in the 2010/11 school year to 60 in the 2015/16 school year, and AP participation surged from 10.6 to 35.1 percent while the passing rate has increased from 61 to 75.5 percent (Grunow et al., 2018). While achievement gaps remained, the Wisconsin Measures of Academic Progress (MAP) test results indicated a 24% gain for African American students and a 7% gain for Hispanic students across grades 3 through 10 since 2011 (Baron, 2017).

Appendix 4: Sanger Unified School District Context

Sanger, California is a rural, agricultural community in the state's Central Valley. The Sanger Unified School District serves 11,360 students (Sanger Unified School District, n.d.), more than 70% of whom come from low income households (David & Talbert, 2013). Eighty-four percent identify as a racial or ethnic minority, including 71% Hispanic, and 22% are English Language Learners (David & Talbert, 2013).

In 2004, 7 of 20 schools in Sanger were subject to federal sanctions due to poor performance, and the district was labeled as one of the "98 lowest performing districts in the state" (David & Talbert, 2013). Further, Sanger students' scores on the district's Academic Performance index (API) were 10 percentage points lower than the state average (David & Talbert, 2013).

Marc Johnson and Rich Smith were hired in 2004 as Sanger's Superintendent and Deputy Superintendent respectively. According to David & Talbert's report (2013), *Turning Around a High Poverty District*: *Learning from Sanger*, their approach focused on leading key cultural shifts to enable district-wide continuous improvement in student achievement year after year. By 2012, Sanger's API of 822 was significantly higher than the state average of 788, and the student sub group of English Language Learners outpaced their peers on the same measure by 56 points. The district's overall graduation rate was 97%, with a 94% rate for Latinos. Further, the annual parent survey indicated that 91% considered their child's school's quality as excellent or good (David & Talbert, 2013).

Matthew Navo, the district's superintendent from 2014 to 2018, continued the district's focus on improving student learning, and broadened the vision from raising achievement on state tests to ensuring every student has "options and opportunities" upon graduation. Because of California's shift to align its standardized testing with the Common Core during his tenure, year over year comparisons with student test scores before 2014 are not available. However, CAASPP (California Assessment of Student Performance and Progress) test results in English Language Arts/Literacy (ELA) and mathematics for all students grades three through 11 improved district-wide each school year from 2014-15 to 2017-18 (California Assessment of Student Performance and Progress, 2018).

Appendix 5: Data Sources to Answer Research Questions

Data Sources to Answer Research Questions

	Individual superintendent interviews (4)	Individual interviews with district-level continuous improvement officers (8)	Individual interviews with school-level leaders (6)	Documentation
Subquestion 1: How do those acknowledged as effective executive leaders of district-wide continuous improvement describe what they think, do and focus on to create the conditions for such improvement in their districts?	X			X
Subquestion 2: What do district-level continuous improvement officers and school-level leaders of their districts' continuous improvement efforts identify as essential aspects of what their executive leaders think, do and focus on to create successful conditions for their improvement work?		X	X	X
Subquestion 3: How do the perspectives of executive leaders, district continuous improvement officers and school-level leaders compare within and across districts?	X	X	X	X

Appendix 6: Data Sources, Methods and Analyses

Data Sources, Methods and Analyses

Source	Rationale	Sample	Method	Analyses
Superintendent interviews	Understand superintendents' perspectives on how they created conditions for district-wide continuous improvement	(2) Superintendents who lead continuously improving districts	Two 90 minute, semi-structured individual interviews with each superintendent	Interview responses were recorded, transcribed and coded. Analytic memos compared and contrasted results within and across districts and informed the revision of the conceptual framework for executive leadership of district-wide continuous improvement.
District-level Continuous Improvement Officer interviews	Understand perspectives of district continuous improvement officers driving district-wide continuous improvement regarding how the superintendent created the conditions for the success of these efforts	(4) District Continuous Improvement Officers within each district, for a total of 8 interviews	One 60 minute semi-structured individual interview with each district continuous improvement officer	Interview responses were recorded, transcribed and coded. Analytic memos compared and contrasted results within and across districts and informed the revision of the conceptual framework for executive leadership of district-wide continuous improvement.
School-level leader interviews	Understand perspectives of principals/assistant principals leading continuous improvement about how superintendents created the conditions for them to succeed	(3) Principals/ assistant principals within each district, for a total of 6 interviews	One 60 minute semi-structured individual interview with each principal/ assistant principal	Interview responses were recorded, transcribed and coded. Analytic memos compared and contrasted results within and across districts and informed the revision of the conceptual framework for executive leadership of district-wide continuous improvement.

Source	Rationale	Sample	Method	Analyses
Documents	Triangulate data from documents with data from interviews to increase strength of findings	Publically available documents and documents volunteered by interview participants during interviews	Requested and searched for documents	Documents were reviewed and used inform the analytic memos.

REFERENCES

Argyris, C., & Schon, D. A. (1974). *Theory in practice: Increasing professional effectiveness.* Oxford, England: Jossey-Bass.

Atkinson, R., & Flint, J. (2001). Accessing hidden and hard-to-reach populations: Snowball research strategies. *Social Research Update (33)*, 1-4.

Ballotpedia, (n.d.) Menomonee falls school district, Wisconsin. Retrieved from: https://ballotpedia.org/Menomonee_Falls_School_District,_Wisconsin

Berwick, D. M. (1996). A primer on leading the improvement of systems. *British Medical Journal, 312*(7031), 619-622.

Bisby, D., Davis, C., Hall, W., Muzzy, S., & Schafer, K. (2009). *Achieving and sustaining excellence in education.* Milwaukee, WI: American Society for Quality. Retrieved from http://207.67.83.164/edu/2009/07/continuous-improvement/achieving-and-sustaining-excellence-in-education.pdf

Brook, Q. (2014). *Lean six sigma minitab: The complete toolbox guide for business improvement.* Winchester, UK: Opex Resources.

Bryk, A. (2017). Redressing inequities: An aspiration in search of a method [PDF]. Retrieved from: https://www.carnegiefoundation.org/wp-content/uploads/2017/04/Carnegie_Bryk_Summit_2017_Keynote.pdf

Bryk, A., Gomez, L., Grunow, A., & LeMahieu, P. (2015). *Learning to improve: How America's schools can get better at getting better.* Cambridge, MA: Harvard Education Press.

Carnegie Foundation for the Advancement of Teaching. (n.d.). Our ideas. Retrieved from https://www.carnegiefoundation.org/our-ideas/

California Assessment of Student Performance and Progress. (2018). Smarter balance test results for: District: Sanger unified. Retrieved from: https://caaspp.cde.ca.gov/sb2018/ViewReport?ps=true&lstTestYear=2018&lstTestType=B&lstGroup=1&lstCounty=10&lstDistrict=62414-000&lstSchool=0000000

Childress, S., Elmore, R., & Grossman, A. S. (2006). How to manage urban school districts. *Harvard Business Review, 84*(11), 55-68. Retrieved from https://hbr.org/2006/11/how-to-manage-urban-school-districts

David, J., & Talbert, J. (2013). *Turning around a high poverty district*: *Learning from Sanger.* San Francisco: SH Cowell Foundation.

Deming, W. E. (2000). *Out of the crisis* (3rd ed.). Cambridge, MA: MIT Press.

Deming, W. E. (2000). *The new economics* (2nd ed.). Cambridge, MA: MIT Press.

Dixon, C. J. & Eddy-Spicer, D. (2019). System leadership for continuous improvement: The role of district-level leaders in creating the conditions for system-wide improvement. In H. Shaked, C. Schechter & A. Daly. *Leading holistically: How schools, districts, and states improve systemically* (pp. 141-157). New York, NY: Routledge.

Dixon-Woods, M. (2011). Using framework-based synthesis for conducting reviews of qualitative studies. *BMC Medicine, 9,* 39–39. doi:10.1186/1741-7015-9-39

DuFour, R. (2004). What is a professional learning community? *Educational Leadership, 61*(8), 6-11. Retrieved from http://www.ascd.org/publications/educational-leadership/may04/vol61/num08/What-Is-a-Professional-Learning-Community%C2%A2.aspx

DuFour, R., DuFour, R., & Eaker, R. (2008). *Revisiting professional learning communities at work: New insights for improving schools.* Bloomington, IN: Solution Tree Press.

Education Leadership Constituent Council. (2011). *Educational leadership program standards: 2011 ELLC district level.* Reston, VA: Author.

Elmore, R. (2000). *Building a new structure for school leadership.* Washington, DC: The Albert Shanker Institute.

Elmore, R., & Burney, D. (1998). *Continuous improvement in community school district # 2, New York City.* Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.

Englebart, D. (2004). Proceedings from Hypertext 2004: *Augmenting Society's Collective IQ.* Santa Cruz, CA: ACM, Inc.

Fullan, M., Bertani, A., & Quinn, J. (2004). New lessons for districtwide reform: Effective leadership for change at the district level has 10 crucial components. *Educational Leadership, 61*(7), 42-46.

Gomez, L., Russell, J., Bryk, A., LeMahieu, P., & Mejia, E. (2016). The right network for the right problem. *Phi Delta Kappan, 98* (3), 8-15.

Grunow, A., Hough, H., Park, S., Willis, J, Krausen, K. (2018). *Getting down to facts II: Towards a common vision of continuous improvement for California*. Stanford, CA: Stanford University & Policy Analysis for California Education (PACE).

Honig, M. I. (2008). District central offices as learning organizations: How sociocultural and organizational learning theories elaborate district central office administrators' participation in teaching and learning improvement efforts. *American Journal of Education, 114*, 627–664.

Honig, M. I. (2013). From tinkering to transformation: Strengthening school district central office performance. *Education Outlook*, 4, 1-10. Washington DC: American Enterprise Institute for Public Policy Research.

Hopkins, D., Stringfield, S., Harris, A., Stoll, L., & MacKay, T. (2015). School and system improvement: A narrative state-of-the-art review. *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice, 25*(2), 257-281.

Huang, M., Hoang, H., Yesilyurt, S., & Thorn, C. (2016). *Community College Pathways: 2014-2015 impact report.* Stanford, CA: The Carnegie Foundation for the Advancement of Teaching.

Institute for Healthcare Improvement. (n.d.). Science of improvement. Retrieved from http://www.ihi.org/about/Pages/ScienceofImprovement.aspx

Kania, J. & Kramer, M. (2011). Collective impact. *Stanford Social Innovation Review.* Retrieved from https://ssir.org/articles/entry/collective_impact

Kaplan, H. C., Provost, L. P., Froehle, C. M., & Margolis, P. A. (2012). The model for understanding success in quality (MUSIQ): Building a theory of context in healthcare quality improvement. *BMJ Quality & Safety,* (21), 13-21. Doi:10.1136/bmjqs-2001-000010

Kepner-Trego. (2014). *Problem solving and decision making workbook.* Princeton, NJ: Kepner-Trego, Inc.

Kirp, D. L. (2013). *Improbably scholars*. Oxford, England, UK: Oxford University Press.

Kirp, D. L. (2013-2014). Banding together: Union City's teachers and administrators work together to improve student achievement. *American Educator, winter,* 14-44.

Kuktelionis, C. (2019). *Three behaviors that poison your culture*. Retrieved from https://www.studereducation.com/3-behaviors-poison-culture/

Langley, G. J., Moen, R. D., Nolan, K. M., Nolan, T. W., Norma, C. L., and Provost, L. P. (2009). *The improvement guide: A practical approach to enhancing organizational performance* (2nd ed.). San Francisco, CA: Jossey-Bass.

Leithwood, K., Louis, K., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning: A review of the evidence linking leadership to student learning*. New York, NY: The Wallace Foundation.

Leithwood, K. (2010). Characteristics of school districts that are exceptionally effective at closing the achievement gap. *Leadership and Policy in Schools, 9,* 245-291.

LeMahieu, P. G., Grunow, A., Baker, L., Nordstrum, L. E., & Gomez, L. M. (2017). Working to improve: Seven approaches to quality improvement in education. *Quality Assurance in Education, 25*(1), 2-4. Doi:10.1108/QAE-12-2016-0086

Lucas, B., & Nacer, H. (2015). *The habits of an improver*. London, UK: The Health Foundation.

Lunenberg, F. (2010) Total quality management applied to schools. *Schooling, 1* (1), 1-6.

McDonald, J. P., Zydney, J. M., Dichter, A., & McDonald, E. C. (2012). *Going online with protocols: New tools for teaching and learning* [Kindle ed.]. New York, NY: Teachers College Press.

McGinn, M. K. (2010). Credibility. In A. J. Mills, G. Durepos, & E. Wiebe (Eds.), *Encyclopedia of case study research.* Thousand Oaks, CA: SAGE Research Methods.

McLaughlin, M., & Talbert, J. (2003). *Reforming districts: How districts support school reform.* Seattle, WA: Center for the Study of Teaching and Policy.

Menomonee Falls Schools. (n.d.). Vision & mission. Retrieved from: https://www.fallsschools.org/ourstory/vision-mission

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods source book* (3rd ed.). Thousand Oaks, CA: SAGE Publications Ltd.

National Policy Board for Educational Administration. (2015). *Professional standards for educational leaders 2015*. Reston, VA: Author.

O'Day, J. A., & Smith, M. S. (2016). Quality and equality in American education: Systemic problems, systemic solutions. In I. Kirsch & H. Braun (Eds.), *The dynamics of opportunity in America* (pp. 297-358). Princeton, NJ: Educational Testing Service.

Park, S., Hironaka, S., Carver, P., & Nordstrum, L. (2013). *Continuous improvement in education*. Stanford, CA: The Carnegie Foundation for the Advancement of Teaching.

Park, S., & Takahashi, S. (2013). *90-Day cycle handbook.* Stanford, CA: Carnegie Foundation for the Advancement of Teaching.

Patton, M. Q. (2014) *Qualitative research & evaluation methods*, Thousand Oaks, CA: Sage Publications.

Public School Review. (n.d.) Retrieved from: https://www.publicschoolreview.com/

Rallis, S. F., & Rossman, G. B. (2012). *The research journey: Introduction to inquiry.* New York, NY: The Guilford Press.

Russell, J. L., Bryk, A. S., Dolle, J., Gomez, L. M., LeMahieu, P., & Grunow, A. (In Press). A framework for the initiation of networked improvement communities. *Teachers College Record, 119*(7).

Sanger Unified School District. (2007). *Sanger unified administrative expectations 2007-2008.*

Sanger Unified School District. (n.d.) About our district. Retrieved from: http://www.sanger.k12.ca.us/About/

Sanger Unified School District. (n.d.). *"Systems" thinking for building leadership capacity.*

School District of Menomonee Falls. (2016). *Building the steps of continuous improvement.*

School District of Menomonee Falls. (n.d.). *Leading transformation to a districtwide culture of improvement.*

School District of Menomonee Falls. (2017). *Falls schools strategic planning update.*

School District of Menomonee Falls. (2017-18). *The best at getting better: School and department scorecards.*

Schwahn, C. J., & Spady, W. (2001). *Total leaders: Applying the best future-focused change strategies to education.* Lanham, MD: The Scarecrow Press, Inc.

Scoville, R. & Little K. (2014). *Comparing lean and quality improvement*. Cambridge, MA: Institute for Healthcare Improvement.

Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and social sciences* (2nd ed.). New York, NY: Teachers College Press.

Shingo Institute. (2016). *The discover excellence participant guide* (version 2.9). Logan, UT: Utah State University.

Snipes, J., Doolittle, F., & Herlihy, C. (2002). *Foundations for success: Case studies of how urban school systems improve student achievement.* Washington, DC: Council of the Great City Schools.

Spear, S. J. (2009). *Chasing the rabbit: How market leaders outdistance the competition and how great companies can catch up and win.* New York, NY: McGraw-Hill.

Studer, C. & Pilcher, J. (2015). *Maximize performance: Creating a culture for educational excellence*. Pensacola, FL: Fire Starter Publishing.

Studer Education. (n.d.) Retrieved from https://www.studereducation.com/

Studer Education. (2016). Service excellence. Retrieved from https://www.studereducation.com/service-excellence-across-educational-systems/

Swenson, S., Pugh, M., McMullan, C., & Kabcenell, A. (2013). *High impact leadership: improve care, improve the health of populations, and reduce costs.* Cambridge, MA: Institute for Healthcare Improvement.

Togneri, W., & Anderson, S. E. (2003). *Beyond islands of excellence: What districts can do to improve instruction and achievement in all schools*. Washington, DC: Learning First Alliance.

Tomlinson, P. (1989). Having it both ways: Hierarchical focusing as a research interview method. *British Educational Research Journal, 15*(2), 155-176.

Toussaint, J. S. & Ehrlich, S. P. (2017). Five changes great leaders make to develop an improvement culture. *NEMJ Catalyst.* Retrieved from http://catalyst.nemj.org/five-changes-great-leaders-improvement-culture/

Wheatley, M. (1992). *Leadership and the new science: Learning about organization from an orderly universe.* Oakland, CA: Berrett-Koehler Publishers.

APPENDICES

Appendix A: Superintendent Recruitment Email

Dear (Potential Superintendent Participant Name),

I'm writing in hopes that you may be willing to participate in research I am conducting to better understand how superintendents and their leadership teams create the conditions for successful district-wide continuous improvement. I am currently a doctoral candidate in UVA's education leadership program and an Associate for Networked Improvement Science at the Carnegie Foundation for the Advancement of Teaching. I anticipate reporting research findings as part of my UVA capstone project, as well as in various other forms that may be helpful to aspiring education leaders seeking to emulate your district's success.

At present, I'm planning to include 2-3 exemplary districts in the study. Because your district was identified as exemplary by experts I consulted, I sincerely hope that (District Name) will be one of those districts. I hope to interview the superintendent, 2-3 central office leaders and 2-4 principals who have played key roles in each district's continuous improvement efforts. Ideally, if you were to participate, I would come visit for a couple of days this spring so that I could interview you and your staff in person. I would hope to interview you twice for approximately 90 minutes – once at the beginning and again at the end of the visit (or via video conference the following week). For the rest of your staff I would appreciate one interview that I would keep to an hour at most. I would also ask each of you to share any materials or documentation that may help to further illuminate ideas discussed in the interviews.

This study has been approved by the University of Virginia's Institutional Review Board. If your district would require additional approvals, I would appreciate working with you to secure them.

Would you be willing to have (District Name) participate in this study?

Please do not hesitate to contact me with any questions or concerns that you would like to discuss prior to making a decision, as I would be glad to supply you with any additional information you may require. If possible, I would be grateful if you could let me know your decision by (X date).

Thank you for your consideration. I sincerely hope to have the opportunity to learn from you and your staff through this project, as well as to help spread that learning to others embarking on their own improvement journeys. Your participation would be very much appreciated.

Best,

Christina Dixon

Cd3dr@virginia.edu

412-400-6252

Appendix B: Superintendent Recruitment Script

Hello. Allow me to introduce myself. My name is Christina Dixon and I am currently a doctoral candidate in UVA's education leadership program. I'm calling to follow up on an email I sent to you about research regarding leadership of continuous improvement. Do you have about five minutes to talk?

(If yes, continue with script. If no, ask when it might be a better time to reach the person and call back then.)

Great! So, just as I refresher, I'm conducting research to better understand how superintendents and their leadership teams create the conditions for successful district-wide continuous improvement. I'm contacting you because I'm hoping to learn from the practical experiences of leaders in 2 or 3 districts like yours that have actually been able to do this. I anticipate reporting research findings as part of my UVA capstone project, as well as in various other forms that may be helpful to aspiring education leaders seeking to emulate your district's success.

If you were to participate, I would hope to interview you, 2-3 central office leaders and 2-4 principals who have played key roles in your district's continuous improvement efforts. Ideally, I would come visit for a couple of days this spring so that I could interview you and your staff in person. I would hope to interview you twice for approximately 90 minutes – once at the beginning and again at the end of the visit, or possibly via video conference the following week. For the rest of your staff I would appreciate one interview that I would keep to an hour at most. I would also ask each of you to share any materials or documentation that may help to further illuminate ideas discussed in the interviews.

I'm reaching out to you today in hopes that you and your district would be willing to participate in this study. Does that sound like something you might be willing to do?

(If yes, continue with script. If no, respond to any questions or concerns and thank them for their time.)

I'm so glad that you may be interested. Do you have any questions or concerns that you'd like to discuss right now?

(Respond to questions and concerns.)

This study has been approved by the University of Virginia's Institutional Review Board. Do you think your district would require additional approvals? *(If yes, ask what they are and what I would need to do to get them.)*

So, what would be the best way for me to proceed with getting started? May I work with you or someone else on staff to identify possible site visit dates and potential staff to interview?

(Identify and agree on next steps.)

Thank you so much! I will get to work on the follow up we discussed and begin to reach out to additional staff members. I'll also send you a follow up email outlining what we've discussed, which will include my contact information in case you have any additional questions or concerns. I truly appreciate your willingness to participate in this study, and I'm really looking forward to learning from you.

Have a great day!

Appendix C: Continuous Improvement Officer and Principal Recruitment Email

Dear (Potential Participant Name),

I'm writing in hopes that you may be willing to participate in research I am conducting to better understand how superintendents and their leadership teams create the conditions for successful district-wide continuous improvement. I am currently a doctoral candidate in UVA's education leadership program and an Associate for Networked Improvement Science at the Carnegie Foundation for the Advancement of Teaching. This research is for my UVA capstone project, however I am hopeful that it will be helpful to aspiring education leaders seeking to emulate your district's success.

At present, I'm planning to include 2-3 exemplary districts in the study and (District Superintendent Name) has agreed to have (District Name) participate. Within your district, I hope to interview a small number central office leaders and principals who have played key roles in your continuous improvement efforts. Interviews will likely be conducted in person during a site visit, but may also be arranged by video conference for mutual convenience. I will also ask interviewees to supply any documentation or other materials that may help to illuminate ideas discussed in the interviews. Individual participation is completely voluntary.

Would you be willing to participate in this study? Please let me know by responding to this email or calling me at 412-400-6252 by (date). If you have questions or concerns that you would like to discuss prior to making a decision, I would be glad to supply you with any additional information you may require.

Thank you for your consideration. Your participation would be very much appreciated.

Best,

Christina Dixon

Cd3dr@virginia.edu
412-400-6252

Appendix D: Continuous Improvement Officer and Principal Recruitment Script

Hello. Allow me to introduce myself. My name is Christina Dixon and I am currently a doctoral candidate in UVA's education leadership program. I'm calling to follow up on an email I sent about research that I'm conducting regarding leadership for continuous improvement. Do you have about five minutes to talk?

(If yes, continue with script. If no, ask when it might be a better time to reach the person and call back then.)

Great! So, just as I refresher, I'm conducting research to better understand how superintendents and their leadership teams create the conditions for successful district-wide continuous improvement. For this study, I'm hoping to learn from the practical experiences of leaders in 2 or 3 districts like yours that have actually been able to do this. I anticipate reporting research findings as part of my UVA capstone project, as well as in various other forms that may be helpful to aspiring education leaders seeking to emulate your district's success.

(Superintendent name) has agreed to have (district name) participate in this research. I'm reaching out to you today in hopes that you'll be willing to be one of a handful of central office leaders and principals who I interview for this research. Does that sound like something you might be willing to do?

(If yes, continue with script. If no, respond to any questions or concerns and thank them for their time.)

I'm so glad that you may be interested. If you do participate, I would work with you to set up a one hour interview that could take place in person or via video-conference, depending on whether my visit to (district name) coincides with a time that works for you. During that interview I would also ask you to share any documentation or materials that might help to further illuminate any ideas we discuss in the interview.

Do you have any questions I could answer right now?

(Respond to questions.)

I have one question for you – what is the best way for me to schedule an interview time with you? Shall I work with you or someone else on staff?

Thank you so much! I will be in touch to schedule our interview and provide you with additional logistical information about the research. I really appreciate your willingness to participate in this study, and I'm really looking forward to learning from you.

Have a great day!

Appendix E: Superintendent Interview Protocols

Superintendent Interview Protocol A

Thank you for participating in this interview with me today. Before we get started, I'd like to take a moment to focus on the purpose of this research. As you know, I am investigating how district-level leaders create the conditions for district-wide continuous improvement. I'm interviewing you today because your district's student outcomes and reputation among scholars and peers indicate that your district is an exemplar of district-wide continuous improvement, and I would like to understand more about how you understand your role in creating the conditions leading to your district's success.

Our interview today will be the first of two interviews that we're planning to do together. In this one, I am seeking to understand what professional experiences led you to become a Superintendent leading continuous improvement and what your current experience of doing this work is like. In the second, we will focus on what it means to you to be a Superintendent who has led district-wide continuous improvement efforts. I expect that both interviews will last no more than ninety minutes.

There are no right or wrong answers, as I am seeking to understand your thoughts and experiences from your perspective. Any specific examples you can recall would be very helpful. You may pass on any question that makes you feel uncomfortable and you may discontinue this interview at any time. I will record this conversation, and I will share with you the full transcript so that you can check it for accuracy. I will also provide you with any reports prior to their release so that you can indicate if there's any information that you would like me to omit.

Before we begin, I have a couple of questions for you regarding confidentiality. In my data collection and reporting I can name you and your district, or I can take steps to keep your identity and that of your district confidential. If you ask me for confidentiality, I will use pseudonyms and seek to obscure potentially identifying information when reporting, and I will collect and store data in ways that minimize the chances of inadvertent disclosure of your identity. However, I need to be clear that I cannot guarantee confidentiality. Because it is likely that some of information I will report is already publically known, it is possible that those familiar with your district may be able to discover your identity. Taking these factors into consideration, ***would you like me to identify you and your district in reports, or would you like me to take steps to keep your identities confidential?***

Finally, I'd like to invite you to be open and honest with me to the extent that you are comfortable. In your role you've had to be a skilled communicator, and would be easy for you to give me a string of canned answers that would sound really good but might not help much in truly understanding what it means to do this work. I'm here today because I believe you have experience and insight that others need to know about, so I'd really encourage you to dig a little deeper as you're able. Thank you!

Do you have any questions before we begin?

Let's get started!

Part A (35 minutes)

Task: Put the participant's professional experience in context by asking him or her to tell as much as possible about him or herself in light of the topic up to the present moment.

Introduction:
In this first portion of the interview, I am seeking to understand how your professional experiences prior to becoming Superintendent led you to become a leader of continuous improvement efforts in your district.

Possible questions:

- *Tell me about your past professional life, up until the time you became a Superintendent, going as far back as possible within (35) minutes.*
- *How did you come to be a Superintendent who wanted to improve outcomes for all students? How did you come to be passionate about continuous improvement as a way to do this?*
- *What professional experiences did you have that led you to become a Superintendent who approached leading in this way?*

Possible follow up questions/prompts:

- *What do you mean by _____?*
- *Can you give me more details about that experience?*
- *Can you tell me what you were thinking when you said_____? If you were to write a footnote to that comment to explain what you were thinking when you said it, what would that footnote say?*
- *What was that like for you?*
- *You mentioned _____. Could you please tell me more about what happened, or why that was meaningful to you?*

- *Can you tell me more about why that experience was important to your future as a leader of continuous improvement?*
- *What were you thinking as you answered these questions? How did those thoughts shape your answers?*

Part B (45 minutes)

Task: Allow participant to reconstruct the details of their experience within the context in which it occurs. Concentrate on the concrete details of the participants' present professional experience in the topic area of study.

Introduction:
We're now going to transition to the second part of the interview. In the next 45 minutes, I am seeking to understand how you experience your role as a Superintendent leading continuous improvement efforts in your district.

Possible questions:

- *How do you work to create the conditions for district-wide continuous improvement? What do you do to enable others in your district to contribute to these efforts?*
- *What do you do on the job that's specifically about leading system-wide continuous improvement efforts?*
- *What do you do in your role that is unique to the superintendency? What roles and responsibilities do you share with others?*
- *How has what you do as superintendent changed over your tenure as your continuous improvement efforts have evolved?*
- *Tell me about your relationships with your (students, teachers, principals, central office/district level leaders, board, community, others)? How do you interact (how frequently, in what context(s), what are these interactions like)?*
- *Can you reconstruct a day of being superintendent from when you got up in the morning until you fell asleep?*

Possible follow up questions/prompts:

- *What do you mean by _____?*
- *Can you give me more details about that experience?*
- *What was that like for you?*
- *You mentioned _____. Could you please tell me more about what you did?*
- *Can you tell me more about why (that experience) is important to your leadership of continuous improvement?*
- *What is it like for you to do what you do?*

- *Can you tell me what you were thinking when you said_____? If you were to write a footnote to that comment to explain what you were thinking when you said it, what would that footnote say?*
- *What were you thinking as you answered these questions? How did those thoughts shape your answers?*

Part C (10 minutes)

Introduction:
We're now nearing the end of the interview. However, before we finish I'd like to ask you one more short question about documentation and check whether you have any questions for me.

Questions:

1) *We've discussed a number of aspects of what you do to create the conditions for district-wide continuous improvement today. Do you have any documentation or materials that you would be willing to share with that could provide further details about the topics we've discussed?*
2) *Do you have any questions for me?*

We've come to the end of this interview. Thank you very much for taking the time to speak with me today. I truly appreciated the opportunity to learn from you and your experience about how to create the conditions for continuous improvement in education, and I'm looking forward to our next conversation which is scheduled for (time & date).

Superintendent Interview Protocol B

Thank you for participating in this interview with me today. As you remember from our first interview, this research is focused on investigating how district-level leaders create the conditions for district-wide continuous improvement. As before, I would like to understand more about how you understand your role in creating the conditions leading to your district's success.

Our interview today is the second two planned interviews. In this one, I will build on the ground we covered in the first interview and ask you a series of questions in which I will ask you to reflect on the meaning of your experiences as a Superintendent leading continuous improvement efforts. I expect that, like the last one, this interview will last no more than ninety minutes.

There are no right or wrong answers, as I am seeking to understand your thoughts and experiences from your perspective. Any specific examples you can recall would be very helpful. You may pass on any question that makes you feel uncomfortable and you may discontinue this interview at any time. I will record this conversation, and I will share with you the full transcript so that you can check it for accuracy. I will also provide you with any reports prior to their release so that you can indicate if there's any information that you would like me to omit.

Finally, like in our last interview, I'd like to invite you to be open and honest with me, and dig a little deeper to the extent that you are comfortable. You have such important experience and insight to share. Thank you!

Do you have any questions before we begin?

Let's get started!

<u>Part A (80 minutes)</u>

Task: Allow participant to reflect on the meaning of their experience. See how the factors in their professional life interacted to bring them to their current situation, and look at present experience in detail and within the context in which it occurs.

Introduction:

In this interview, I am seeking to understand how you experience creating the conditions for continuous improvement in your district, and what being this kind of superintendent means to you in the context of your professional life.

Possible questions:

- *Given what you have said about your life leading up to the superintendency, and what you've said about your work now, what does it mean to you to be a superintendent who has led (leads) district-wide continuous improvement efforts?*
- *What does it mean to you to create the conditions in your district that enable everyone to engage in continuous improvement?*
- *How do you understand leadership of continuous improvement in your professional life?*
- *What learning can you draw from your experience? What would you tell another superintendent considering embarking on a similar improvement journey?*
- *What beliefs or mindsets have you brought to this work that have been essential to your success?*
- *In our previous interview you described _____. Can you tell me more about why that is important to you in the context of leading continuous improvement in your district?*

Possible follow up questions/prompts:

- *What do you mean by _____?*
- *Can you give me more details about that?*
- *What is that like for you?*
- *You mentioned _____. Could you please tell me more about what that means to you?*
- *Can you tell me more about why (that experience) is important to your leadership of continuous improvement?*
- *If I were your (spouse, friend, teacher, etc.), what would you tell me?*
- *Can you tell me a story related to that (experience/idea/etc.)? Can you recall a particular instance?*
- *Can you tell me what you were thinking when you said_____? If you were to write a footnote to that comment to explain what you were thinking when you said it, what would that footnote say?*
- *What were you thinking as you answered these questions? How did those thoughts shape your answers?*

<u>Part B (10 minutes)</u>

Introduction:

We're now nearing the end of the interview. However, before we finish I'd like to ask you one more short question about documentation and check whether you have any questions for me.

Questions:

1) *We've discussed a wide range of thoughts and ideas today. Do you have any documentation or materials that you would be willing to share with that could provide further details about the topics we've discussed that didn't come up in our last interview?*
2) *Do you have any questions for me?*

We've come to the end of this interview. As I mentioned earlier, I will share with you the full transcript as soon as I have it. I will also provide you with any reports prior to their release so that you can indicate if there's any information that you would like me to omit. Additionally, I anticipate that as I'm analyzing my data, it may be helpful if I could have a quick (15-30 min.) follow up phone conversation with you to clarify key points or check my understanding of your ideas. Might that be a possibility?

Thank you very much for taking the time to speak with me today, and for making the time and space for your district to participate in this study. I truly appreciated the opportunity to learn from you and your experience about how to create the conditions for continuous improvement in education, and hope to report findings in ways that support current and future leaders in emulating your success.

Appendix F: Continuous Improvement Officer and Principal Interview Protocol

Thank you for participating in this interview with me today. Before we get started, I'd like to take a moment to focus on the purpose of this research. As you know, I am investigating how district-level leaders create the conditions for district-wide continuous improvement. I'm interviewing you today because I would like to learn more about how you understand your Superintendent's role in creating the conditions that enable you and others to successfully engage in continuous improvement.

I expect that our interview will last about sixty minutes. During our time together, I will ask you a series of questions about how you have created the conditions for continuous improvement to flourish in your district. While my questions will focus primarily on your Superintendent's role, I'm particularly interested in understanding how their leadership enables you and others to lead continuous improvement efforts effectively across your district. There are no right or wrong answers, as I am seeking to understand your thoughts and experiences from your perspective. Any specific examples you can recall would be very helpful.

You may pass on any question that makes you feel uncomfortable and you may discontinue this interview at any time. I will record this conversation, and I will share with you the full transcript so that you can check it for accuracy. I will also provide you with any reports prior to their release so that you can indicate if there's any information that you would like me to omit.

(Option 1: If the superintendent has chosen to have the district identified in reports): *Before we begin, I have a question for you regarding confidentiality. In my data collection and reporting I can identify you, or I can take steps to keep your identity confidential. If you ask me for confidentiality, I will not share with anyone that I actually interviewed you. I will use pseudonyms and seek to obscure identifying information when reporting, and I will collect and store data in ways that minimize the chances of inadvertent disclosure of your identity. However, I need to be clear that I cannot guarantee confidentiality. Because it is likely that some of information I will report is already publically known, it is possible that those familiar with your district may be able to discover your identity. Taking these factors into consideration,* ***would you like me to identify you in reports, or would you like me to take steps to keep your identity confidential?***

(Option 2: If the superintendent has chosen to keep the district's identity confidential):

Prior to my visit (this interview), I asked your Superintendent to recommend leaders in your district who have shared significant responsibility for the success of your districts' improvement efforts, and you were one of the people they mentioned. While (Superintendent's name) did recommend you along with multiple others, I will not share with them who I actually spoke with and I will keep your answers confidential to the best of my ability. For example, you will not be identified by name in any report. I will use pseudonyms and seek to obscure identifying information when reporting. I will also collect and store data in ways that minimize the chances of inadvertent disclosure of your identity. However, I need to be clear that I cannot guarantee confidentiality. Because it is likely that some of information I will report is already publically known, it is possible that those familiar with your district may be able to discover your identity.

Finally, I'd like to invite you to be open and honest with me to the extent that you are comfortable. I'm here today because I believe you have experience and insight that others need to know about, so I'd really encourage you to share candidly as you're able. Thank you!

Do you have any questions before we begin?

Let's get started!

<u>Interview Questions:</u>

1) *As you see it, how do leaders in your district create the conditions for district-wide continuous improvement?*
    - *What conditions do you and other leaders work to create, and what enables you to create those conditions successfully?*
2) *Leaders often hold beliefs or values, or rely on specific mental models or ways of thinking to guide their leadership. When you think about your superintendent, what are their ways of thinking that enable them to create the conditions for continuous improvement in your district? What beliefs and values do they hold?*
    - *What beliefs do they hold about learning? For themselves? For others?*
    - *How do they think about how your district is organized to do continuous improvement work?*
    - *What do they believe about people?*

- *How do they think about the role of individual responsibility in continuous improvement efforts?*

3) *What does your superintendent do to create the conditions for district-wide continuous improvement?*

    - *What do they do that's unique to their role as superintendent? What do roles and responsibilities for leading continuous improvement do they share with you and others?*
    - *Have they set a vision or created a strategy for the district? If so, what are its key ideas?*
    - *What, if anything, have they done to support the development of staff?*
    - *How does your superintendent work to change your district's systems?*
    - *What kind of culture is present in your district? What has your superintendent done to influence that culture?*
    - *How does your superintendent engage when there's a problem affecting more than one department or school level?*

4) *Where does your superintendent focus their efforts to create the conditions for continuous improvement?*

    - *How is what they focus on similar to or different from other district leaders of continuous improvement?*
    - *Does your superintendent do anything to promote organizational alignment?*
    - *What kind of supports has your district put in place for your continuous improvement work? What kind of infrastructure have you developed, if any?*

5) *How has the role of your Superintendent shifted as your continuous improvement work has matured? How has your role shifted?*

6) *Regarding the role of leaders in creating the conditions for successful continuous improvement in your district, what else is important that I haven't asked about?*

7) *We've discussed a number of ideas related to creating the conditions for district-wide continuous improvement today. Do you have any documentation or materials that you would be willing to share with that could provide further details about the topics we've discussed?*

8) *Do you have any questions for me?*

Possible follow up questions/prompts:

- *Could you take that idea a bit further?*
- *Could you tell me more about what you mean by that?*
- *Let's return to _____ that you mentioned in passing.*
- *Is there anything else you would say in answer to that question?*
- *What else?*
- *Go on…*
- *Earlier, you said something about _____. Would you like to say more about that?*
- *What else is important to know about this topic?*
- *Can you give me a specific example?*
- *Is there a story or incident you can tell me about that could help me better understand what you mean?*

We've come to the end of this interview. As I mentioned earlier, I will share with you the full transcript as soon as I have it, and I will provide you with any reports prior to their release so that you can indicate if there's any information that you would like me to omit. I also anticipate that as I'm analyzing my data, it may be helpful if I could have a quick (15min.) follow up phone conversation with you to clarify key points or check my understanding of your ideas. Might that be a possibility?

Thank you very much for taking the time to speak with me today. I truly appreciated the opportunity to learn from you and your experience about how to create the conditions for continuous improvement in education.

Appendix G: Continuous Improvement Officer and Principal Interview Agenda

Hierarchical Focusing Interview Agenda for Central Office Leaders & Principals

- As you see it, how do leaders in your district create the conditions for district-wide continuous improvement?
  - What conditions do you and other leaders work to create, and what enables you to create those conditions successfully? p ☐ s ☐
  - What are your superintendent's primary mental models that enable him/her to create the conditions for continuous improvement in your district? What beliefs and values does he/she hold? p ☐ s ☐
    - What beliefs do they hold about learning? For themselves? For others? p ☐ s ☐
    - How do they think about how your district is organized to do continuous improvement work? p ☐ s ☐
    - What do they believe about people? p ☐ s ☐
    - How do they think about the role of individual responsibility in continuous improvement efforts? p ☐ s ☐
  - What does your superintendent do to create the conditions for district-wide continuous improvement? p ☐ s ☐
    - What do they do that's unique to their role as superintendent? What do roles and responsibilities for leading continuous improvement do they share with you and others? p ☐ s ☐
    - Have they set a vision or created a strategy for the district? If so, what are its key ideas? p ☐ s ☐
    - What, if anything, have they done to support the development of staff? p ☐ s ☐
    - How does your superintendent work to change your district's systems? p ☐ s ☐
    - What kind of culture is present in your district? What has your superintendent done to influence that culture? p ☐ s ☐
    - How does your superintendent engage when there's a problem affecting more than one department or school level? p ☐ s ☐
  - Where does your superintendent focus their efforts to create the conditions for continuous improvement? p ☐ s ☐
    - How is what they focus on similar to or different from other district leaders of continuous improvement? p ☐ s ☐
    - Does your superintendent do anything to promote organizational alignment? p ☐ s ☐
    - What kind of supports has your district put in place for your continuous improvement work? What kind of infrastructure have you developed, if any? p ☐ s ☐
  - How has the role of your Superintendent shifted as your continuous improvement work has matured? How has your role shifted? p ☐ s ☐

Appendix H: Initial Code List

Code	Description
Think	How leader think about challenges and solutions: mental models, beliefs and values that support effective leadership of continuous improvement
*Believe all want joy, passion & meaning	Leader foundational belief about what people want in their work
Embrace Personal Responsibility	• Act intentionally to support improvement efforts of people within the system • Accept responsibility for district's performance
Respect Every Individual	• Value every person, their contributions and potential to grow • Believe everyone is an improver, and the organization's greatest asset its people
Think Systematically	• Understanding the relationships and interconnectedness within and between systems • Adopting a systems perspective in improvement - looking at system as a whole as the unit of change
Value Learning	• Values and models learning as a foundation for improvement for self, others and organization • Includes mindsets of humility, curiosity and learning
Do	Effective leader behaviors and actions to support continuous improvement
Create a Culture of Improvement	• Drive and manage culture (values, norms, beliefs) to foster improvement-aligned behaviors • Communicate, recognize and model desired behaviors
*Instill sense of pride and ownership	Create opportunities for staff to feel pride and ownership in their work, and its contribution to organization outcomes
*Keep focus on excellence	Relentlessly pursue excellence and hold everyone accountable to do the same
Develop Capability	• Develop the core capabilities of improvement and the skills to lead the development of such capacities in others • Directly support the growth and learning of their people, and establish “the cascade of capability development throughout the organization”
*Help others connect behavior to outcome	Support people in understanding the impact of their actions on organizational outcomes
*Help others translate principles	Translate abstract improvement principles into concrete changes in action

into their daily work	
*Develop and implement theory of change	Create and enact a strategy for transforming the organization (shifting people's behavior)
*Hold other leaders accountable	Act to ensure other organizational leaders consistently model the desired behaviors in support of improvement
Set a Vision, Purpose and Strategy Focused on Results for Students	• Set clear direction and strategy, and align organization to it • Maintain relentless focus • Focus on student outcomes
Span Boundaries	• Bridge and break down barriers across organizational silos • Apply systems thinking approach to work
Transform the System	• Change the entire system, not just make change within it • Eliminate the need for work that does not align with desired outcomes
Focus	Where leaders direct their attention and energy to accelerate improvement
Create an Effective Improvement Infrastructure	Build organizational systems and processes to support improvement
Developing leaders from within	Create intentional pipelines to grow new leaders from within
Disciplined Improvement Methods	• Teach and apply specific improvement methodologies • Establish common improvement routines
Effective Use of Data	District-level measurement and data analysis infrastructure that supports and enables improvement
Promote Organizational Alignment	Align all structures, programs and processes with the district vision and goals, and integrate new initiatives into the existing strategy in ways that maintain its coherence
Other	Codes not included in original conceptual framework
*Refers to	
*All leaders	
*Board	
*Continuous Improvement Officer	
*Principal	
*Superintendent	
*Quote	Quotes that stand out for effectively communicating a key idea
*Example	Stories and anecdotes that illustrate key ideas

*Getting started	How to get started with continuous improvement work in district
*How to	Describes how to implement a key idea as a leader (vs describing it)
*Barriers to Success	Problems, road blocks, systemic issues that prevent leaders from doing needed actions to support continuous improvement
*Necessary Leader Knowledge	What an leaders needs to know in order to lead continuous improvement effectively - background knowledge

**=Emergent Code*

Appendix I: Informed Consent Agreement: Superintendents

Informed Consent Agreement: Superintendents

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study: The purpose of this research is to contribute to the education field's understanding of how executive leaders of K-12 public school districts create the conditions for district-wide continuous improvement. In recent years there has been growing interest in addressing systemic issues in education through continuous improvement, however, little is currently known about the leadership behaviors that enable district leaders to successfully lead such improvement efforts. This study intends to help fill that gap by investigating the nature of executive leadership within exemplary, continuously improving K-12 districts.

What you will do in the study: In this study you will participate in two individual interviews focused on how you and other leaders in your district have created the conditions for successful continuous improvement efforts. During these interviews, you can skip any question that makes you uncomfortable and you can stop the interview at any time. If you participate in in-person interviews, they will be audio taped. Interviews conducted via video conference will be recorded, after which the audio portion will be saved and the video will be deleted. You will also be asked to provide materials that may help to further illuminate topics discussed during the interview.

Time required: This research will require about 3.5 hours of your time. This time estimate includes the two 90 minute interviews described above, as well as time to obtain relevant documentation and verify the accuracy of findings, if needed.

Risks: This research poses no more than minimal risk to you personally or professionally. There is a slight risk that inadvertent release of information that you provide may cause social tension, strain professional or community relationships, or cause you to worry.

Benefits: There are no direct benefits to you for participating in this research study. The study may help us understand how leaders create the conditions for successful continuous improvement efforts in their districts.

Confidentiality: Before you begin participation in this research you may choose whether or not to have your identity and your district's identity kept confidential. In either case, all documentation of interviews (audio files, transcripts, field notes, etc.) and any other documentation provided to the researcher by district participants will be stored in a locked filing cabinet in the researcher's office, and will be only accessible to the researcher and her faculty advisor. Data collected may be used for multiple purposes in investigating the nature of executive leadership within exemplary, continuously improving K-12 districts. All research data will be destroyed after seven years.

If you choose to be identified, your name and your district's name will remain associated with your data and may be used in all reports.

If you choose to have your identity and that of your district kept confidential, the researcher will collect, store and report your information in ways that minimize the risk of inadvertently compromising confidentiality. She will assign pseudonyms to you, your district and all district participants, and the list connecting real names with pseudonyms will be kept in a locked file, separate from the data. Real names will not be used in any report and the researcher will seek to obscure potentially identifying information when reporting.

Despite these efforts, however, confidentiality cannot be guaranteed. Because it is likely that some of information that will be included in reports of this research is already publically known, it is possible that those familiar with your district may be able to discover your identity.

Voluntary participation: Your participation in the study is completely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty. Should you decide to withdraw, the audio or video tape of your interview and any transcripts will be destroyed.

How to withdraw from the study: If you want to withdraw from the study, tell the researcher to stop the interview. If you want to withdraw after the study is completed, please contact the researcher using the information below. There is no penalty for withdrawing.

Payment: You will receive no payment for participating in the study.

If you have questions about the study, contact:

Christina J. Dixon
1448 Arroyo Avenue
San Carlos, CA 94070
Telephone: (412) 400-6252
Email: cd3dr@virginia.edu

Dr. David Eddy-Spicer
Associate Professor
EDLF, Curry School of Education
PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434)243-6417
Email: dhe5f@virginia.edu

If you have questions about your rights in the study, contact:

Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vpr/irb/sbs

Agreement:

I agree to participate in the research study described above.

Signature: _____ Date: _____

You will receive a copy of this form for your records.

Appendix J: Informed Consent Agreement: Central Office Leaders & Principals

(Non-Confidential District)

Informed Consent Agreement: Central Office Leaders & Principals

(District identity is not confidential.)

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study: The purpose of the study is to contribute to the education field's understanding of how executive leaders of K-12 public school districts create the conditions for district-wide continuous improvement. In recent years there has been growing interest in addressing systemic issues in education through continuous improvement, however, little is currently known about the leadership behaviors that enable district leaders to successfully lead such improvement efforts. This study intends to help fill that gap by investigating the nature of executive leadership within exemplary, continuously improving K-12 districts.

What you will do in the study: In this study you will participate in an individual interview focused on how the superintendent and other leaders in your district have created the conditions for successful continuous improvement efforts. During this interview, you can skip any question that makes you uncomfortable and you can stop the interview at any time. If you participate in an in-person interview, it will be audio taped. Interviews conducted via video conference will be recorded, after which the audio portion will be saved and the video will be deleted. You will also be asked to provide materials that may help to further illuminate topics discussed during the interview.

Time required: The study will require about 1.5 hours of your time. This time estimate includes 1 hour for the interview described above, as well as time to provide relevant documentation and verify the accuracy of findings, if needed.

Risks: This research poses no more than minimal risk to you personally or professionally. There is a slight risk that inadvertent release of information that you provide may cause social tension, strain professional or community relationships, or cause you to worry.

Benefits: There are no direct benefits to you for participating in this research study. The study may help us understand how leaders create the conditions for successful continuous improvement efforts in their districts.

Confidentiality: Your superintendent has chosen to allow your district to be identified in reports related to this research. Before you begin participation in this research you may choose whether or not to have your individual identity kept confidential. In either case, all documentation of your interview (audio files, transcripts, field notes, etc.) and any other documentation you provide to the researcher will be stored in a locked filing cabinet in the researcher's office, and will be only accessible to the researcher and her faculty advisor. Data

collected may be used for multiple purposes in investigating the nature of executive leadership within exemplary, continuously improving K-12 districts. All research data will be destroyed after seven years.

If you choose to be identified, your name will remain associated with your data and may be used in all reports.

If you choose to have your identity kept confidential, the researcher will collect, store and report your information in ways that minimize the risk of inadvertently compromising confidentiality. She will assign you a pseudonym, and the list connecting your real name with your pseudonym will be kept in a locked file, separate from the data. Real names will not be used in any report and the researcher will seek to obscure potentially identifying information when reporting.

Despite these efforts, however, confidentiality cannot be guaranteed. Because it is likely that some of information that will be included in reports of this research is already publically known, it is possible that those familiar with your district may be able to discover your identity.

Voluntary participation: Your participation in the study is completely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty. Should you decide to withdraw, the audio or video tape of your interview and any transcripts will be destroyed.

How to withdraw from the study: If you want to withdraw from the study, tell the researcher to stop the interview. If you want to withdraw after the study is completed, please contact the researcher using the information below. There is no penalty for withdrawing.

Payment: You will receive no payment for participating in the study.

If you have questions about the study, contact:

Christina J. Dixon
1448 Arroyo Avenue
San Carlos, CA 94070
Telephone: (412) 400-6252
Email: cd3dr@virginia.edu

Dr. David Eddy-Spicer
Associate Professor
EDLF, Curry School of Education
PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434)243-6417
Email: dhe5f@virginia.edu

If you have questions about your rights in the study, contact:

Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vpr/irb/sbs

Agreement:

I agree to participate in the research study described above.

Signature: _____ Date: _____

You will receive a copy of this form for your records.