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Creating The Conditions For Deeper Learning: Leadership Practices For Reframing 21st Century Education Systems

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CREATING THE CONDITIONS FOR DEEPER LEARNING: LEADERSHIP PRACTICES FOR REFRAMING 21ST CENTURY EDUCATION SYSTEMS

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ABSTRACT

The convergence of advanced technologies, sociocultural trends and transformative shifts in global industries is accelerating the need for change in the American education system. Research and practice reveal promising developments in pedagogical approaches and a growing movement toward the implementation of deeper learning models. This phenomenological study examined the lived experiences and perceptions of superintendents leading dynamic shifts in public education to provide equitable access to deeper learning methodologies. The application of a dual framework supported the development of the study design and allowed for synthesis of the key components impacting system redesign. Data was elicited through semi-structured interviews to better understand the priorities and leadership practices of superintendents leading the vision for change in their schools and communities. Findings indicate the emergence of six themes with corresponding sub-themes defining specific factors for mobilizing these efforts. The results highlight promising aspects of community practice shaping collective efficacy and call for transparency related to equitable deeper learning outcomes for all students. The study provides recommendations for education leaders and policymakers on addressing the complexities of systemic change to empower learner-centered environments and transform school culture.

Keywords: deeper learning, equity, future of work, learning ecosystem, learner-centered

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CHAPTER 1: INTRODUCTION

For more than two centuries, American society found itself characterized by some form of an industrial revolution (Davidow & Malone, 2020). These historic, socio-economic phases enabled Americans to channel human productivity in new and innovative ways. The first industrial revolution began in the late 1700s and accelerated the development of manufacturing processes through the mid-1800s. Innovations in steam, water, and mechanical technologies created new jobs and transformed economic systems (Schwab, 2016). During the late 1800s, America engaged in a second industrial revolution and celebrated the convergence of new inventions in electric power and internal combustion vehicles. This transformation extended through the mid 1900s shifting the focus of economic growth toward mass production and urban development (Mahoney, 2017). American education systems aligned learning outcomes with the rapid changes of the first two industrial revolutions aligning school systems and required skills to the needs of an evolving society (Davidow & Malone, 2020).

The third industrial revolution emerged in 1969 and introduced a new digital economy in the form of electronics, information technology, automated production, and the internet (Mahoney, 2017). The impact of the first three major industrial revolutions profoundly shaped the landscape of almost every sector of society and improved the quality of life and the pace of economic growth (Davidow & Malone, 2020). Hirschi (2018) revealed critical shifts that occurred during the third stage of industrial development. Advances in the use of personal computers and the internet led to new technological practices and structural changes that developed across labor markets (Schwab, 2016). While industry specializations evolved both nationally and globally during the third industrial revolution, American schools experienced

minimal change, leaving previously established education systems aligned to the needs of another era (Martinez & McGrath, 2014; McLeod & Shareski, 2018).

The Fourth Industrial Revolution

Building off the innovations of previous industrial revolutions, the World Economic Forum introduced the emergence of a new technological revolution that brought awareness to "a transformation that will be unlike anything humankind has experienced before" (Schwab, 2016, p. 2). Compounding the arrival of the fourth industrial revolution is the speed of its development and the comprehensive impact on industrial systems around the world (World Economic Forum, 2018). This new industrial revolution combines the infusion of multiple advanced technologies and the growth of artificial intelligence, in tandem with augmented and virtual realities (Schwab, 2016). Brynjolfsson and McAfee (2014) referred to this emerging shift as the second machine age and argued that this transition will move from a focus on machines producing physical labor to the idea that machines will slowly begin to replace the cognitive work currently performed by humans.

Hirschi (2018) confirmed a widespread understanding in the business sector that advanced digitization and automation will lead to fundamental changes in the workforce over the next few decades, but warned that the implication of these changes are not being addressed systematically. This current transformation of industry and society continues to alter the way people live and work, but the impact on American education systems remains to be seen. The introduction of the fourth industrial revolution magnifies the need for new pedagogical models that develop creativity and higher-order thinking skills and provide authentic learning experiences that allow students to apply knowledge in new and innovative ways (Hines et al.,

2019). As future workforce trends continue to impact education systems new possibilities emerge for pedagogical change that did not previously exist (Fullan & Langworthy, 2014).

The Future of Work

Consideration of workforce dynamics suggested that the progressive skills needed to drive innovation will continue to thrive within the workplace and further transform the future of jobs (Choi & Kang, 2019; Vegas, 2020). The challenge is aligning schools to this transformation and ensuring access to a more equitable and sustainable future economy. The World Economic Forum (2018) estimated that only half of the jobs identified as part of the traditional workforce will remain relevant in the first half of the 21st century. The predicted number of declining jobs is conservatively estimated at almost one million, and although there will be a projected 1.5 million new jobs, significant differences exist in the specialization of the skills that will be necessary to perform this work (World Economic Forum, 2018). Universities across the country are beginning to shift instructional programming to include methods of mentorship and entrepreneurship that did not exist in earlier generations and offer promise in closing selected skill gaps (McClure, 2015). While post-secondary changes will help to reduce a portion of the projected learning gap, most students are not prepared with the competencies and high-demand technical skills needed as they enter college programs (Monis, 2018; Weikle, 2018).

Proficiency in future industry skills becomes increasingly relevant as students in the United States graduate from top universities without the competencies needed to be successful in this new era (Richmand, 2014). The emphasis on emerging technologies drives a significant portion of this change, as work previously performed by humans begins to shift toward

algorithms performed by machines. Still, technological advances reveal only one part of the story behind this evolution (Stevens, 2016). It is true that we are moving toward a future that is globalized and automated, and in many cases machines that outperform humans in some workforce tasks will shift companies toward the commercialization of robotic technologies (Gray, 2016). However, this same shift will also increase the demand of a wide variety of *human* skills needed in the areas of creativity, flexibility, and critical thinking (World Economic Forum, 2018). Access to new education models and career development pathways provide students with the skillsets necessary to navigate new occupations (Richmand, 2014).

American Education Systems

The second half of the 20th century introduced new changes to federal education policy unlike the transformations occurring in other industries (McDonald, 2016). While economic industries shifted from factory production lines to innovations in information technology and automated production, American education systems moved in the direction of increased standardization, accountability, and compliance (Heise, 2017). Rather than aligning to the third industrial revolution taking place across the country, the education system chose a path of policy mandates driven by compliance and performance indicators (Brown et al., 2016). The first in a series of education reform initiatives launched in 1965 as *the Elementary and Secondary Education Act* (ESEA) and proposed improved educational outcomes for low-income families (Brown et al., 2016). While the ESEA focused on equal opportunities for all students and integrated civil rights responsibilities, the subject matter and nature of learning in classrooms was overshadowed by state and federal compliance measures (Heise, 2017).

The next education law that attempted to take on policy reform was the *No Child Left Behind* (NCLB) Act of 2002. This legislation focused on standards-based expectations and required schools to make adequate yearly progress through standardized assessments (Bogin & Nguyen-Hoang, 2014). The NCLB earned a reputation for penalizing schools in an effort to close achievement gaps through systems that prioritized controversial data sources (Bogin & Nguyen-Hoang, 2014). Finally, the reauthorization of another new education policy emerged in 2015. This time, the *Every Student Succeeds Act* (ESSA) attempted to redirect accountability for educational progress back to the states and emphasized local control in meeting federal requirements (McDonald, 2016). The ESSA education reform initiative brought forward new questions regarding equity in college and career pathways and initiated local discussions regarding the relevance of education policies in a global, digital society.

The ESSA policy emphasized efforts to prepare students for college and career and highlighted changes in curriculum and assessment introduced through the implementation of the Common Core State Standards in 2009 (LaVenia, Cohen-Vogel, & Lang, 2015). Darling-Hammond and Oakes (2019) outlined the purpose of the newly designed standards as an opportunity to amplify rigorous learning goals and lay the foundation for reform in teaching and learning. The authors recommended meaningful changes to pedagogical models and new approaches to the field of educator preparation to fulfill the intent of ambitious new standards and the goals of deeper learning (Darling-Hammond & Oakes, 2019). These shifts in educational programming presented opportunities for educators to further disrupt outdated systems and create the conditions for deeper learning, but transformational changes in systemic reform did not ensue as a result of new subject matter expectations (McLeod & Shareski, 2018).

Fullan and Langworthy (2014) discuss the foundational elements that continue to undermine the effectiveness and usefulness of state and federal education systems saying “Many current curriculum standards, alongside standardized assessments that primarily measure content reproduction, are the greatest barriers to the widespread adoption of new pedagogies” (p. 9). While curriculum and assessment programs show small increments of change, public accountability systems across the nation still take precedence over the need for new pedagogies and meaningful measurements related to deeper learning outcomes (Fullan & Langworthy, 2014). The controversy regarding the success of education reform continues and while policy makers debate the role of state and federal governments in leading this change, the world continues to evolve (McDonald, 2016).

Statement of the Problem

Equitable access to deeper learning education programs continues to be a primary barrier for the majority of students from underserved communities (Ma et al., 2019). Increasingly, employers report that the majority of high school graduates do not demonstrate mastery of creative thinking, problem-solving and advanced technological skills (Richmand, 2014). An examination of financial equality criteria through the lens of career access reveals the United States has one of the most significant discrepancy models of economic success in the world (Downey & Condren, 2016). The completion of higher levels of education aligned with careers of the future improves outcomes for individuals in terms of increased personal income, and additionally benefits society in terms of reduction in health-related issues, increased civic engagement, and decreased reliance on public assistance (Ma et al., 2019).

Model learning programs continue to emerge against the odds, but constant changes in the nature of work leave large numbers of high school students unable to access advanced college programs or future career positions that lead to financial independence (Burns et al., 2019; Richmand, 2014). Darling- Hammond and Oakes (2019) argued that schools have a new purpose and responsibility to prepare students for a future workforce that does not currently exist. Thus, deeper learning must include a focus on problem-solving, creating and executing ideas, and developing new layers of knowledge through a collaborative approach (Darling-Hammond & Oakes, 2019).

Ongoing societal and workforce changes in the 21st century require educators to reevaluate school programs to ensure that all students graduate from public education systems and transition effectively into competitive global markets. McLeod and Shareski (2018) reported that schools are not adapting to new learning needs at the acceleration needed to keep up with the exponential shifts occurring in the world today. In a study of 30 American high schools recommended as deeper learning models, Mehta and Fine (2019) found that education programs were not making significant progress in implementing deeper learning across school systems, but rather, each of the schools had a small minority of classrooms, or a single practitioner that had successfully redesigned the instructional program to serve as a deeper learning model. Further analysis of the implementation of deeper learning programs revealed inconsistent patterns of teachers and administrators who independently created the conditions for success (Fullan et al., 2017). Studies revealed that the success of deeper learning programs depended on the ability of

the school community to develop systems around shared beliefs (Daniel et al., 2019; Mehta & Fine, 2019; Rickles et al., 2019).

The ultimate challenge lies in the fact that all students do not have access to deeper learning experiences and educators who attempt to make the needed pedagogical changes often run into larger, system-level constraints and external forces that impact their long-term success (Mehta & Fine, 2019). Providing limited access to high quality teaching and learning experiences will not close the gap between the educational system and a rapidly changing workforce (Fullan et al., 2017). As new model programs continue to increase in numbers, additional barriers rise to the surface, causing school and district leaders to choose between value dilemmas, competing interests, and accountability expectations. The true measure of success for designing deeper learning systems in preschool through grade 12 (P-12) schools lies in the ability of district leaders to navigate competing forces to implement broad scale change and ensure equitable access for all students.

Purpose of the Study

The purpose of this transcendental phenomenological study is to understand the lived experiences and leadership practices of district superintendents who are navigating existing constraints to transition district-wide systems to deeper learning. Education leaders play an important role in redefining 21st century teaching and learning and this leadership role includes understanding what society actually needs from the public education system in order to build the capacity of educators to implement this change (Brown, 2016). To meet the demands of a rapidly changing world, schools must develop deeper learning programs and create environments where

students can practice the skills needed for future success (Wagner & Dintersmith, 2015; Fullan et al., 2017). Superintendents who have been on the forefront of this work understand the purpose of designing for the functionality of deeper learning within school and district programs and the need to disrupt current learning systems to transform outdated models (Mehta & Fine, 2019; Wagner & Dintersmith, 2015).

This research highlighted district-level priorities and leadership practices involved in transforming school programs to dynamic, interconnected systems guided by deeper learning. Although earlier research showed the need to redesign outdated instructional models, complex challenges, financial limitations, and competing interests make it difficult to achieve success. This study aims to contribute to the limited body of research that currently exists to document the superintendents' understanding of key leadership practices that create the conditions for success. Superintendents leading for deeper learning in school communities must continuously navigate ongoing constraints and barriers, leverage relationships and resources, and clear the way for teachers and administrators to implement sustainable change.

Studies revealed that outlier schools are beginning the transformation to deeper learning pedagogies despite the impact on systems constraints within the organization (Martinez & McGrath, 2014; Podolsky et al., 2019; Rickles et al., 2019). However, limited studies exist that explore the priorities and leadership practices that contribute to the successful transition of deeper learning communities. This study may fill a gap in understanding how education leaders might support system-level efforts to implement deeper learning priorities and scale potential bright spots by reflecting on the efforts of superintendents currently leading this change.

Research Questions

To better understand this complex challenge and the lived experience of district leaders, the following questions guide this proposed study:

RQ1. How do superintendents describe deeper learning priorities within their school systems?

RQ2. What are the leadership practices involved in preparing students, educators, and communities for system redesign?

Conceptual Framework

The conceptual framework included within this study used a dual lens to synthesize the design elements of the study and communicate critical themes within the research. Recent studies offer an in depth understanding of the elements of deeper learning from multiple perspectives (Daniel et al., 2019; Martinez & McGrath, 2014; Mehta & Fine, 2019). An examination of multiple studies demonstrated the transformational potential that exists when learning communities provide ongoing access to deeper learning experiences (Daniel et al., 2019; Mehta & Fine, 2019; Siman et al., 2016). An additional metanalysis examined systemic transformation through the lens of leadership and best practices for reframing complex organizations (Fullan et al., 2017). The design of this proposed study offers a dual framework of concept and theory, at the intersection of deeper learning and the transformation of P-12 public education systems. The researcher utilized a conceptual framework that integrates the concepts of deeper learning within the theoretical framework of reframing complex organizations.

First, the organic concept of deeper learning exists as a set of interconnected competencies and complicates implementation efforts in the best of circumstances. Defining the core concepts and subconcepts related to this phenomenon provides clarification to shape the intersection of thoughts and ideas supporting this study. A growing body of research provides a rich tapestry of interwoven definitions related to deeper learning, examining the transfer of knowledge and competencies to new contexts and situations (Burke & Bellanca, 2014; Fullan et al., 2017). The conceptual framework in this study builds from the model of the four shifts of deeper learning introduced by McLeod and Graber (2019). While the literature review provides a detailed examination of deeper learning from many perspectives, the conceptual framework presents an outline from which to design the study methodology. The adapted model includes four critical shifts for deeper learning and outlines a conceptual understanding of overarching factors as it relates to this study. This model provides integration of practices that engage the learner as an agent of discovery and outlines the conditions for authentic and purposeful experiences that cultivate apprenticeship and pride in original work. The four shifts included in this conceptual understanding of deeper learning integrate the key competencies of: (a) deeper thinking and learning, (b) learner agency, (c) the authenticity of work, and (d) navigating technology-infused learning experiences (McLeod & Graber, 2019).

The dual framework used in this study provides an additional lens through which to view this research problem. This construct integrates four frames that guide the development of leadership practices that work to accelerate meaningful change within complex organizations (Bolman & Deal, 2017). The multidisciplinary approach included within this framework address

the complexities of leadership through: (a) the structural frame, (b) the human-centered frame, (c) the political frame, and (d) the symbolic frame.

This theoretical approach is critical to the success of deeper learning programs within schools and districts today as case studies illustrate that the political, cultural, structural, and human-centered forces taking place within a district often prevent forward momentum (Bolman & Deal, 2017). School principals and classroom practitioners rely on district leaders to remove the constraints and barriers at the systems level and create the conditions for transformation to occur within learning communities. To better understand the leadership practices of superintendents who have led this transformation, this study will examine the experiences and perspectives of these district leaders through the lens of these forces.

Assumptions, Limitations, and Scope

Several assumptions and limitations exist in this phenomenological study. One assumption is that participants prioritize the development of deeper learning competencies at a systems level within their community. This assumption is critical as many programs offer access to after school programs, or summer camps designed to provide deeper learning enrichment for students. For the purpose of this study, all participants self-identified a focus on the systemic development of deeper learning and personalized instructional programs as the primary focus of core instruction. This qualitative study included a relatively small sample of district superintendents and therefore offers a limited number of perspectives to include in the final analysis. The breadth of the perspectives of these participants was thematized allowing transferability and dependability of the data within the descriptive phenomenological process.

Leading change at a systems level is far more challenging than implementing a new learning program in a school or a classroom, so the lived experiences of these leaders impacted the scope and limited nature of the qualitative study.

Each participant brings assumptions and bias to the study with previous perceptions of deeper learning and the potential impact on educational and career attainment for students (van Manen, 2014). This research design includes criteria for all participants to be in their current role for a minimum of three years to share the context of perspectives that account for their lived experiences. The study documents the participants' assumptions and calls for the researcher to formally set aside bias and assumptions in a process called bracketing (van Manen, 2014). This process allowed the researcher to close off personal experiences that could potentially impact the interpretation of the data.

Rationale and Significance

The significance of this study aligns with the exponential shifts in workforce trends related to the projected transformation of the future of jobs and the skills needed to be successful in future college programs and career opportunities (Gray, 2016). Knowledge gained from these studies may contribute to a more extensive collection of shared data and influence future decisions providing clarity of focus at a systems and policy level. Additionally, this study aligns with the timing of nationwide school closures due to COVID-19 and disruptions related to transitioning all P-12 students to some form of virtual learning. While some schools and districts were already making the shift toward deeper learning communities, this unprecedented transition created a forum for discussion about the purpose of our instructional programs. The timing of

this development created a sense of urgency to reexamine the possibilities of P-12 systems serving as a launching point for learner agency and integrated, authentic deeper learning experiences that will serve students in their future education pathways and career.

Definition of Terms

Authentic learning: An interdisciplinary approach that integrates real-world learning and problem-solving experiences through internships and job shadowing alongside industry professionals (McLeod & Graber, 2019).

Competency-based: Competency-based education refers to a unique design of instruction and assessment using objective performance-based tools (Competency-Based Education Network, 2019).

Complex systems: Systems with interconnected components that are dynamic in nature and often present exponential challenges related to volatility, uncertainty, complexity, and ambiguity (Bennet & Lemoine, 2014).

Deeper learning: The Hewlett Foundation presents deeper learning as an umbrella term that combines a deeper understanding of core academic content, the ability to apply that understanding to authentic problems and situations, and the development of a range of competencies aligned to the future workforce (Charles et al., 2017).

Educational Equity: Cultivating an educational experience that allows every child to receive what they need, when they need it, to develop to their full academic and social potential (Noguera et al., 2015).

Elementary and Secondary Education Act (ESEA): The first in a series of education reform initiatives launched in 1965 that allocated federal funds to state and local agencies to improve educational outcomes for low-income families (Brown et al., 2016).

Every Student Succeeds Act (ESSA): Education policy authorized by President Barack Obama in 2015 continuing mandated assessments for students in grades 3-11, but redirecting accountability for educational progress back to the states and emphasizing local control in meeting federal requirements (McDonald, 2016).

Higher-level cognitive processes: Involves active engagement in critical analysis, creative interpretation, and complex problem solving in collaborative settings. Student application occurs through a wide variety of contexts and includes a variety of communication techniques to express the relevance of learned content (Lapek, 2017).

Learner agency: Learner agency is a combination of dispositional, motivational, and positional factors. At the core of agency, the learner is engaged in self-efficacy, self-regulation of goals and outcomes, and the ability to exert influence and act on independent and culturally responsive ideas within the scope of context and environment (Vaughn, 2020).

No Child Left Behind (NCLB): Education policy authorized by President George Bush in 2002 that introduced standardized testing for all students in grades 2-11 and required all schools to meet annual accountability targets to remain in compliance with federal regulations (Bogin & Nguyen-Hoang, 2014).

Technology Infusion: The seamless integration of digital tools and globally connected learning spaces (McLeod & Graber, 2019).

Conclusion

Studies related to the future of jobs highlighted the need to integrate P-12 classroom learning experiences with the changing nature of the American workforce (Ma et al., 2019). Weikle (2018) noted that P-12 schools have a unique role to play in the evolution of future industries and that this learning begins in the earliest years of education. In studying the human role in this ever-changing economy, studies are beginning to emerge that explicitly examine the preparation of competencies and mindsets needed to fill the creation of new jobs that do not exist yet (Choi & Kang, 2019). The widening gap within the industry reinforces the need for deeper learning to serve as the driver of systems change to adapt to ongoing industry shifts in the coming years. However, relatively few P-12 programs exist that allow students to systematically develop entrepreneurial skills and engage in classroom learning through real-world experiences (Mehta & Fine, 2019). The long-term challenge lies in the ability of education leaders to disrupt current mental models and antiquated education systems and plan for the future impact of workforce and societal changes on classroom learning programs.

As a part of the formal proposal, chapter two explores the current literature related to deeper learning through multiple contexts and define the concept of deeper learning from a variety of perspectives to frame the existing body of knowledge related to this work. Chapter 2 discusses the conceptual framework giving a depth of insight into the overarching constructs that help to frame the study. Chapter 3 completes the proposal and examines the method used to support the research design for this study and provide an overview of the research setting, participants, and the collection and analysis of the data. For the dissertation, Chapter 4 details the data collection and analysis process and presents the results from the investigation. Chapter 5

provides a summary of the results presented in Chapter 4 and examines the outcomes of the semi-structured interviews offering conclusions and recommendations for further research.

CHAPTER 2: LITERATURE REVIEW

The transition to the 21st century brought a heightened sense of awareness to public education systems that demonstrated a lack of preparedness for the complexities of society and the future workforce. Conventional education programs prepare students with similar content, format, and skills of earlier generations despite changes taking place in current industries around the world. The reluctance of public education systems to change alongside global industries presents ongoing challenges for students hoping to transition into newly designed university programs and career opportunities that will be relevant in the coming decades (Choi & Kang, 2019). The top three skills identified by employers across multiple industries and geographic regions include complex problem solving, critical thinking, and creativity (World Economic Forum, 2018). Systems reform will need to include strategic changes in education policy, updated funding ratios, and comprehensive educator development (Darling-Hammond & Oakes, 2019). This new path forward includes a multifaceted understanding of the complex components of deeper learning in P-12 education systems (Darling-Hammond & Oakes, 2019; Fullan et al., 2017; Mehta & Fine, 2019).

To support and refine the questions outlined in Chapter 1, this literature review defines and explores the essential competencies needed for success in a global economy, and examines the processes and conditions for creating learning ecosystems oriented toward deeper learning outcomes. The review further examines the need for designing improved learning systems to support students in developing competencies that are aligned to future college and career opportunities. As a part of the investigation, the review discusses current research as it relates to critical elements within the study. The first section addresses the definition of deeper learning as

defined by multiple studies and organizations and the pedagogical models that are currently of use to accelerate deeper learning experiences in classroom programs. Next, the review explores effective leadership practices for disrupting existing barriers to ensure equitable access to deeper learning opportunities in American education systems. Additional analysis assessed the role of the education leader in preparing the organization for system redesign. A conceptual framework guides this study and is included in the examination of literature.

Review of the Literature

The organization of the literature review offers added context to better understand how education leaders might support the implementation of deeper learning competencies emerging within public educational programs (Krahenbuhl, 2016). Chapter two provides an understanding of existing pedagogical models that teach and measure deeper learning through a wide variety of methodologies and application scenarios (Luka, 2019; McGlashan, 2018; McFeely, 2016). The review also includes an examination of leadership practices that support the transformation of learning communities and specific approaches for navigating systemic change (Cator et al., 2015; Fullan & Langworthy, 2014; Fullan et al., 2017; Honig & Rainey, 2015). Finally, this literature review offers a reflection on the importance of deeper learning as a driver for equitable school reform (Darling-Hammond & Oakes, 2019; Noguera et al., 2015; Riordan et al., 2019).

Defining Deeper Learning

As the world pushes further into the 21st century, a sense of urgency exists for children to develop the kinds of essential skills needed to solve complex challenges and be competitive in a global economy (Snape, 2017). A formal definition of deeper learning exists through various interpretations within the literature and defines the nature of this learning methodology with

some consistency. Recent studies examined the definition in several ways and showed that deeper learning develops through combined characteristics in environments that integrate academic mindsets with essential skills such as, communication, problem-solving, and collaborative, self-directed learning (Charles et al., 2017; Darling-Hammond & Oakes, 2019; Rickles et al., 2019; Schneider & Vander Ark, 2017). These skills combine interpersonal and intrapersonal skills with both cognitive and metacognitive thinking in environments that allow for authentic work in real-world settings (Charles, et al., 2017). Deeper learning competencies are also noted as 21st century skills in many environments due to the purposeful integration of communication, collaboration, creativity, and critical thinking opportunities within the classroom environment (Lapek, 2017). Snape (2017) argued that meaningful learning of 21st century *soft skills* develops through explicit teaching and occurs in authentic learning spaces that integrate a multi-disciplinary approach.

Research demonstrates increased access to deeper learning experiences over the past decade and this movement continues to gain momentum (Fullan et al., 2017). McLeod and Graber (2019) defined this work at the district level through the lens of four critical shifts. The first shift includes the importance of deeper thinking and learning skills to engage students in tasks of greater cognitive complexity through learning experiences designed to maximize critical thinking, creativity, communication, and collaboration. This definition includes a focus on growing high levels of efficacy and student agency by fostering a learning environment that allows for greater personalization, individual needs, and differentiated supports (McLeod & Graber, 2019). The emphasis on learner-focused support is key to the direction of the four instructional shifts. The third shift represents moving to interdisciplinary learning communities

aligned to authentic work experiences. In this environment, students engage in research, job shadowing, internships, and frequently present their work to authentic audiences (McLeod & Graber, 2019). The final shift in classroom practices focuses on the integration of blended learning models in technology-infused environments. The purpose is to maximize human-centered, connected learning experiences through a blend of physical and virtual learning spaces (McLeod & Graber, 2019).

Pedagogical Models to Support Deeper Learning Experiences

Pedagogical models continue to develop that promote deeper learning competencies in school programs (Darling-Hammond & Oakes, 2019; Fullan et al., 2017; Mehta & Fine, 2019). In the work of Mehta and Fine (2019) deeper learning comes together at a crossroads between different disciplines, fields, and instructional sources. Mehta and Fine (2019) explored deeper learning through "the intersection of the following three elements: mastery, identity, and creativity" (p.15). This perspective offers that deeper learning exists when the learner is able to internalize the content, make, or create something with the knowledge they have gained, and transfer that knowledge to another discipline, or future work (Mehta & Fine, 2019). The foundational understanding behind this new pedagogical approach is that deepening one's learning comes from a series of powerful learner-centered experiences (Vodicka, 2020). This includes a focus on competencies and dispositions found in classrooms that prioritize deeper learning, over the traditional model of covering large amounts of curriculum with little interaction, or depth of knowledge (Schneider & Vander Ark, 2017).

Design Thinking

An innovative business-centered approach to deeper learning surfaced within P-12 education settings as a part of this development. A design thinking model is often promoted as a way to deepen learning experiences through a human-centered approach to problem-solving. Design thinking is an iterative process used in multiple environments to engage students in deeper learning through questioning, empathy, ideation, and testing out new thoughts and ideas (Form & Kaernbach, 2018). This learning-by-design approach allows students to tackle real-world problems in a series of experiential phases (Luka, 2019). Using empathy within the human-centered design process offers students an opportunity to define existing problems and design solutions to improve current circumstances (Garreta-Domingo et al., 2018). Educators maximize the deeper learning experience by engaging students in ideation and active brainstorming throughout this creative design process (McGlashan, 2018). Studies showed that once students have learned to independently navigate the design process, they are able to develop empathic behaviors and mindsets that can enhance creativity and promote self-directed deeper learning experiences (Form & Kaernbach, 2018; Luka, 2019; Mehta & Fine, 2019).

Project and Problem-Based Learning Approaches

Research on the implementation of deeper learning competencies in American public schools demonstrated the need for students to gain critical thinking abilities and learn to solve complex problems (Martinez & McGrath, 2014; Mehta & Fine, 2019). Dettmers and Brassler (2017) discuss the importance of aligning learning goals with content and format that is similar to the real world and propose that the roots of deeper learning pedagogy are connected to the success of project and problem-based learning models. Multiple studies examined these problem-

based approaches as successful frameworks for helping students learn critical thinking skills and complex problem solving to create deeper levels of understanding (Curry, 2017; Deutscher et al., 2021; Li et al., 2021; McFeely, 2016). Educators use project and problem-based learning models to accelerate literacy and maximize deeper learning and student application of real-world content (Dettmers & Brassler, 2017; Li et al., 2021). Project-based learning combines pedagogical and content techniques with a student's desire to solve authentic challenges at a local, or global level. Miller and Krajcik (2019) found that active construction of authentic questions related to local challenges provided compelling engagement within the learning process and increased learner capacity to enact knowledge and apply deep problem-solving skills. When students engage in authentic learning through investigation of meaningful challenges, the ability to provide rich and relevant explanations related to scientific phenomena also increased (Li et al., 2021).

Deepening Learning through Problem-Solving Models

Instructional approaches within this review include learning models designed through problem-solving frameworks. A study by McFeely (2016) engaged students in identifying unique perspectives and innovative solutions as a way to solve complex challenges within each setting. The author provided a framework for solving problems as a way to access the depth of knowledge needed to overcome obstacles within a learning task (McFeely, 2016). Additional models also explored the application of problem-solving skills in advancing creativity and innovation skills (McGlashan, 2018; Miller & Krajcik, 2019; Van de Kamp & Admiral, 2015; Wang, 2019). Wang (2019) found that students using the creative problem-solving (CPS) model scored higher on ideation and originality and were also able to communicate and articulate their ideas in more concrete ways. This study found that solving problems creatively, existed as a key

factor in higher levels of literacy and language production (Wang, 2019). Overall, the use of problem-solving approaches helped students develop skills and dispositions related to mastery, learner agency, and creative thinking not associated with traditional learning programs (Curry, 2017; Dettmers & Brassler, 2017; Deutscher et al., 2021).

Deeper Learning as a Form of Sense-Making

Researchers identified deeper learning as a form of sense-making (Brocas & Carillo, 2018; Van de Kamp & Admiral, 2015). The study conducted by Van de Kamp and Admiraal (2015) linked the meaning-making process and creative thinking to the production of original ideas as a form of deeper learning. The authors within this study found the initial phase of the creative process as a way to explore opportunities for ideation. This creative process emphasized exploration and discovery as a method for introducing key ideas and maximizing student-centered dialogue in authentic ways. The evaluation of this learning method examined divergent thinking as a way to deepen the creative processes, including originality and flexibility (Van de Kamp & Admiraal, 2015). Brocas and Carillo (2018) examined the creation of meaning through strategic thinking in early learning classrooms. Although the authors did not make a direct connection to the application of deeper learning, young children understood the need to apply logical reasoning and individual decision-making skills within complex tasks and deep, strategic thinking was linked to creative and original choices through sense-making. Ideation played a central role in developing deep thinking within this study (Brocas & Carillo, 2018). Additional review of the literature reinforced idea generation in classroom activities as a way to increase depth of understanding (Pang, 2015).

Inquiry as a Lever to Activate Deeper Learning

Dewey (1910) believed that people are constantly remaking themselves through individual choices and actions, and that through the process of inquiry each person can question life and gain new perspectives. The author explored inquiry as a way of deepening the thought process, insisting that learners must combine the approach of fueling creativity and curiosity with the thoughtfulness of serious subject matter. Thus, experiential learning manifested as a vehicle for diversity of thought, believing that clear authentic engagement, similar to experiences formed through the divergent thinking process, was possible for all individuals (Dewey, 1940). From this perspective, inquiry has long been considered a technique for deepening learning and experiencing depth of thought through self-experience (Dewey, 1940). Throughout his lifetime, Dewey (1940) argued that creative thinking was not limited to the few job classifications formally recognized as artists, such as painters and musicians, but instead was open to anyone who wished to experience originality and depth of thought to spur innovation.

McGlashan (2018) used inquiry methods within technology education to guide learners towards the development of attributes that include perceptive, critical, creative and informed decision making through a design-based model. Inquiry-based education continues as a model for questioning and exploring new thoughts and ideas in deeper learning classrooms (McGlashan, 2018). In *Teaching for Deeper Learning*, McTighe and Silver (2020) examined the process of inquiry to construct meaning. This work builds on the idea of deeper learning as a way to allow students to construct their own learning and reflect throughout the process, forming new knowledge and understanding as a result (McTighe & Silver, 2020). Research on constructivism and inquiry-based models also explored deepening learning through inquiry. In this model,

educators replace low-level tasks with opportunities for participatory action to address social and global issues (Chu et al., 2016). Robinson (2017) provided a significant contribution to the work of developing school-wide systems for teaching creativity through inquiry-based learning and offers that inquiry is one of the most important ways to unlock creativity in lesson design.

Deeper Learning through Creative Thinking Models

Additional research within the field continues to examine pedagogical models that develop deeper learning competencies through creative thinking (Hartle et al., 2015). These models examined the purposeful delivery of instruction and higher levels of student interaction within the lesson design (Hines et al., 2019). White and Lorenzi (2016) created a process to examine pedagogical factors that contributed to the development of complex creative thinking skills and effective practices for deepening learning within classroom implementation. The authors called this approach the *multidimensional model* and used consistent learning systems within multiple classrooms to determine the success of student application. White and Lorenzi (2016) found that educators were best able to address the challenges of teaching creativity through a systems-based model. The multidimensional model showed that integrating creativity into mainstream education is a complex task but can lead to deeper learning for students and teachers when delivered through a collaborative, systems-based approach.

Recent studies examined the definition of creative thinking in several ways and demonstrated that creativity develops through both cognitive and metacognitive thinking (Hargrove & Rice, 2015; Mehta & Fine, 2019). Hargrove and Rice (2015) focused on creating learning experiences that encourage independent thinking and provide a structure that promotes both cognitive and creative growth. The authors examined cognitive development and

metacognitive thinking strategies as a way to better understand the application of creative thinking. Related to the study by Hargrove and Rice (2015) an additional study by Swanson and Collins (2018) examined the role of productive failure in the creative thinking process. This research found that when students experience failure as a part of learning and ideation, they are better able to manage challenges in the problem-solving process (Swanson & Collins, 2018). The study correlated the importance of experiencing failure in the learning process to deepen students' creative knowledge-construction and accelerate the cycle of prototyping that leads to innovation.

A framework for creativity integration within the classroom environment was also useful in the arts integration and infusion framework (Hartle et al., 2015). The authors found that deeper learning, and a strong connection to self-identity, accelerated through an arts-infused, interdisciplinary curriculum. Arts integration maximized deeper learning experiences through the generation of rich and meaningful cognitive connections and accelerated learning in other core disciplines within the classroom (Hartle et al., 2015). A similar study by Hines et al. (2019) also explored the integration of creative thinking within content lessons where students created an authentic product. This model offered three phases that included introduction, exploration, and application of content to maximize creative thinking and extend deep learning within the setting. This three-phase approach produced consistent results and higher levels of learning across multiple classroom environments (Hines et al., 2019).

Equitable Access to Deeper Learning

This review included an investigation of deeper learning as a driver for equitable school reform. Research from Mehta and Fine (2019) suggested that students who have historically been marginalized often benefit most from deeper learning experiences, but typically have limited

access to classroom settings that connect them to learning in non-traditional ways. New models of pedagogy suggest that students thrive in learning ecosystems that create a culture of ownership and voice as a way to transfer and apply knowledge (Riordan et al., 2019). In these environments, students work as co-designers of the learning and engage in work that matters to them and to the world (Mehta & Fine, 2019).

Equity and Deeper Learning Outcomes

Paulo Freire (1970) connected education systems to the oppression of communities and argued that we exclude entire sub-groups of our society when we limit their exposure to the transformative experiences gained through experiential learning opportunities. Freire (1970) offered, "No one is born fully-formed: it is through self-experience in the world that we become what we are" (p. 23). Studies supported the benefits of experiential learning and quality interaction with critical thinking and creative expression as an opportunity for students to develop solid habits of mind (Hartle et al., 2015, Mehta & Fine, 2019; Swanson & Collins, 2018). Applying this thinking in relation to equitable reform, educators minimize the impact of wider oppressive social systems and help children develop a strong sense of identity by providing deeper teaching and learning experiences (Darling-Hammond & Oakes, 2019; Mehta & Fine, 2019; Muhammad, 2020; Noguera et al., 2015). Muhammad (2020) argues that creating a sense of identity in students, not only allows them to develop cultural competence, but advances a socio-political consciousness that allows them to be critical consumers of knowledge and apply new learning to improve outcomes and humanity.

Preparing students and teachers to be successful with deeper learning begins with the premise of teaching for equity and social justice (Darling-Hammond & Oakes, 2019; Noguera et

al., 2015). Minority races, especially in low-income communities, experience disparities in educational outcomes and limited access to higher education opportunities that lead to advanced careers in future-focused fields (Avendano et al., 2019). Marginalized students are most often excluded from classrooms that emphasize deeper learning and provide access to critical thinking and meaning making (Muhammad, 2020; Rickles et al., 2019). In schools where access and equity are a priority for learning, teachers and students both reported higher levels of success (Noguera et al., 2015; Riordan et al., 2019). In a study by Mehta and Fine (2019) the authors concluded that access and equity related to deeper learning in school programs was as a priority for both education and society. The authors presented a compelling case for deeper learning as the primary vehicle for training future citizens saying, "Schools lay the foundation for our economy and our path to equity" (p. 400). Noguera et al. (2015) found that educators can mitigate some of the current inequalities by educating the next generation in new and innovative ways. Through this perspective, the education community has an opportunity to further disrupt social and economic inequities by creating the conditions for deeper learning in every school (Daniel et al., 2019).

Further examination of the literature revealed a link between deeper learning and a students' ability to apply equitable thinking within social environments. Students who engaged in meaning-making and empathy as a part of the teaching and learning process showed an increase in higher levels of thinking (Luria & Kaufman, 2017). Luria and Kaufman (2017) extended this analysis to reinforce the idea that deeper learning can influence social interactions and outcomes and promotes equitable thinking in children. The integration of creative thinking and human-centered problem solving is the basis of higher-level thinking and can lead to social

reform (Luria & Kaufman, 2017). Additionally, transformative discourse that takes place within deeper learning programs can be a catalyst for augmenting cultural responsiveness and empathy in teachers and education leaders, serving as an impetus for social change in underserved communities (Hammond, 2014; Santamaría & Santamaría, 2016). This cause-and-effect relationship maximizes the potential for growing student and teacher efficacy with a learning community. Hammond (2014) explains that helping students who are the furthest from opportunity get closer includes developing the cognitive capacity and academic mindsets needed to experience high levels of learner agency.

Closing the Digital Divide

Holmlund et al., (2018) examined the role of equity as it relates to technology resources within school communities. Schools that offer 21st century science, technology, engineering, and mathematics (STEM) learning programs integrate technology tools and resources with greater consistency (Holmlund et al., 2018). In this study, Holmlund et al. (2018) showed the importance of student access to technology and ongoing STEM education in school classrooms. Integrated STEM pathways resulted in students having higher levels of access to rigorous content and schools with deeper learning programs seamlessly integrated digital tools as an integral part of the learning process (Holmlund et al., 2018). A study by Smith et al. (2016) reinforced this perspective when the authors found a wide disparity in the distribution of resources for low income students in STEM education. Antoniou and Ionnou (2018) connected the use of technology as a tool for accelerating learning and social change in deeper learning environments. Still, creating new education environments, rich with digital resources, also comes with the potential to raise additional concerns about the importance of ensuring equitable access to future

college and career pathways (Darling-Hammond & Oakes, 2019). Fullan et al., (2017) argued that leadership support is needed at the macro and micro levels to mitigate equity-centered needs within deeper learning models.

Leadership Practices in Support of Deeper Learning

New leadership practices become relevant in the work of facilitating systemic change to implement deeper learning programs (Fullan & Langworthy, 2014; Fullan et al., 2017; Honig & Rainey, 2015). The previous sections highlighted the new methodologies and purpose of deeper learning in school programs. This review also provided context for examining the role of the education leader in reframing systems to support new pedagogies and shifts in teaching and learning practices. As schools continue to evolve in the 21st century, district leaders are positioned to guide the implementation of new learning environments that reflect the outcomes needed for students to succeed in an ever-changing world (Cator et al., 2015). Recent studies examined a variety of leadership practices that increase access to authentic learning programs and lay the foundation of prerequisite conditions required for reframing complex systems (Cator et al., 2015; Fullan & Langworthy, 2014; Honig & Rainey, 2015). Current leadership development programs are based on past models and "the system of preparation does not systematically identify or develop potential leaders who can create or sustain deeper learning environments" (Cator et al., 2015, p. 4). To begin systems transformation and support the change schools and districts will be faced with developing the leadership capacity of those who will lead this work from within the learning community (Fullan & Langworthy, 2014).

Deeper learning program models are increasing incrementally, creating new opportunities and challenges to support the changing needs (Fullan & Langworthy, 2014; Darling-Hammond

& Oakes, 2019). Darling-Hammond and Oakes (2019) described, “the new mission of schools is to prepare students for jobs and ways of life that do not yet exist.” The challenge with current circumstances is that these deeper learning environments have not yet been scaled in schools across the country and will require education leaders who can nurture existing pockets of innovative practices, while simultaneously engaging stakeholders in the new vision for learning and growing the capacity of the organization (Cator et al., 2015). The review of literature related to the proposed shifts suggest that highly effective district leaders will implement a wide variety of leadership practices to address the complexities of systems change in light of the changing nature of the education landscape (Sanford, 2017).

Navigating Complex Systems

Under the best circumstances, education systems are dynamic in nature and require a leadership approach that is compatible with responding to complexity and adaptive constraints (Bennet & Lemoine, 2014). District leaders navigate the ambiguity of complex systems and guide teams through the transformation process by implementing leadership practices that foster collective action and pave the way for organizational change (Bolman & Deal, 2017). A review of the complexity viewpoint provided a frame for educational leadership and a guide to navigate rapidly changing organizational shifts (Bennet & Lemoine, 2014; Wolfe, 2017; Calarco, 2020). Addressing leadership dynamics related to complex systems, Bennet and Lemoine (2014) introduced the acronym VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) as a way to manage and respond to complex challenges and improve organizational performance. Within this viewpoint, purposeful leadership approaches offered the potential for innovation in the context of disruption and exponential change (Bennet & Lemoine, 2014).

The VUCA framework provides insight into how organizational leaders might remain agile in the face of competing interests and apply strategies for allocating scarce resources in new and changing circumstances (Bennet & Lemoine, 2014). Leadership practices within this model included working as a "knowledge influencer" and focused on "developing leadership agility" as a way to maximize assets and shift outdated mental models to initiate action in turbulent times (Hall & Rowland, 2016). Vodicka (2020) reinforced this idea and emphasized, "the inflexibility of education is often a barrier to meaningful learning" (p. 6). The VUCA framework highlights the importance of leadership models that develop skills in the areas of flexibility and agile thinking to embrace complex challenges and push toward innovative solutions (Bennet & Lemoine, 2014). In a case study exploring the VUCA model, Hall and Rowland (2016) found that, "leaders and managers need to possess skills to enable them to cope with uncertainty and change" in order to enhance the overall performance and success of team members and motivate the greater organization. Thus, navigating complex systems requires leaders who can quickly adapt to change and disruption, embrace new environments and situations, and drive innovation and organizational performance (Calarco, 2020).

Systems Thinking Leadership

Emerging practices in the field of education ask leaders to "see" the system they are trying to change and accelerate efforts to engage stakeholders in the process of improving the identified conditions (Kania et, al., 2018). In the *Water for Systems Change*, the authors offered a framework for consideration and described interdependent practices that leaders must be prepared to facilitate to advance equity and shift the conditions that are holding complex challenges in place (Kania et, al., 2018). The conditions are organized in tiers that communicate

three layers of change that need to take place, including: structural change, relational change, and transformative change. Additional findings from a research project led by the Carnegie Foundation reinforced the need for a systems-based approach and also organized the work in categories related to key dispositions, core practices and levers of transformation (Dixon & Palmer, 2020). The core practices build on the principles for improvement to accelerate problem solving and achieve desired outcomes (Dixon & Palmer 2020). In this report, Dixon and Palmer (2020) argued that executive leaders must invest in a systems improvement infrastructure, including collaborative work structures to transform behavior and advance collective efforts.

Research on the transition of school systems toward deeper learning communities included a focus on systems-thinking leadership approaches. Multiple studies examined the need for a systems-based lens as leaders learn to navigate powerful conditions for change (Cator et al., 2015; Mehta & Fine, 2019; Kania et, al., 2018). Leaders applied the foundations for these conditions to their work within learning communities to instill leverage points and accelerate change (Kania et, al., 2018). Cator et al. (2015) reinforced the need for systems-focused leadership to orchestrate transformational change within learning communities and added, "education leaders must understand, articulate and model deeper learning skills, while supporting a culture of inquiry and risk-taking so the system is coherent and aligned." These studies demonstrated a need to align systems-oriented thinking with a planned approach to scale successful models and ensure positive outcomes throughout the system.

Designing Future Scenarios

Several studies looked at the direction of leadership practices as they relate to the leaders' ability to design future scenarios to prepare for systems change (Paige & Lloyd, 2016; Facer &

Sandford, 2018; Willis, 2014). Facer and Sandford (2018) examined diverse approaches to educational futures and suggested the application of specific principles to develop future thinking in the field of education. The authors discussed possible assumptions that "underpin all levels of educational activity: from learners deciding what to study in the light of their aspirations for their future lives, to national debates over the curriculum and teaching methods" and offered that building schools of the future will prepare societies for socio-technical change and economic success in the 21st century. Willis (2014) called for leaders to design backwards from the desired future outcomes and create long-term scenarios as a part of strategic planning.

Future scenario planning is based on looking at systems through both reactive scenarios and proactive scenarios. While reactive scenarios reinforce informed decisions based on known variables, they do not have the potential to change trends over time. Proactive scenarios imagine the possibilities of future circumstances using questioning techniques to generate long-term plans (Willis, 2014). Paige and Lloyd (2016) reinforced this concept as a strategy that is used by scientists and policy makers to "provide tools that enable people to explore possible and preferred futures." Designing future scenarios can be applied as a pedagogical approach to maximize deeper learning as well as a strategic leadership practice to support innovative decision-making skills at the organizational level (Paige & Lloyd, 2016).

Learner-Centered Leadership

The topic of learner-centered leadership is closely associated with positive outcomes for deeper learning. Vodicka (2020) discussed the lack of personalized support for learners in past education models and shared, "The inflexibility of education is a barrier to meaningful learning" (p. 6). Learner-centered leadership approaches employ new strategies for designing learning

experiences that celebrate the unique strengths of students and adults (Vodicka, 2020). For equitable, deeper learning opportunities to exist, leaders must encourage learning in new and different ways, paving the way for all students, and not just those with access to resources, or extended learning environments (Fullan & Langworthy, 2014). Wolfe (2017) argued that skillful leaders engaged in building and sustaining learner-centered environments and that this work required adaptability and strategic focus to grow across multiple settings. Recent studies examined leadership competencies and approaches for building learner-centered, deeper learning communities and concluded that district leaders are at the heart of this work (Cator et al., 2015; Fullan et al., 2017; Wolfe, 2017).

Wolfe (2017) provided a framework for implementing learner-centered systems and identified leadership practices to support this work. The framework consists of four domains that guide the leadership approach including: leading the vision and values of the organization, modeling personal skills and mindsets, building capacity for innovation, and providing guidance for continuous improvement (Wolfe, 2017). The first domain within this framework is foundational and encompasses the leader as a vision-maker with the ability to create an environment where all voices are valued and learning priorities are created through a shared leadership model. The framework provides a second domain that reinforces the need for the leader to model important shifts as a part of this new mindset. This practice asks the leader to personally demonstrate the thinking behind the transition of mental models as a way to elevate change in organizational and classroom learning. The third domain requires the leader to develop a comprehensive, capacity-building model that values risk-taking and innovation, and promotes a culture of adult learning and growth. Structures for continuous improvement are included in the

final domain and focus on the leaders' ability to support growth and renewal as the core practice for accelerating learner-centered outcomes. Wolfe (2017) argued that an equity lens must be applied to each domain to ensure that all students have access to learner-centered experiences.

Leading for Community Engagement

Research on the implementation of deeper learning in American schools demonstrated the need for leaders to speak directly about the importance of systematizing new methodologies and enlist the advocacy of stakeholders within the process (Mehta & Fine, 2019). Vodicka (2020) reinforced the importance of the leader as a facilitator for successful transformation and refers to the *making of a movement* as part of a framework for learner-centered leadership. The framework provided examples of learning communities creating a shared blueprint to define and implement a learner-centered approach through personalized learning pathways. The blueprint highlighted a leader's ability to guide diverse stakeholder teams through the process of establishing clear learning priorities and outlining the purpose of learning community. While many leadership models included recommendations for creating a shared vision and mission, Vodicka (2020) stressed the importance of framing this process as an opportunity to redefine the desired experience for all learners.

Part of the foundation for learner-centered leadership included the importance of growing the capacity of the community to leverage shared resources and invest in common goals (Wolfe, 2017). District leaders play a critical role in building relationships and growing the interorganizational capacity of the learning community (Ishimaru, 2014). The use of shared, system-wide goals allowed leaders to cultivate broader community partnerships and develop inclusive practices with parent representatives to form guiding coalitions aligned to the vision for

student success (Ishimaru, 2014). District coalitions often the resulted in cross-sector partnerships and collaborative networks designed to engage the community in charting a course for the future (Aidman & Baray, 2016). Ishimaru (2014) advocated for inclusive systems that included parents and community members as internal collaboration partners, rather than external stakeholders. Overall, learner-centered leadership provides a clear and collaborative process for the team and develops the capacity of the community to engage in a vision for rich, personalized learning experiences (Vodicka, 2020).

Transformative Learning and Leadership Practices

Critical reflection is a process that helps shape the way humans learn (Mezirow, 1991). Vodicka (2020) confirmed the importance of reflection on transformative learning for both individuals and communities of learners. When leaders engaged adult learners in the transformative learning process innovative concepts and ideas emerged, shifting perspectives and introducing new ways of thinking (Haber-Curran & Tillapaugh, 2015). Haghighi (2014) examined the role of the transformative leader to accelerate adult learning and professional development in equity-centered systems. Ongoing engagement in critical discourse and transformative learning positively impacted co-teaching and co-leading experiences creating a shared understanding of beliefs, values, and practices (Haghighi, 2014).

In addition to critical reflection, Mezirow (1991) also emphasized the importance of experience, reflective discourse, and action. Haber-Curran & Tillapaugh (2015) explored the transformative learning experience and found that adult learners were able to reframe previously held ideas and embrace new pedagogical practices by engaging in inquiry-based collaborative models. Thus, challenging conventional mindsets and mental models through reflective

communities of practice resulted in higher levels of efficacy and deepened the commitment to new teaching and learning practices (Haber-Curran & Tillapaugh, 2015; Mehta & Fine, 2019). This study questioned the way leaders interact with adult behaviors and beliefs and found that transformative learning included the act of intentional thinking and reasoning connected to purposeful actions.

Fullan et al. (2017) discussed the importance of developing a culture where collaborative inquiry and the pursuit of innovative practices creates the conditions for systems-wide thinking within a learning community. The authors challenged district leaders to become “lead learners” and transform learning systems to places where deep thinking is valued and adults and students are encouraged to learn from failure (Fullan et al., 2017). Freire (1970) shared, "Knowledge emerges only through invention and reinvention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (p. 72). These studies demonstrate that engaging in reflective practice brings deep meaning to the work of learning communities and potentially transforms the frame of reference for future action. Vodicka (2020) concluded that the transition to schools of the future lies the heart of transformative learning.

Culturally Responsive Leadership

Wolfe (2017) argued that an equity lens must be applied to leadership development to ensure that all students have access to deeper learning experiences. Culturally responsive education leaders elevated the strengths of individuals and teams within the learning community and fostered a multicultural environment (Bickett & Huchting, 2020; Khalifa et al., 2016; Santamaría & Santamaría, 2016). Santamaría and Santamaría (2016) reviewed leadership

practices and strategies employed by school system leaders and found that culturally responsive leaders operated with a global lens and actively worked to "interrupt the status quo of achievement disparities and cycles of poverty" (p. 7). Examining personal biases, Khalifa et al. (2016) outlined a vision for culturally responsive leaders that begins with self-awareness saying, "They must be keenly aware of inequitable factors that adversely affect their students' potential…and be willing to interrogate personal assumptions about race and culture and their impact on the school organization" (p. 1281). Skills and dispositions of culturally responsive leaders included communicating a vision for sustaining multi-cultural practices within the community and a commitment to ongoing deeper learning for inclusive, anti-racist systems (Hammond, 2014; Khalifa et al., 2016).

Studies examining culturally responsive leadership approaches focused on the development of practices and behaviors that increased teacher efficacy and positive student outcomes within the community (Bickett & Huchting, 2020; Khalifa et al., 2016; Santamaría & Santamaría, 2016). The common variable for advancing culturally responsive practices included a need for leaders to understand and celebrate the multicultural strengths of the students, staff, and families in each community (Khalifa et al., 2016). Specifically, they found that effective leaders legitimized the voices of educators and students who had previously been marginalized and underrepresented in traditional school systems. This research also focused on deep learning around personal identity and recognized the potential of leaders who nurtured the *cultural identity* of a community and elevated the social capital of minoritized stakeholders (Khalifa et al., 2016). Establishing the conditions for multicultural school environments requires a

leadership approach that is grounded in social justice and committed to the transformation of school culture and climate (Bickett & Huchting, 2020; Hammond, 2014; Torrance et al., 2021).

Leading for Social Justice

Disrupting the inequalities within a learning community was inherently tied to the leaders' ability to adopt a social justice frame and dismantle systems of oppression (Santamaría & Santamaría, 2016). Feldman and Tyson (2014) approached this work through multiple theoretical frameworks. The authors compared and contrasted leadership perspectives within each framework and argued that education leadership programs must include an intentional focus on social justice leadership. The presentation of social justice concepts and leadership practices included antibias and multicultural education, as well as critical pedagogy and whiteness studies (Feldman & Tyson, 2014). Torrance et al. (2021) addressed policy and practice through social justice leadership perspectives and found that transformative leadership practices with a social justice lens greatly impact new pedagogical practices and resulted in broader change within learning communities. This study explored underlying assumptions of social justice leadership development and the impact of deep teaching and learning in classroom programs (Torrance et al., 2021).

New policies addressing equity and social justice continue to advance the dialogue and challenge the status quo around issues of diversity and inclusion (Santamaría & Santamaría, 2016). Additional studies revealed a need for underrepresented voices to be included in the decision-making process in school communities and argued that leaders must engage in transformative practices that maximize family and community partnerships in new and innovative ways (Aidman & Baray, 2016; Khalifa et al., 2016; Santamaría & Santamaría, 2016).

This review of current literature suggested that district leaders who leverage equitable engagement strategies and fostered shared advocacy accelerated positive change and advanced the development of deeper learning communities (Aidman & Baray, 2016). Ultimately, the need to teach and lead for deeper learning, with a commitment to social justice, exists in every context and in every community (Darling-Hammond et al., 2020; Hammond, 2014).

Conceptual Framework

The conceptual framework served as a guide to shape the design of the study and communicate elements of the research. Within this study the literature review provided a structure and a process for the creation of the conceptual framework (Ravitch & Riggan, 2017). This discovery process allowed the researcher to identify and analyze potential gaps within the scholarly information and shape future discourse related to the topic. The ongoing needs of society serve as the primary driver for this research and the dramatic shifts taking place within the context of newly developed college and workforce development programs. Changes within these new programs directly impact P-12 education systems in the United States. Consequently, these changes impact student matriculation from high school and the new skills required to compete for academic placement (McLeod & Shareski, 2018).

The meta-analysis conducted in 2018 by the World Economic Forum outlined foundational competencies essential in the alignment of current education systems and the future job market. In addition to traditional academic content, the research revealed that high school graduates require competencies such as critical thinking and problem solving, creativity, communication, and collaboration to take their place in an advanced, global society (World Economic Forum, 2018). The research outlined a need for all students to have equitable access to deeper learning

experiences. Still, current findings suggest that exposure to systems-wide transformational learning programs are limited to small pockets of schools scattered around the United States (Mehta & Fine, 2019). The current education system continues to emphasize the obtainment of content knowledge (Bogin & Nguyen-Hoang, 2014) while it is common to find access to deeper learning programs in affluent neighborhoods, charter schools, or after school enrichment programs (McLeod & Shareski, 2018). It is necessary to prioritize ongoing training to support deeper learning competencies for teachers and education leaders to meet these new demands (Darling-Hammond & Oakes, 2019; Fullan et al., 2017).

Current literature provided a comprehensive overview of factors that contribute to the development of deeper learning competencies and effective practices for classroom implementation (Darling-Hammond & Oakes, 2019; Fullan et al., 2017; McLeod & Shareski, 2018). Consistent in the literature, were findings that schools have a unique role to play in the development of society and that this learning begins in the earliest years of education (Choi & Kang, 2019). These findings were consistent with a study by Mehta and Fine (2019) as they demonstrated that a systems-based approach to integrating deeper learning into mainstream classrooms was best served in a comprehensive model implemented across the grades. In these models, deeper learning served as the driver of systems change and the role of human investment was prioritized to adapt to ongoing industry shifts in the coming years (Mehta & Fine, 2019; Hines et al., 2019; McLeod & Shareski, 2018). The question is whether or not educators can disrupt current mental models and antiquated education systems to begin considering the impact of societal and workforce changes on classroom learning programs. Darling-Hammond & Oakes (2019) addressed the need for preparing teachers to teach for deeper learning and to teach diverse

learners equitably. Still, gaps in the literature exist in the areas of leadership practices to support teacher development and the alignment of new methodologies with outdated policies, systems and assessments.

Due to the complexity of the phenomenon under study, the researcher has situated the study within two specific frameworks. The first framework provides a complete examination of the concepts of deeper learning and synthesizes this concept through four instructional shifts taking place within deeper learning communities (McLeod & Graber, 2019). The study will be further synthesized through the lens of reframing complex organizations. A specific organization theory presented by Bolman and Deal (2017) supplied four concrete frames that guide implications for research and practice. The first frame addressed the symbolic nature of organizations and the values that leaders represent and communicate within learning communities. The second frame revealed the nature of politics within educational systems and the role of the leader in navigating these key forces. The third frame explored the human element and highlighted the ongoing need for trust, relationship, and talent development. The fourth frame provided the structure for the work and growing need for leaders to navigate complex systems (Bolman & Deal, 2017). The application of these frameworks will help to better understand the competencies developed in deeper learning systems and the implementation of these practices at a systems level.

Transformative Shifts for Deeper Learning

The transition to deeper learning environments requires a purposeful approach to redirect resources and shape the direction of implementation (Darling-Hammond & Oakes, 2019; Fullan et al., 2017; Mehta & Fine, 2019; McLeod & Shareski, 2018). An analysis of new and established pedagogical models demonstrates a wide variety of evidence-based practices for

supporting deeper learning competencies in grades P-12 (Mehta & Fine, 2019; Martinez & McGrath, 2014). McLeod and Graber (2019) recommended four critical shifts to support the transition to deeper learning communities: (a) deeper thinking and learning, (b) learner agency, (c) the authenticity of work, and (d) navigating technology-infused learning experiences.

Deeper Level Thinking and Learning

In this case, deeper-level thinking involves the development of creative and critical thinking skills that allow students to apply knowledge in new and meaningful ways. Battelle for Kids (formerly the Partnership for 21st Century Learning) advocates for the purposeful integration of 21st Century skills and mindsets that lead to deeper learning experiences for all students (Batelle for Kids, 2020). Studies related to design and project-based models activate metacognition and offer insight into teaching and learning practices that integrate complex problem-solving and accelerate higher levels of thinking (Curry, 2017; Mehta & Fine, 2019; McFeely, 2016; McLeod & Shareski, 2018). Additional studies related to meaning making and creative thinking also demonstrated potential for deepening learning and offered commonalities for transforming classroom learning experiences through extended communication and collaboration (Brocas & Carillo, 2018; Hartle et al., 2015; Hines et al., 2019). Overall, McLeod and Graber (2019) revealed a link between constructivist pedagogical models and higher levels of critical thinking.

Learner Agency

The second shift focused on access to high quality deeper learning programs and an emphasis on the identity of the learner. Within this perspective, McLeod and Graber (2019) recognized learner agency as a critical part of success with deeper learning. When teaching and

learning focus on the needs of the learner, the learner gains agency and becomes empowered by self-efficacy and ownership (McLeod & Graber, 2019). Paulo Freire (1970) argued that equitable access to deeper learning can impact the way self-experience shapes young minds and potentially broader social systems. The role of culturally responsive pedagogy and personalized learning environments lays the foundation for teachers to help students shape their identity and realize their potential for success (Darling-Hammond & Oakes, 2019). This type of personalization promotes high levels of self-efficacy and risk-taking that leads to empowerment and learner-centered innovation (Martin, 2018). At the heart of learner agency lies personal ownership and an opportunity for each student to co-create learning goals that lead to mastery (McLeod & Graber, 2019).

Authentic Work

A third shift connects the authenticity of learning and the alignment with work that is relevant in society today. Mehta and Fine (2019) discussed the idea of transferability of learning to another discipline, or another environment as one of the greatest forms of mastery. Access to project and problem-based models allow students to question the world around them and collaborate with peers to research the challenge and design solutions that allow for change within the local and global settings (Dettmers and Brassler, 2017). This connection to society and the workforce allows students to gain empathy and learn to persevere in tackling difficult issues that are complex in nature through creative ideation (McFeely, 2016). McLeod and Graber (2019) characterized this change as a shift away from isolated academic assignments and toward connected, interdisciplinary, problem-solving experiences.

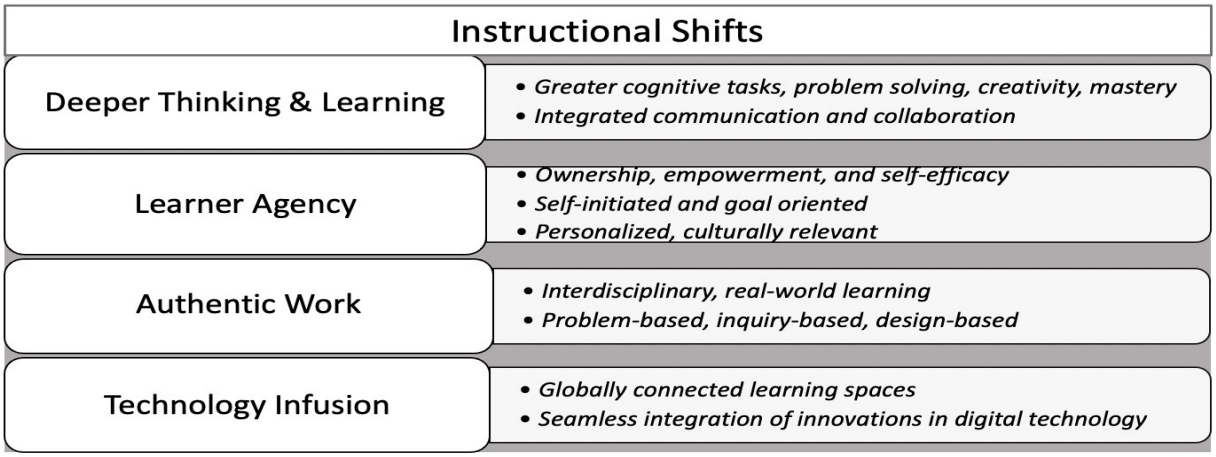
Technology Infusion

Finally, recent shifts in the future of learning and work show a need to focus on technology-infused learning environments. Fundamental changes will continue to impact society and the 21st century workforce as a result of advanced digitization and automation (Schwab, 2016). These changes bring important considerations regarding access to advanced digital tools to create new possibilities for the application and communication of learning (Stevens, 2016). Still, deeper learning is not dependent on technology and students must learn to navigate a wide variety of environments and tools to determine what is needed based on the learning outcomes and communication goals (Snape, 2017). Layering new technology on top of old learning models will not lead to deeper learning, but teaching students to seamlessly integrate digital tools with a purposeful approach can lead to globally connected learning spaces and innovative approaches to maximize teaching and learning (McLeod & Graber, 2019).

A comprehensive understanding of the shifts taking place in a deeper learning programs provides a starting point for the study and a basis for why change is needed in P-12 classroom programs. Additionally, questions have surfaced related to district leaders' confidence and efficacy in implementing systems-wide practices that support these new shifts considering competing priorities and resources. Existing research supplied insight into deeper learning methodologies, but there is a need to better understand the system priorities and leadership practices needed to navigate this change. Figure 1 provides an overview of foundational structural shifts needed to promote deeper learning and the critical skills related to successful implementation.

Figure 1

Structural Shifts for Implementing Deeper Learning



Note. Model adapted from The Four Shifts Protocol (McLeod & Graber, 2019).

Reframing Complex Organizations

Despite small successes in the efforts to implement deeper learning systems, most students still learn in classrooms that work in mostly traditional models (Hines et al., 2019). An examination of the programs where these small successes occurred, revealed important information. The teachers and administrators implementing the change had either independently learned and adopted new teaching and learning strategies, or they were supported by leaders who believed in the change and aligned systems components to make it happen (Fullan et al., 2017; Mehta & Fine, 2019). Bolman and Deal (2017) presented the idea of a four-part frame as a mental model, designed to help leaders navigate systems. While countless theories exist related to the function of high performing organizations, the four frames provided by Bolman and Deal offer a critical lens through which to view the context of this study. This multi-frame thinking approach will allow for a deep analysis of the perspectives of district leaders through the lens of each frame: (a) symbolic, (b) political, (c) human resource, and (d) the structural frame.

Symbolic Frame

The symbolic frame embodies the culture of an organization and outlines the need for passion and purpose in the services the organization performs (Bolman & Deal, 2017). The foundation of this frame is motivation and inspiration and emphasizes the need for people to find meaning in their daily work. The symbols and symbolic actions within a team often communicate the values of an organization (Bolman & Deal, 2017; Wolfe, 2017). When leaders align resources within an organization, they communicate the core values shaped by its members (Smith et al., 2016). In this proposed study, the symbolic frame represents the vision of the organization to anchor the need for change in a guiding north star that clearly launches the motion of future events (Bolman & Deal, 2017; Vodicka, 2020). Enlisting the community in the vision for the future provides inspiration and motivation to make change.

Political Frame

The political frame represents the diverse sources of power and decision-making within an organization (Bolman & Deal, 2017). This frame provides a view of the stakeholders from the perspective of coalitions and interest groups within the organization. Bolman and Deal (2017) argued that "The most important decisions involve allocating scarce resources – deciding who gets what" (p. 184). In school districts this frame is critical, because multiple interest groups exist, including the Board of Education and the Labor Unions. Constructive decision-making and conflict-resolution work become key for moving political propositions forward. In this study, the political frame examines the skills and strategies used to navigate guiding coalitions and build key alliances to gain consensus and focus key resources effectively (Bolman & Deal, 2017).

Human Resource Frame

The inclusion of this human-centered frame addresses the alignment and relationships between people and the organization (Bolman & Deal, 2017). Developing human capacity within an organization is always important, but this asset-building approach becomes essential for the skillful implementation of any new initiative (Smith et al., 2016). At the heart of this frame is the basic concept of human needs and motivation. Bolman and Deal (2017) shared, "Conditions or elements within the environment allow people to survive and grow" (p. 119). This frame examined the complexity of using empathy as a source of data to understand the needs of the community and respond in the alignment of those needs. The human resource frame provides a human-centered view of complex challenges and how organizations build higher levels of job satisfaction and self-fulfillment within their teams (Bolman & Deal, 2017).

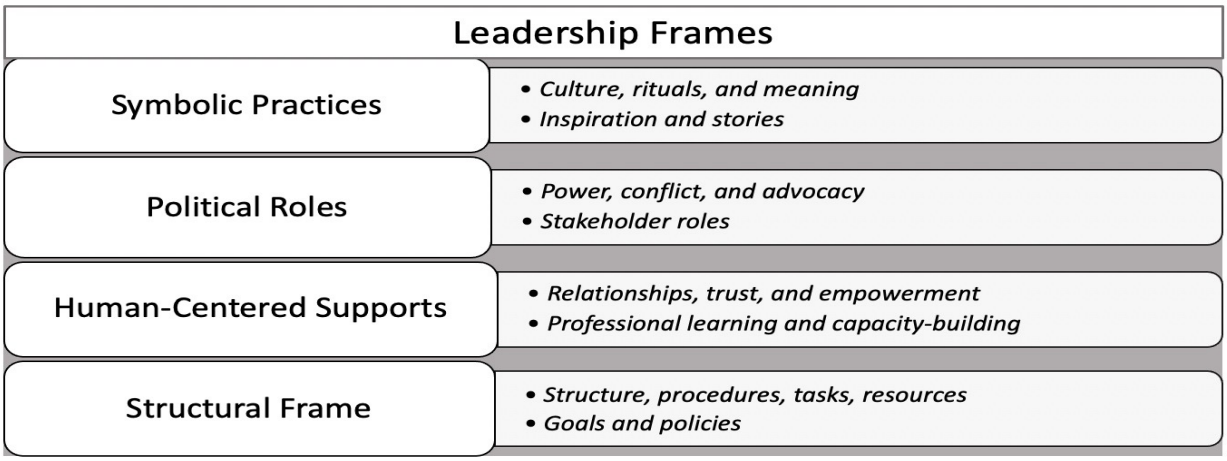
Structural Frame

The structural frame within an organization provides a context for the roles and responsibilities of team members, the way a team defines and measures goals, and the systems and procedures that exist within and across teams (Bolman & Deal, 2017). Through the structural frame leaders demonstrate the importance of putting the right people in the right roles and supporting continuous growth (Bolman & Deal, 2017). This frame explored the critical nature of strategy and how an outline of a plan can help people accomplish key goals within a given timeline. Within this study, the frame will also examine the architecture of an organization's networks, procedures and meetings (Bolman & Deal, 2017). The structure of learning communities informs the design for maximum innovation and success (Smith et al., 2016).

Figure 2 provides an overview of each of the four frames included within the study design and the different perspectives related to team success (Bolman & Deal, 2017).

Figure 2

The Four Frame Model



Note. Model adapted from Artistry, Choice and Leadership: Reframing Organizations (Bolman & Deal, 2017).

Complex challenges and variation occur across each frame within the organization (Bolman & Deal, 2017). School districts rely on interconnected systems that engage each one of these frames as part of the vision for successful transformation. When one or more of the frames is not engaged as a value-added component within the transformational process, the system becomes fragmented (Bolman & Deal, 2017). District leaders play a key role in nurturing each one of these frames and building the capacity of the system to support deep and sustainable change. Purposeful navigation of the interconnected components within a system, partnered with a collaborative approach to constraints and barriers, provides a foundation for creating learning communities oriented toward deeper learning (Mehta & Fine, 2019).

Conclusion

Significant contributions exist within this field of study and play an important role in the development of deeper learning competencies in 21st century classrooms. The changing future of jobs will continue to drive the skills needed for young adults to be successful as they transition into college programs and a global workforce (Gray, 2016). A current review of the literature examined a variety of factors that contributed to the development of these competencies and skills, along with effective practices for classroom implementation. This review indicated that advanced pedagogy and effective leadership practices play a critical role in transforming deeper learning environments.

Strengths within this body of literature were evident and confirm the need to prepare students and educators for deeper learning ecosystems. Some of the counter-arguments related to this field of study include limited findings in the areas of data and assessment. Accountability structures have long been a barrier to transforming classroom pedagogical practices (Fullan et al., 2017; Mehta & Fine, 2019). Criticism for this approach also included the idea that communication, collaboration, and creative thinking are considered *soft skills* and that variations between different dispositions of *soft skills* have not always been clear (Snape, 2017). Other concerns surface as opponents see deeper learning linked to thematic teaching and excluding traditional academic content as a way to minimize conventional methods (Martinez & McGrath, 2014). As the education community moves forward, factors for developing comprehensive programs are emerging from the body of research and could allow for accelerated change.

Although the literature review provided compelling evidence related to the benefits of deeper learning, it is clear that new policies and education leadership is needed to provide clarity

and direction for expanding deeper learning within public school systems. This review confirmed the benefits of skills and dispositions found in deeper learning models and revealed the need for key leadership practices to help make this critical transition (Darling-Hammond & Oakes, 2019; Mehta & Fine, 2019; Martinez & McGrath, 2014). Currently, a gap exists in the research related to how education leaders might transition current educational systems to be in alignment with the future of learning (Mehta & Fine, 2019; McLeod & Shareski, 2018). With the origins of deeper learning linked to experiential learning, a transcendental style of phenomenology compliments this study by exploring the essence of the lived experience for each participant (Creswell & Poth, 2018). Chapter 3 outlines the specific methods used to explore this phenomenon within the scope of this study.

CHAPTER 3: METHODOLOGY

American public schools continue to face significant challenges in shifting conventional educational models to align with the emerging needs of socio-economic demands and an evolving 21st century workforce (Fullan et al., 2017; McLeod & Shareski, 2018). Ongoing changes in the global workforce and society require school districts to reevaluate instructional systems to ensure that all students transition successfully from public education into competitive college and career pathways. School districts across the country recognize that change is necessary and many are beginning to implement new practices, but large-scale instructional systems remain mostly unchanged (Choi & Kang, 2019; Fullan et al., 2017).

Future workplace skills identified by employers across multiple industries and geographic regions include competencies such as complex problem solving, critical thinking, and creativity (World Economic Forum, 2018). As the first two decades of the 21st century evolved, the education community categorized these skills as *deeper learning competencies* and recognized this model of pedagogy as the development of advanced academic mindsets through the process of engaging in significant learning experiences (Fullan et al, 2017; Mehta & Fine, 2019). However, McLeod and Shareski (2018) reported that most educational systems are not adapting to these new instructional practices at the acceleration needed to keep up with the exponential shifts occurring in the world today. The learning and leadership practices to support these efforts are complex and take shape in different ways in school districts across the country.

Within this climate of change, district superintendents navigate political, cultural, structural, and human-centered forces to transform their learning communities for deep and meaningful

change (Bolman & Deal, 2017). Many of these forces contribute to positive growth in student outcomes, but also have the potential to serve as barriers to school reform and prevent newly designed improvement efforts and promising practices from reaching their transformational potential. Superintendents who have led this change understand how to navigate these forces and utilize effective leadership practices needed to support system-wide transformation. The lived experiences of these individuals offer qualitative data critical to the development of P-12 education programs in future years.

Purpose of the Proposed Study

The purpose of this transcendental phenomenological study was to examine the lived experiences and leadership practices of superintendents who are navigating existing constraints to implement deeper learning systems within their school districts. Research studies exist that explore the kinds of instructional techniques required to make this transformation as it relates to teaching and learning, but added research is necessary to examine the priorities for deeper learning and the leadership practices that lead to system-wide reform. It is imperative to understand the thoughts and actions that make it possible to manage this organizational change from multiple perspectives (Bolman & Deal, 2017).

District leaders often face the challenges of managing scarce resources and competing interests, while recruiting, supporting, and retaining the human resources needed to implement meaningful change (Bolman & Deal, 2017). This study explored the architecture and approach to developing teaching and learning systems that can sustain the mission of reimagining instructional programs within the P-12 public school system. Two research questions framed the

study to help the researcher better understand this transition from the lived experience of these leaders:

RQ1. How do superintendents describe deeper learning priorities within their school systems?

RQ2. What are the leadership practices involved in preparing students, educators, and communities for system redesign?

Research Design

Qualitative research addresses human and social challenges using frameworks that guided the research design (Creswell & Poth, 2018). Multiple classifications of qualitative approaches exist and allow the researcher to determine the approach most closely aligned with the scope of the study. Qualitative studies allow for data analysis that is both inductive and deductive and tell a story of the participants giving insight and interpretation of the problem (Creswell & Poth, 2018). Thus, qualitative inquiry is beneficial when researchers try to make the learning visible through a study of natural settings.

The selection of a phenomenological approach was the best design for this study to describe the lived experiences of identified participants and determine common thoughts and practices from one setting to the next. This chapter provides an outline of the study's design and a detailed description of the methods. Moustakas (1994) referred to phenomenology as a discipline and allows a researcher to access the world as we experience it prereflectively. Phenomenological design focuses on understanding lived experiences and examines the deeper human aspects of a given phenomenon (Bernard et al., 2016). This prereflective approach within the study allowed

the researcher to examine the learning and leadership practices of key educational leaders from a phenomenological point of view.

Two primary approaches exist within phenomenology, known as transcendental and hermeneutic (Creswell & Poth, 2018). Each of these approaches offer similar features often included in phenomenological research. Creswell and Poth (2018) review the foundational ideas involved in phenomenological methods and discuss the importance of lived experiences and "how they have both subjective experiences of the phenomenon and objective experiences of something in common with other people (p. 76). Hermeneutic phenomenology focuses the interpretations of the researcher and transcendental prioritizes the description of the experiences of participants within the study (Creswell & Poth, 2018).

For this study, the researcher used the systematic steps included in transcendental phenomenology, outlining textual and structural descriptions to gain a deeper understanding of the participants' lived experiences (van Manen, 2014). The textual description allowed the researcher to examine what the participant actually experienced, and the structural description will provide details related to how they experienced the phenomenon, drawing on context and variable conditions (Creswell & Poth, 2018). Superintendents described what they experienced as well as how they experienced the phenomenon. The phenomenon under exploration in this study is the implementation of deeper learning methodologies and the examination of leadership practices that create the conditions for success within the learning community. By conducting this transcendental phenomenological analysis, educational leaders across the country will better

understand the shared experiences and leadership practices that contribute to a successful transition to deeper learning models in P-12 public schools.

Setting

The research sites selected for this study will be located throughout the United States. The study included eight superintendents from public school districts serving students in grades P-12. The selected districts serve diverse student populations within a variety of settings. Each school district has demonstrated success in one or more key criteria for reorienting learning programs toward deeper learning. These criteria include the implementation of deeper learning methodologies in classroom programs, well-established professional learning models that outline teacher support and development, globally connected digital learning spaces, job shadowing through mentorship programs, and the integration of competency-based assessments to measure deeper learning within core academic programs. In each of these settings, the measurement of experiential learning and the development of deeper learning competencies occurs through traditional and alternative assessments.

Sampling Method

Purposive sampling was used to finalize the selection of participants to ensure they have all experienced the phenomenon being explored. To accomplish this type of non-probability sampling, the superintendents were selected for participation using several different methods of preliminary identification (Bernard et al., 2016). Initial identification included superintendents who participated as a feature speaker, or panel guest speaker for deeper learning conferences, webinars, podcasts, or a complimentary educational video series. Additionally, the sampling

included superintendents who currently work in collaboration with agencies and institutions of higher education that focus their work around the development of deeper learning competencies in educational programs. These agencies included, Battelle for Kids, Stanford K-12 Lab at the d.school, the William and Flora Hewlett Foundation, Getting Smart, School Retool, IDEO, the Buck Institute for Education, High Tech High Graduate School of Education, and the Center for Creative Leadership. Finally, participants may be included in the identification process if the school district participated in a recent study related to the implementation of deeper learning communities of practice.

Additional statistical and priori selection information related to the participants role within the organization and their lived experiences with the phenomenon will be explored (Bernard et al., 2016). The criteria established for participating in this study included: (a) the participant served in the role of superintendent for a minimum of three years; (b) the participant implemented systems change within their organization; (c) the participant self-identifies a focus on transitioning school systems toward deeper learning; (d) the district communicates a focus on deeper learning competencies and personalized learning as a key part of their instructional programs. Many of these criteria are visible in artifacts such as mission and vision statements and communication of core values through website, social media, and newsletters. In a review of the literature, recent findings showed that some school districts are making substantial progress in the transition to deeper learning (Darling-Hammond & Oakes, 2019; Fullan et al., 2017; Martinez & McGrath, 2014; Podolsky et al., 2019).

The intent of this study was to examine the experiences of superintendents who were knowledgeable with the phenomenon under study, each of the participants selected self-identified a focus on transforming school programs through deeper learning systems (Creswell, 2014). Bernard et al. (2016) recognized that sample sizes vary and recommends including six to 20 participants for phenomenological studies. The phenomenological design allows participants to be at different sites, but all of the individuals included have in-depth experience with the identified phenomenon and can articulate their experiences with the phenomenon being studied (Bernard et al., 2016). For this study, the researcher included data from eight superintendents working in P-12 school districts within the public-school system.

The recruitment process included an email to notify potential participants of the purpose and significance of the study and provide information on how they can participate (see Appendix A). Participants received a formal consent letter to include the study's method, inclusion criteria, rights as a research participant, and time commitments related to the participants (see Appendix B). The researcher included a summary outline of the study with details including an introduction to the study, specific aims, and an overview of the data collection and analysis processes to give the participants additional background information related to their commitment (see Appendix C).

Instrumentation and Data Collection

Data collection procedures for this phenomenological study took place through in-depth semi-structured interviews. A single round of interviews occurred with eight research participants to gather information and ensure a deep understanding of the phenomenon. The

interview consisted of twelve structured and open-ended questions in addition to three demographic and priori questions all deducted from the literature review included in this research (see Appendix D).

To meet the needs of this study the interviews were conducted through virtual sessions facilitated through the Zoom web-based platform. The researcher recorded the interview session for each participant through the Zoom built-in audio recorder and saved as a high-quality audio file. An added recording was included as a back-up file through the screen recording function on the researcher's laptop to ensure adequate recording procedures. All audio files were stored on a password protected computer and kept in a secure location.

For this phenomenological study, a semi-structured interview protocol was used (see Appendix E), which was reviewed by experts in the field and will ensure a detailed and ethical process about the mechanics of the interview (Bernard et al., 2016). Pilot testing helped to confirm the length and process of the formal interviews and finalize the structure for the actual study (Castillo-Montoya, 2016). The researcher included an initial round of interview questions conducted with a superintendent, or designee who were not formally participate in the study. Interview questions were refined during pilot testing to modify the interview protocol as needed (Castillo-Montoya, 2016).

Prior to the interview, all participants were assigned a pseudonym to be used in the study to protect personal identification. The interview with each superintendent will included structured and open-ended questions about the phenomenon of interest to allow the participant to provide an in-depth response. Participants had an opportunity to expand on the identified topics

to share additional insight related to the phenomenon under study (Castillo-Montoya, 2016). All participants engaged in the same interview protocol and the researcher interviewed each superintendent personally.

The researcher performed the semi-structured interviews in the fall of 2020 to support the variation in schedules of the research participants and after University of New England's Institutional Review Board (IRB) and committee approval. The transcription software Otter.ai transcribed all interviews and then each transcription were verified word by word by the researcher. The transcription service secures all files through encryption software and provided access to the files solely to the researcher. The researcher emailed the participants and provide a copy of the transcription, allowing one week to verify and confirm the validity of the content. To verify accuracy, participants were able to review and comment or provide clarification regarding content to ensure the accuracy of the data. This review and editing of the transcripts ensured no identifying information was included within the interview (Bernard et al., 2016).

Data Analysis

Transcendental phenomenology includes a three-step data analysis process that facilitates the creation of knowledge known as Epoche, Transcendental-Phenomenological Reduction and Imaginative Variation (Moustakas, 1994). The purpose of this phenomenological model is to integrate the structural essence of the study with the textural essence of the study to provide a deeper level of synthesis as it relates to the lived experiences investigated in this study (Moustakas, 1994). The analytic techniques for this investigation followed systematic procedures

using this three-step process to uncover the meaning and essence of the phenomenon under study (Creswell & Poth, 2018).

Epoche

The initial Epoche phase begins with a procedure that allowed the researcher to approach the analysis of new information without prior judgment (Moustakas, 1994). Creswell and Poth (2018) suggested that researchers embrace this idea "by describing their own experience with the phenomenon and then bracketing out their views" prior to analyzing the lived experience of others (p. 78). In this phase, the researcher identified the personal experiences related to the topic of study and formally set biases aside to ensure that preconceptions did not influence the results. Moustakas (1994) shared that the formal process of Epoche "requires unusual, sustained attention, concentration, and presence" (p. 88). Transcendental phenomenology requires the researcher to approach the work from a fresh vantage point to form new understandings and knowledge related to the phenomenon (Bernard et al., 2016).

Transcendental-Phenomenological Reduction

Analysis of the data included a phenomenological reduction to describe the essences of the phenomenon under study (Creswell & Poth, 2018). Moustakas (1994) asked the researcher to consider two forms of data analysis represented by the methods of Van Kaam and Stevick-Colaizzi-Keen. Through each of these phenomenological methods the participants engage as co-researchers, but the researcher preferred the Van Kaam method for this study due to the alignment of the data analysis process (Moustakas, 1994). Using the Van Kaam method, the researcher analyzed the data following the prescribed steps. The method includes the preliminary

listing and grouping of each statement in a process known as horizontalization (Creswell & Poth, 2018). Reduction and elimination occurred through a testing process to identify clusters and themes and validate invariant constituents to determine core themes of each experience (Moustakas, 1994).

Following the horizontalization, the researcher was a specific process to ensure proper coding of all information. Saldaña (2016) refers to a code as a word or phrase that captures the essence or attributes of "language-based or visual data" (p. 4). The transcendental-phenomenological reduction included written coding using a writing instrument, combined with analysis to generate a deeper understanding (Saldaña, 2016). As the intent of this study was to honor the value of the participants voice, Saldaña (2016) recommended the In Vido coding method.

During this process, the actual words of the participants were used to categorize themes through clustering and analysis of repetitive statements. The researcher worked throughout the process to identify, apply and reduce the codes to workable, core themes that connect to the Van Kaam method of analysis (Creswell & Poth, 2018). Analytic memos served as a recording of the analysis and reflections related to the emerging themes. This reflective tool allowed the researcher to collect thoughts and ideas related to each interview in the form of a journal to track emerging codes and themes (Saldaña, 2016).

Imaginative Variation

As a part of the data analysis, the researcher engaged in interpreting the data through an extended process (Creswell & Poth, 2018). The final step of imaginative variation was to

understand the essence of the combined experiences. This process as described by Moustakas (1994) is as understanding the *how* and *what* of the phenomenon of interest. The researcher used imaginative variation to analyze the phenomenon and determine the leadership practices that emerge as a result of these combined experiences.

Moustakas (1994) argued that this part of the process allows the researcher to use "validated invariant constituents and themes to construct for each participant a Textural-Structural Description" of the lived experience (p. 121). A diagram recorded, described, and visualized the composite themes as they develop. This synthesis allowed for a deep analysis of the combined experiences of district leaders and the emerging priorities and leadership practices relevant to the transformation of deeper learning systems within P-12 public schools.

Limitations of the Research Design

Qualitative studies, in general, can be challenging in terms of the time required to complete the qualitative review (Creswell, 2014; Creswell & Poth, 2018). Phenomenology requires the researcher to analyze broader understandings and philosophical assumptions of those who have experienced the phenomenon (van Manen, 2014). The design attributes require a minimum number of participants who have experienced the phenomenon of interest and have achieved some form of success related to the research questions.

Identifying the number of individuals needed may be difficult for this research topic. While the current study includes superintendents as study participants, the researcher may need to widen the data pool to include superintendent or designee to ensure a shared philosophy within the data. For this study, participants were located at multiple sites throughout the United

States. One round of semi-structured interviews were included and this also increased the amount of time required to generate a deep understanding of the phenomenon (Creswell & Poth, 2018). Participant pool and time constraints were factors in the preparation for this study.

Further limitations and credibility of this study are related to instrumentation and data analysis. Since the researcher was the instrument used within the study, careful attention to bracketing must occur as part of the process (Creswell & Poth, 2018). The researcher removed personal experiences to ensure that prior assumptions are not included as part of the data analysis. While every effort was made, following a strict protocol, it was not always possible to completely set aside all personal experiences and eliminate research bias. The researcher minimized this limitation through bracketing so that the researcher did not include personal assumptions within the interpretations of the data and influence the findings (Bernard et al., 2016). Some questions exist about whether another study might address the same questions and produce similar results.

Participant Rights

This phenomenological study occurred through voluntary participation. All participants received an email about the potential partnership and an invitation to participate in the study (see Appendix A). The decision of whether or not to participate did not impact the relationship with the researcher, or research institution in any way. Candidates who expressed an interest in taking part in the study signed a letter of consent (see Appendix B). The letter of consent provided a detailed outline that includes potential risks of participation and a summary of the purpose and design of the study. At any time throughout the interview, participants may refrain from

answering specific questions, or cease participation. Participants had the opportunity to review the data and determine accuracy prior to the conduction of data analysis (Creswell & Poth, 2018).

The researcher ensured confidentiality by assigning pseudonyms to all participants and include advanced security measures to protect all digital and paper files. All participants were kept informed of significant findings that may develop throughout the process that impacted their participation in the research study. A stakeholder's briefing of the findings was provided to all participants at the conclusion of the research study.

Conclusion and Summary

School district leaders across the state of California often experience significant challenges with their efforts to implement deeper learning systems within their district programs. Current research studies exist within this field of study and play an important role in understanding promising practices of school districts who are successfully implementing deeper learning competencies within P-12 classrooms (Daniel et al., 2019; Mehta & Fine, 2019; Siman et al., 2016). These studies closely examined deeper learning outcomes and found that new pedagogies and collaboration through communities of practice served as a vehicle for transformation.

The purpose of this phenomenological study was to provide a deeper understanding of the priorities and leadership practices required to support long term systems change. A transcendental phenomenological study was used as the selected research method to analyze the lived experiences of district leaders who have already made this shift, or are in the process of

making this shift, and are able to distinguish and specify shared experiences into a broader philosophical understanding. This study provided the context to examine the political, cultural, structural, and human-centered forces that influence leadership decisions and serve as positive and negative forces toward system redesign.

This chapter described the method that was used in the qualitative research. Sections included specific information related to instrumentation and data collection along with analysis and limitations of the research design. Ethical issues related to the study were outlined to explain participant rights and confidentiality. Chapter 4 will present the findings from the data through a presentation of results, and Chapter 5 will provide an interpretation of the findings, including implications and recommendations for further study.

CHAPTER FOUR: RESULTS

In chapter four, the findings of this qualitative phenomenological study are presented along with an overview of the analysis methodology. This presentation of the results highlights the priorities and leadership practices needed to accelerate systems of deeper learning in P-12 school districts. Chapter four will review the description of the population demographics and provide a summary outlining the study design. This review is followed by a presentation of findings, including categories and subcategories that emerged from the interviews conducted with district superintendents across the country.

Description of Population and Sample

Semi-structured interviews were conducted with eight superintendents leading transformative change in public school districts. The researcher utilized a purposive sampling method to select participants meeting the study's identified criteria. Methods of preliminary identification included superintendents who have participated as a feature speaker at professional learning events highlighting the practices of deeper learning, or as a featured guest at conferences, webinars, podcasts, and related events. Participants identified for this study also work collaboratively with innovative education agencies focused on future practices in public education and three have participated in previous studies with a similar research focus. The eight superintendents participating in this study represented four different states, each in different regions within the United States. All of the participating district superintendents shared the same federal accountability systems, but assumed the state-wide accountability processes of the residing state.

Each of the participants were required to have served in the role of the superintendent for a minimum of three years and self-identified a focus on transforming learning systems for 21st century needs. All superintendents selected for this study have been recognized in the field of education as leaders of new and innovative learning systems and demonstrate visible evidence of success through website communications, social media, accountability dashboards, and statewide publications. Participants included within the study shared similarities in these specific criteria, and yet worked in communities across the country serving a wide range of demographics and offered diverse perspectives from a variety of different backgrounds. All of the selected superintendents have significant experience with the phenomenon being explored.

Table 1 provides a description of the participants included within the study according to the identified criteria. To protect the privacy of all participants, each superintendent was assigned a pseudonym prior to the interview. Of the eight superintendents who participated in the study, all of them served in public school districts serving students in grades P-12. Collectively, the participants had an average of slightly more than nine years of experience as a superintendent. Three superintendents reported more than ten years of experience with Participant E reporting a service of four years.

The profile of each school district demonstrates a wide range of years dedicated to the focus on deeper learning within the learning communities. The average number of years the collective school districts dedicated resources to this area of focus was just over five years, with one district reporting a ten-year focus on the transition to deeper learning. The participant inclusion profile demonstrates the vast experience of the study participants related to the phenomenon being explored.

Table 1

Participant Inclusion Profile

Pseudonym	*Superintendent Experience*	*District Focus on Deeper Learning*	*District Type*
Participant A	12 years	10 years	Public Grades 9-12
Participant B	8 years	5 years	Public Grades P-12
Participant C	8 years	4 years	Public Grades P-8
Participant D	11 years	5 years	Public Grades P-12
Participant E	4 years	3 years	Public Grades K-8
Participant F	9 years	5 years	Public Grades P-12
Participant G	15 years	5 years	Public Grades K-12
Participant H	6 years	5 years	Public Grades P-12

Analysis Method

Data collection for this study took place through a single round of semi-structured, virtual interviews. A total of fifteen interview questions were included and interviews varied in length from 45-60 minutes. Each interview was recorded using the Zoom audio recording feature and transcribed using the Otter.ai transcription service. Interview questions were outlined in three major groups. The first set of questions included demographic and priori selection questions. Two additional groups of questions were included providing six specific prompts representing each of the two overarching research questions.

This process allowed the researcher to specifically examine the identified priorities for accelerating deeper learning within a school district and the leadership practices involved in shaping education systems for redesign. As a part of this semi-structured interview process,

questions were both structured and open-ended to allow participants the opportunity to provide an extended response. This allowed for maximum data saturation and enabled the researcher to gather a comprehensive understanding of the phenomenon being explored (Creswell & Poth, 2018).

As a part of the validation process, the researcher conducted a pilot interview with a superintendent designee not participating in the actual study. The pilot process allowed the researcher to check for ambiguities within the questions and ensure participant understanding of the prompts to support data collection (Castillo-Montoya, 2016). All formal participants were assigned a pseudonym prior to the interview to protect personal identification and an interview protocol was used to guide the process. All interviews were transcribed using an online transcription service and verified by the researcher to remove all remaining identifying information. All participants were included in a member checking process to further validate the data and allow participants to review and provide any needed clarification to ensure quality and accuracy of the transcribed data (Bernard et al., 2016).

Review of Methodology

This qualitative study implemented a phenomenological methodology approach to understand the experiences of education leaders who have successfully implemented systems of deeper learning within their school communities. A transcendental phenomenological design allowed the researcher to capture a comprehensive understanding of the participants' lived experiences through semi-structured interviews (Creswell & Poth, 2018; Moustakas, 1994). This qualitative research design was organized in a three-step process that included the phases of Epoche, Transcendental-Phenomenological Reduction, and Imaginative Variation (Moustakas,

1994). As a part of Epoche the researcher was able to formally identify personal experiences and biases about the phenomenon being explored. This step included the formal process of bracketing to set aside all preconceptions and focus on the lived experiences of the participants (Moustakas, 1994).

To support Transcendental-Phenomenological Reduction, the researcher engaged in the process of horizontalization, and used the Van Kaam method to create preliminary listing and grouping of key statements within all interview transcriptions (Creswell & Poth, 2018). Clusters and themes were identified through reduction and elimination and initial core themes were outlined using a constant comparative method. The first cycle of coding was recorded through analytic memos and generated initial categories for analysis. The codes were identified and analyzed as a part of the In Vivo coding method to include both textural and structural descriptions of the participant experiences (Saldaña, 2016). This initial process produced a total of 35 codes and a subsequent coding process was initiated using an online qualitative software system. The Atlas.ti software system used for this study provided a powerful tool for additional analysis. This second analysis and coding review allowed the researcher to solidify and merge codes within similar themes and subthemes across the full scope of the data collected (Saldaña, 2016).

To understand the *what* and *how* of the phenomenon, the researcher also engaged Imaginative Variation. This final step in Transcendental-Phenomenological Reduction uncovered the essence of the combined experiences of all participants and allowed the researcher to examine the priorities and leadership practices revealed in this process through multiple perspectives (Moustakas, 1994). The refinement and synthesis within this final phase validated

invariant constituents and produced a conclusive list of workable themes and subthemes that characterize the essence of the experience as shared by the superintendents. Throughout the process, the researcher engaged in triangulation of the data by implementing a cross-checking process to verify that all themes and subthemes were supported by multiple data sources (Castillo-Montoya, 2016). The process of imaginative variation provided a meaningful synthesis of the data and a multi-layered perspective to ensure the quality representation of the lived experiences of all participants.

Presentation of Results

The findings of this phenomenological study reflect the essence of the combined experiences of superintendents leading the *what* and *how* of this phenomenon of interest. The 35 codes identified in the initial analysis provided a wide array of deeper learning priorities and leadership practices to be analyzed. The process of horizontalization eliminated repetitive statements and unrelated ideas and merged overlapping expressions aligned to the developing themes across the data set. Using the emerging codes, a subsequent coding process allowed the researcher to reduce and combine the data of experiences to include relevant invariable constituents.

The final coding process revealed 21 individual codes aligned to the overarching research questions. Following the process of clustering and thematizing the invariable constituents, six workable themes emerged with a total of 15 subthemes aligned within clusters related to significance, relevance, and frequency. The group of six themes that appeared with the greatest frequency in all eight interviews include: *Center the Learner, Design Authentic Learning Experiences, Redefine Student Success, Engage the Community, Create a Learning Ecosystem,*

Reframe Complex Systems. The six themes are represented throughout the chapter with coordinating subthemes that are aligned to thematic categories through significance, relevance, and frequency. The study themes are organized in relation to each of the corresponding research questions.

Research question one resulted in a total of three main categories along with eight related subcategories. Within the chapter, the subcategories are clustered in relation to significance, relevance, and frequency to develop and organize core themes and corresponding subthemes. Each of the core themes appeared in all eight interviews at least once, with a total frequency range of 27-32. The three codes producing the main core themes for research question one occurred with the greatest frequency and include: *Design Authentic Learning Experiences*, *Redefine Student Success*, and *Center the Learner*. Additionally, a selected group of eight codes appeared consistently and repeatedly with a total frequency range of 14-19 producing the subcategories aligned to each core theme.

The eight codes producing the related subthemes include: *Equity and Inclusion, Learner Agency, Strengths-Interests-Passions, Deeper Learning Competencies, Globally Connected Learning Spaces, Align to the Future of Work, Measure Skills and Competencies, Monitor Growth and Impact.* Table 2 provides a summary of codes that emerged in alignment with the participants' description of the *deeper learning priorities* within their school systems. Within this table, the codes are presented in order of frequency and presented in context with the first research question investigated.

Table 2

Summary of Codes for Deeper Learning Priorities

Research Question	Codes	Frequency
RQ1: How do superintendents describe deeper learning priorities within their school systems?	Design authentic learning experiences	32
	Redefine student success	28
	Center the learner	27
	Deeper learning competencies	19
	Learner agency	18
	Monitor growth and impact	17
	Globally connected learning spaces	16
	Measure skills and competencies	15
	Equity and inclusion	15
	Strengths, interests, passions	14
	Align to the future of work	14

The following pages present the findings from each of the core themes. The subthemes are organized by significance and relevance and are included with each core theme. All themes and subthemes include detailed descriptions with data gathered from the participants. Individual textural-structural descriptions are provided to capture the meaning and essence of each participant experience, in addition to composite descriptions representing the meaning of the group as a whole.

Center the Learner

The study participants were asked to describe the priorities for deeper learning within their school systems. Each of the eight superintendents identified learner-centered approaches multiple times in connection with one or more subthemes. Participants frequently referred to adults and students as “learners” and prioritized the needs of each individual learner. While they

made reference to “learner-centered” and “student-centered” values and ideas, several participants also posed questions related to the theme such as, “How do we become learners?” and “What do learners need most from their learning experience,” and “Why do we exist, if not to make the learner the center of our work?” Participant B advocated for the “voice of the learner” and shared deep beliefs about “centering the learner within the system” and “putting children at the center of all we do” as a daily priority. Participant D identified this theme as the top priority saying:

> And I think that as long as we center the learner in the way I've described, equitable opportunities begin to emerge around that, because we know that if we have 27 kids in our class, we're actually in essence, creating 27 learning opportunities. If we had only one priority, I would have to say that being learner-centered in our approach would be the one that we couldn’t let go of.

Participants also framed this priority through the lens of culture and the idea of creating a sense of belonging within the learning community. Participant B talked about this lens as a “sense of urgency” to make sure that “every adult within the system understands that each child is of great value” and repeated multiple times that “educators always have to keep the focus on the learner.” For Participant F, this theme was also related to the overall lens in which the community operated, defining the approach as:

> I think maybe what makes this work different for us is we is we look at all of those things through the lens of our learner. So basically, we try to tackle any competing forces through this lens. And so, when we're in the middle of anything messy, and messy things happen, we remind everybody, what is the system for giving us feedback? And, we

> continue to go back to, what do our learners need? So given these limitations, given this new rule, given this new law, what do our learners need from us? How can we be learner-centered in our approach?

Participant A identified that schools and districts often declare a student-centered focus, but "miss the mark in the way they deliver" and reaffirmed the importance of "not making this statement a cliché," but truly understanding what it means to "put the learner at the center of everything you do." This was a common focus within the data and Participant G shared:

> Well, it's an it's an easy soundbite to talk about, that the priority has to be children first. You know, there's logos and there's all kinds of flyers that say it, buttons, and all, but truly believing that, how do you become very student-centered? So, the priority is about what is right for each student, and to be able to think about it that way, that every child has their unique smartness. So, I think that has to be upfront, to be able to do this work.

Another idea that emerged related to this theme identified the importance of connecting with students on multiple levels and elevating student needs as a first priority. Participant E shared that "centering the needs of the learner is foundational to all we do," and added:

> But there's so much that comes before academic content, that has to be taken care of to prepare the space to meet the foundational needs of our students. So, you have to Maslow before you can Bloom. Making sure that our kids are loved and that they all have an adult to connect to, a place where they are safe. Creating a culture where students feel that it's safe to be who they are. This is a priority, because an emotionally safe child will be able to get beyond surface learning. And so, we have to really put their needs at the center.

Additionally, Participant E connected this theme to the greater impact of deeper learning saying, “I'm almost going to be repetitive in some of the words that I say. But again, it's the deeper learning that really does put the learner at the center.” Several times throughout the interview Participant E made a point to show the connection between the needs of the heart and the mind and linked this approach to the ultimate success of the student:

> It grabs the mind and grabs the heart, right? When we put students at the center? And that's when students own the work. They own the learning. This is about their identity and their belief in themselves as a learner. That drives us back to the foundation for deeper learning, and its impact, right?

Overall, the participants felt that the importance of centering the learner was a critical priority for deeper learning and at the heart of a successful learning community.

Equity and Inclusion

This code was strongly linked to the theme of *Center the Learner* and was a primary focus for the participants as a priority for success with deeper learning in any learning community. One of the greatest concerns shared throughout the interviews was the idea that all students should have equitable access to engaging deeper learning experiences. Participant A clarified the difference between access and equity sharing, “It all starts with access, and if you do it right, it leads to equity.” Participants also agreed that access alone would not provide equitable opportunities for students and that inclusion was a priority for equitable learning experiences. Participant D described the need to “speak about equity first, before we even begin speaking about learning” and recognized that we need to prepare adults to be successful and “create the space for these conversations.” Participant D explained:

> So, we talk a lot about equitable, deeper learning experiences. I always have to start by asking, what is it that we're inviting our educators to engage in, for their own learning, so that they can actually create those equitable learning experiences for students? And that starts with a focus on equity and really challenging our own implicit bias around what we believe about individual students, because that could actually stand in the way. And those individual biases could actually become community biases, because frankly, we all talk. So, I think that when we speak about equity, even before we jump into the specifics of deeper learning, we need to be sure that we're moving ourselves out of the way.

The idea of "challenging adult bias" was a priority for Participant D to ensure that "all schools begin with the work that matters most" and then move on to "seeing the true strengths of our students." All participants identified adult learning as a key priority for the development of equitable and inclusive deeper learning programs. This approach to equity and inclusion included an emphasis on cultural competence and how adult behaviors influence the development of a student's identity. Participant B described:

> A key priority with equity and ensuring access to deeper learning, is having a deep understanding of childrens' cultures, having cultural competence and cultural proficiency, and to honor and help children connect to their culture and identity. And while that term, those phrases are used, often, what I find is there's this sort of one-inch understanding of what that really means in terms of our behaviors, and how we respond to our children.

Other participants agreed that the work of deeper learning in public schools begins with equity as the foundation. Participant B also shared the idea that "equity should be the first step in the development of a learning program" and added that equitable outcomes are "the first and

truest measure of success for all educators leading the work of deeper learning." Participant F connected this concept to a student-centered approach and acknowledged that "equitable opportunities and access look different for different learners" and described this priority within their system:

> And, well, I would say that equity plays the most important role, as the core tenet of our entire system, and to be learner-centered, is we believe that people learn in different ways, in different timeframes. And so, while the experience may not be exactly the same from learner to learner, it actually shouldn't be. Equity is giving every learner what they need. And we would say, what they need when they need it, it's our equity commitment.

Participant F reaffirmed the commitment and vision of the district equity team saying, "when our learners leave our system, they literally can turn back to us and say to us, you gave me what I needed, when I needed it." Other participants provided examples of how equity and inclusion play a key role in shaping opportunities within the learning system. Participant H shared this example:

> And we wanted every student in the district to have opportunity and access to this type of teaching and learning. So, for example, we started a vineyard at one of our high schools. And that's the type of project that includes science, technology, engineering, arts and mathematics, because it's everything, from the plant and soil science, to the titration, to the biology and life science of it. Other kids are working on marketing and advertising and developing code for a mobile software. And so, there's ways for all of our kids to get engaged… but I think it emerged from the idea that we wanted to provide access and create equitable experiences for all of our students.

Throughout the data, the participants reported a moral imperative with regard to equitable access to the tools and resources needed for success. Participant B discussed the need to make sure that "all students have access to the tools needed for success" adding that "this is the first step in leveling the playing field and growing inclusive schools for all children" and shared that "if education leaders made this a priority all kids would have the resources needed to achieve success." Other participants agreed that this was a priority, especially if it meant that all students did not have access to the same information and knowledge to apply their skills. Participant G shared this point about technology as a tool for learning, communication, and collaboration:

> So, for us, when we thought about technology as a community, it was more of a moral imperative about equity. How come children of poverty don't have access to information and their families don't have access to information? If information is the prerequisite to success, how do you give every learner access to information?

All participants identified adult learning as the entry point for the development of equitable and inclusive deeper learning programs in every learning community.

Learner Agency

The code of learner agency provided the strongest connection associated with the theme *Center the Learner*. This code was also interconnected with the term *personalized learning* in several data points, but still identified as *learner agency* or *student agency* by the participants. Within the conceptual framework for this study, learner agency is identified as a transformative shift for deeper learning. All participants referenced the idea of students "co-designing learning goals" and "developing efficacy" through ownership of learning concepts. Participant H describes agency as "almost everything" related to student learning and shared:

> When kids are engaged in deeper learning, that learner agency just grows, again, goes back to the ideas that John Dewey was talking about so many years ago, it's the artful educator who can grab ahold of students' passions, developing skills and competencies in a way that makes sense for the students…And then taking that passion-based interest, and moving into a space in the classroom, where kids have voice and choice over what they're what they're doing, and developing efficacy as a learner.

Student voice was recognized several times within the context of learner agency. Participant A shared "when you help a student find their voice, you know they are on the road to agency" and Participants B and C referenced the idea of developing student voice in relation to agency. Participant F described this concept:

> Our full design is about learning and agency. And with agency, learners have opportunities to share their voice and to create shared vision, to create a shared code of cooperation, to explain where they are in their learning, to set their goals for what they want to achieve the pace they want to achieve at, to express the types of things that they need to really call out and say this learning is boring, or this learning is irrelevant, or this learning is too easy or too hard. And to demand and expect something different.

In response to the same question Participant G also connected learner agency to student voice:

> But to find out, who is this learner? What is it that she loves and wants to explore? It's a daily dialogue about that, and a revisiting of those conversations constantly. I think when students realize that they have ownership over their learning, they begin to express themselves differently, and that's when they find their voice. This is the power of learner agency. We see this come to life in deeper learning experiences.

Similar to the code *Center the Learner*, participants commonly expressed a need to help students develop their identity and build self-efficacy. When talking about learner agency Participant B connected this priority to the idea of "a student shaping their own identity through exploration of deeper learning and the opportunity to fail in a safe environment." Participant E expressed something similar, saying, "And that's where students own the learning, they have agency, and they have choice over what they do. This is about their identity and their belief in themselves as a learner." Participant C further described learner agency as an experience directed by the individual growth of the student and explained:

> When we think about learning, we think about the person, who is the child, and what is their history, and what are their goals, then helping them to take part in setting their own goals and finding their own content, and developing their own essential questions about the learning, and about life. In the past, adults would develop the essential questions, but the kids should really be taught to develop their own questions based on problems you're interested in solving, or careers they're interested in pursuing. This is how we build agency, because the learning belongs to the learner.

Building on the idea of helping students develop their own learning goals and own the direction and outcomes of the learning, Participant D provided insight into the role of the teacher in shaping learner agency and referenced student leadership of learning, saying:

> I would say that learner agency is what really drives deeper learning. This is when kids play a role in designing the learning, and feel connected to the outcome. And the teacher is still doing some heavy lifting, ensuring those purposeful connections to what the student already knows, or what they want to learn more about. But then, as the work

> happens, the students are expected to articulate what they're learning, the students are expected to take the lead in many ways, the students are expected to tell us what's coming next, and why. But it's, more of a dialogue. So, for me, you can't have deeper learning without learner agency, it doesn't work.

While learner agency served as a cross-cutting concept within multiple themes and subthemes, participants recognized this code as central to learner-centered deeper learning.

Strengths, Interests, Passions

The subtheme of *Strengths, Interests, Passions* occurred in numerous data points in relation to the theme of *Center the Learner*. All participants referenced this subtheme at least once and attributed this idea to the core of learner-centered experiences. Participant F reported that "one of the underlying components of deeper learning lies in the ability of the adults to motivate students through their interests, strengths, and passions" and connected this thought to "creating the conditions for deeper learning to thrive." Participant E expanded on this thinking and shared:

> Those deeper learning experiences are the ones that captures students' passions and interests, not only their minds, but also their hearts. Right? Which gets them into a deep learning episode. So deeper learning builds off student strengths and interests because when students invest in something that matters to them, right, they get so engrossed because it's connected to something meaningful and shaping their unique talents. When the mind is engaged, the heart is engaged, and we do that intentionally for each student.

Participant G also talked about the role of student engagement as it relates to deeper learning and how student passions help to connect them authentically within a learning experience:

> So, you know deeper learning when you see it, when you watch students become authentically engaged in what they're doing, they're excited about it, because it is connected to something that they are deeply passionate about. And they will work longer, harder, more profoundly, go deeper, because it's around their passion. So, from a pedagogical standpoint, I believe that when you can help students identify what they care about, are passionate about, their mission of purpose, then it is easy to hook that knowledge and go deeper within a particular standard.

Participant A discussed the potential to "change the way students perceive school by making this one critical change" and said that "adults work harder and enjoy learning more when they are passionate about something, the same is true for kids." Participant D connected this priority to the way adults view learning and successful practices at work. Participant B shared, "In reflection, I spent many years following my interests and passions, and slowly, these became my strengths over time." Both participants credited following their passions to their success in life. Participant C discussed something similar and suggested that adults should allow student interest to guide the design of a learning experience:

> It's all based on their own strengths, interests and values they gravitate toward. Learning is personalized. It's like an adult who will bury herself in a book, and finish from cover to cover because I chose this, I can't wait to read this. When we allow students' self-interest to start changing the way that content is delivered to them, they become consumers, they

> devour it. And so, as student engagement increases, and student performance increases, critical thinking increases, because they're interested in actually engaging in what they're learning about.

Participants D and E both linked the idea of strengths, interests, and passions to a pedagogical model. Participant E connected the delivery of classroom learning experiences with the ability to develop interests and passions in students and uncover strengths that they may not be aware of. This participant shared that the "wonder board" was one of the most commonly used strategies within their learning programs and discussed "the potential of sparking curiosity within learners" and how this strategy "helps to develop future interests and passions." Participant H linked this subtheme to inquiry and discovery

> And I'm certain there's a lot of different ways to approach the work. And so, for us, lots of opportunities for discovery, inquiry-based lessons, implementing things that are, you know, reminiscent of what John Dewey was writing, like back in the 1930s, about how do you take a student's passion and interests that they have outside of school, and create opportunities for them to explore those within school. It's like the secret sauce.

Participant H continued to describe how teachers reinforce this learning within classrooms and also noted that "the benefits to this strategy are extended when adults share their passions and interests, and model for students how these passions are connected to solving problems in the real world." Within this theme participants acknowledged the importance of recognizing every learner as an individual that brings great value to the world and aligning to the personal strengths they bring to school and the world.

Design Authentic Learning Experiences

The study participants also communicated the importance of designing authentic learning experiences as a priority for implementing deeper learning within their school systems. All eight superintendents noted "authentic learning experiences" multiple times in connection with one or more subthemes. Participant A frequently referred to the "authenticity of learning" and discussed "real world" and "real life" experiences as "critical for the development of deeper learning programs in any school or district." Participant C shared that "students report feeling successful when they are solving problems or challenges in authentic ways." Expanding on this theme, Participant B connected the idea of authentic learning to issues taking place within their local community and discussed the possibility of students changing the outcome through a solutions-focused approach:

> So, when engagement and critical thinking link together and the learning is tethered to real world issues, that happens when educators are so keenly aware of not only what's going on in their world around them, the world as a nation, our community, but help students understand the value of taking time to think about possible solutions. So, solution-focused work, that is connected to something real, that's when you experience authentic learning. So truly linking their learning to something that has an outcome, that's so visible and can be celebrated by folks, inside and outside of the learning community.

Participant B included examples of projects and community-wide initiatives that were launched as a result of a learning experience that was designed by teachers and students "to be authentic in nature." This solutions-focused approach was also captured in the response from

Participant D and connected to the idea of a student becoming a change agent and seeing the results of their work making an impact in the world. Participant D commented:

> It just isn't authentic learning, in my experience, if it isn't connected to real-life learning opportunities. If a student cannot answer the question, why are you learning that, then I actually don't understand what we're doing. So, I would suggest that the why question is key, connected to real life situations is important, as I said earlier, allowing our kids to be change agents based upon what they learned, because there's nothing more affirming, in my experience, to see students learn something new, apply it and see the results of it. So now that's something that they've learned and they know it actually has an impact.

Participant E also discussed making an impact through authentic learning experiences sharing that "the students in the learning community collaborated with outside agencies to change their environment in meaningful ways" and described:

> We received a federal grant to study the impact of the ongoing drought on the local watershed, and talk about the authenticity of learning, our students were realizing that the weather cycle and the rain impacts the lakes, impacts the rivers, impacts the ocean, and to explore their own community and see the impact on wildlife, it includes everything that we want kids to learn. It's in the cross curricular, the interdisciplinary learning experiences. And to understand that you can live in a remote community and have your local watershed have a larger impact on the communities surrounding you is pretty powerful for kids, it changes them.

Participant E reinforced the idea of authentic learning through the lens of learning spaces and discussed "the importance of place-based learning to drive meaningful learning outcomes" and added to the discussion saying:

> The power of place-based learning is that as a student, I see that my learning applies to where I am right now and how it impacts the world. And the standards then take hold, and they take hold in a way that doesn't capsulate the deeper learning. These authentic, physical spaces help create deeper levels of learning we want students to experience, to own in the world.

Participant H also connected the physical environment to the potential for creating authentic learning experiences and saw an increase in implementation efforts from both teachers and students when they were designing new experiences through dynamic learning spaces, sharing:

> Yeah, I think the way we've selected to operationalize the pedagogy behind authentic learning is through our STEAM [science, technology, engineering, arts, mathematics] programs. And so, what does that look like, looks like hands-on experiences, deep opportunities for communication and collaboration amongst students, for all students. And a lot of times this learning is out in the real world, and couple of years ago, we spent over a million dollars to get flexible seating furniture for every elementary classroom in the entire district. This idea of learning spaces, and well, it's kind of funny to say that we've led with the physical spaces to promote the possibility for a different type of instruction to take place.

Participant G added a new layer of understanding to the design of authentic learning experiences by saying, “deeper learning is about the learning application” and added, “often authentic learning is best shaped through problem-based, or design-based experiences.” This participant shared an example of a project that teachers and students were working on within the community saying, “well one of the projects is focused on all of the buildings downtown, that have become vacant. And, to stir the economy, could we incentivize our students to create and build a new business in those buildings?” Participant G connected this authentic learning to the needs that were taking place at that time and the idea that the students could make an impact through their learning, saying, “authentic work is meaningful work.” Participant G added a metaphor used to help people understand the difference between work that is authentic and work that is not:

> I actually talk a lot about throw-away work. Throw-away work is when I give you a worksheet, and then I grade it, and then we throw it away. And you didn’t use those skills as a body of knowledge to build anything from. We all know it's throw-away work. It's not valuable. How do we help students create work that they would never throw away? I think you start with authentic, personalized work, and you just keep building on it and adding to that body of knowledge. So, the question might be, what is the work that we provide, as a learning community, that no one wants to throw-away?

Participant F added to the discussion around student application saying, “authentic learning comes from what the learners are producing” and identified designing authentic learning experiences as the “pedagogical priority for the district.” All participants shared that the

implementation of deeper learning experiences must be connected to authentic, real-world opportunities and connected to the ongoing learning of students and adults.

Deeper Learning Competencies

The code of *Deeper Learning Competencies* provided the strongest connection associated with the theme *Designing Authentic Learning Experiences*. This code was also interconnected with the term *soft skills* and sometimes referred to as *personal excellence competencies* in several data points. Seven out of the eight participants prioritized the need for students to develop deeper learning competencies in more than one response throughout the interview. Participant C did not use the term *deeper learning competencies* within the interview. Participant H describes deeper learning competencies as:

> When I think about deeper learning, I think about the four C's. And in that is contained the competencies of communication, collaboration, critical thinking, creativity and we add flexibility as a part of ours as well. And so, I think about those, you know, some people call them soft skills, I actually think those are the skills of deeper learning. And, more importantly, I think those are the transformational skills or the transferable skills that students will take with them, hopefully beyond the core subject matter areas.

Participant F adds to the understanding of deeper learning competencies saying:

> Our lifelong learning standards are part of our strategic design and it's based on competencies and, in some ways, character traits. And it's, things such as, being a civic minded person, being a self-directed, lifelong learner, being a well-balanced person, being a person who sets personal goals and charts their progress and overcomes obstacles, being a person who never gives up on themselves and finds ways to, succeed.

> That person who's caring and compassionate, who's culturally aware, who's a responsible citizen on a global level. And those, competencies that we called out and defined, and are literally embedded in all of the deeper learning experiences in our learning communities.

Participant F expands on this definition by discussing the need for students to develop academic competencies as well, but also the non-traditional competencies every learner needs, and shared:

> I would say that one critical outcome for student success is that, deeper learning should advance or develop the competencies that every learner should have, that are needed, yes, the academic competencies, but also the personal excellence competencies that are needed for them to demonstrate their success and their preparedness. So, it could be things like math and language competencies, but also competencies about planning and organizing, and critical thinking, and communicating, and so forth. I think we do that by looking at traditional and non-traditional measures of success.

Participant A connected this code to additional themes and subthemes within the data and stressed the importance of "linking competencies to the real world and to potential jobs of the future in order to maximize potential for all students" adding that "until we make deeper learning competencies the center of our learning programs, and not the side dish, we won't see the change in our state systems, that really, is what's need most." Participant G also highlighted deeper learning competencies as a priority but built on the need for implementing these competencies with adults and students in each learning community, sharing that, "communication and collaboration are at the center of everything we do." Participant G went on to discuss the integration of professional learning opportunities for staff in alignment with student learning

goals and shared, “deeper learning competencies are at the heart of authentic learning experiences for children, and this means, well, that we place it at the core of adult learning too.”

Participant D connected the work of a learning community to the purposeful efforts of growing competencies in students and educators within the community. Participant D also examined the connection between deeper learning competencies and “real-world success,” for the students and staff within the learning community, and noted:

> We have to figure out a better way to support educators to change as a part of this transition, because kids will go as far as teachers and educators allow them to. I've always said that adult learning is the big gatekeeper to how fast and how far we can move in deeper learning. It’s the adults in the system, because we can’t teach deeper learning competencies if we don’t practice them.

Within this subtheme, participants outlined the definitions of deeper learning competencies, connected them to the design of authentic learning experiences, and prioritized student and staff development as a way to move this work forward.

Globally Connected Learning Spaces

All of the participants within this study referred to technology as a tool to advance deeper learning but stressed that it was not a requirement for the development of deeper learning experiences. However, data revealed that the global connection provided by technology offers purposeful opportunities to extend communication and collaboration outside of the classroom was invaluable in many ways and critical to the future of deeper learning. Participant H described the strategic plan of prioritizing 21st century technology within the district, highlighting equity and access as a primary driver for change. The transition to globally

connected teaching and learning spaces and the current impact on learning was emphasized through this description:

> In the past, learning has typically been confined to the 960 square foot classroom, with an audience of one for the students, the teacher. But technology changes that dynamic and allows students to communicate and collaborate not only among themselves, but outside the walls of the classroom. And during this global pandemic we've seen the positive impact, those skills, and those technologies have really allowed education to continue, and honestly to thrive. Teachers and students are connecting and learning in dynamic ways, and connecting those new skills toward advancing deeper learning experiences.

Participant D extends this thinking and discusses the role of multiple mentors for teachers and students as a part of the learning design, sharing:

> The other thing technology does that accelerates deeper learning, is it creates the possibility for multiple mentors in the space, not just the teacher. I've seen some brilliant work where educators have other mentors, out there in the globe, that they can call in virtually, and connect through technology. This is powerful for students and teachers and this is how individuals perform their jobs in the real world, in every other industry.

Participant D also discussed globally connected learning spaces as a way to "close equity gaps" for students and "provide deep connections" that wouldn't normally exist, saying:

> I think that, for me, the most important element of technology is this, we are a global space, we are all interconnected, we must have broader experiences than just our own culture, from our own neighborhood, in our own community. We have to open up our physical spaces. So, I think it's important to note that technology is a connector. To the

> world, to each other. Yes, it is the connector and a dynamic communication tool, and in many ways, an equalizer, that's critical.

Participants also emphasized the global aspect of technology and its use in connecting teaching and learning to developments around the world. Participant B referenced the importance of understanding that many careers are now tied to global communications, saying "if we don't model the use of technology for learning and working, students will continue to see technology as a device, not as a tool for innovation." Participant E referred to "globally connected spaces" and reinforced the idea of "moving in and out of high-tech and low-tech learning options." Participant E also discussed the importance of "integrating global learning experiences" to "expand our understanding of the world and deepen learning within our communities," sharing this example of what it might look like:

> We partnered with a university, which allowed us to connect with Palmer Station in Antarctica. And our students were able to study the penguins down there and monitor their habits, their eating habits, they were able to identify specific species and gather data on them because of the use of cameras that were being streamed into the classroom. That same technology allowed the students to have conversations with the polar scientists. And, of course, unique to our situation was that our teacher ended up being selected to go study in Antarctica and was able to teach remotely to the students. And that is the power of technology, when it is used to open up the classroom in powerful ways.

Building on the use of technology as a tool to expand learning, the participants discussed the importance of accessing information at any time, from any location. Participant B shared that technology use was critical because it provided, "just-in-time information" and added that

"students have to expand their understanding of how we gather information." Participant C referred several times to this learning as "anytime-anywhere" learning and shared that "technology use in the classroom should look like it does in every other industry," adding:

> There's an essential purpose and technology is just a ubiquitous tool that allows us to create the conditions for students to access anywhere and anytime content. In many ways, technology can help close the equity gap, with the right training. Also, from the creation side, to produce, and create compelling media and resources, to persuade an audience that this is the right solution. And so, the way that every other industry uses technology, that is how we should be teaching our kids to use technology. And this happens in real projects, with real problems to solve, and authentic things happening around them.

Overall, participants agreed that technology itself is not required for the deeper learning experience, but Participant F reinforced, "It can be valuable, because for some learners, they actually can express themselves, or conduct the research, or engage in a cognitive demanding task via technology." Participants repeated many times that communication and collaboration were strengthened in globally connected learning spaces.

Align to the Future of Work

The code for this subtheme was interconnected in many ways throughout the study. Participants directly connected future work alignment to the mission and vision their learning communities represent and work toward each day. Participant B shared that "new technologies, such as augmented reality and artificial intelligence will shape the future of the workforce and modern industries." Participant B reinforced the "sense of urgency behind addressing racial inequities and training kids to develop human skills, such as flexibility and creativity to begin

solving some of our greatest challenges." All participants agreed that you could not have a community focused on deeper learning that was not aligned to the future of work and the future of humankind. Each participant provided unique connections to how this alignment plays out within their learning communities. Participant C shared a detailed plan for aligning student learning to the future of work:

> The World of Work focus starts with four components. First is career exposure, aligned to the future of work. And then career exploration, which is a hands-on set of pedagogical activities and simulations that kids do in class. So, after the kids have exposure and exploration, and simulate all the different careers, then they meet professionals who actually do those things. And then the final one is to practice, which is level four. And that's actually out in the field doing internships and work-based learning.

Participant F also agreed that "developing skills and pathways that lead to the future of work is the right investment at this time" and offered some thoughts related to student internships and workforce preparation, sharing:

> I think another pedagogical kind of approach, and this is really connected to the future of work, is it's just really creating opportunities for learning experiences outside the building, so to speak. And so, like in our continuation high school, 100% of our learners are on internships, every Tuesday and every Thursday, they are working alongside a banker, or working alongside a medical professional, and they essentially only came to school on Monday, Wednesday, Friday. And everything they do in school, is connected, often to their internship and to the future of work.

Participant E approached this discussion from the perspective of the future employer and the types of competencies, skills, and experiences they might value from employees. This was connected to the idea that "our workplaces and industries are changing a rapid rate." This reflection was followed by some questions and thoughts for consideration:

> What are the technology and communication skills that allow a student to present different types of information, to speak articulately, and demonstrate mastery? Those skills are connected to the future of work. And we can see artificial intelligence taking over more jobs, the jobs that use rote skills, right? And, we know that the call for soft skills, and human skills, and a deeper understanding, and being able to think critically, and to design systems is going to become more and more important to employers. We've got to connect learning to the work taking place within each industry.

Participant E expanded on this thinking and added additional questions and thoughts related to the work that teachers are preparing students for in deeper learning communities. When discussing employment opportunities, Participant E shared:

> They're not going to care about grades, right? But they will care about whether or not you can design a website, one that messages our mission and vision. Or the product that we're selling, can you advertise it? Can you design a unique user experience? Can you design the back end of a program that works on artificial intelligence? And will they understand the ethics behind the work, so if we're designing a search engine optimization for a particular group, are we embedding bias into that system that maintains systemic racism, or misogyny or something unjust, because we, as humans, bring that lens to our work.

Participant A also discusses “the purpose of schooling in the 21st century” and the importance of shaping mindsets and preparing students for the future they will experience after they graduate:

> And the reason this has become important for me, is we're preparing students for, you know, future jobs that they will have, that haven't been either invented yet or fully defined. And we know that factual information is readily available via a quick internet search. But if students have these deeper learning mindsets, and they can transfer those mindsets with them into the future, this is powerful, and I think those are the pieces that are far more important.

This idea of developing deeper learning mindsets was connected to both student learning and adult learning in terms of designing learning experiences and future pathways that will make a difference. Additionally, Participant H spoke about the importance of “using local labor market data for career and technical education programs” and “aligning STEAM programs to the jobs that will provide growth and opportunity in the future” adding:

> We have 41 career and technical education pathways across the district, and again, all rooted in the labor market surveys and analysis, aligned to future job pathways, jobs are that are available in close proximity to us. And I'll just close out by saying, I think the real-world experience for kids is, in a lot of ways, a game changer. By focusing on future competencies, I think this generation of students is actually more prepared to solve problems, and has the skill set to solve some of those intractable social challenges that my generation has failed to solve.

Participant H provided considerable data related to this code and stressed the importance of education leaders understanding the power of workforce alignment, sharing “this is not just

about CTE [Career Technical Education] pathways, but more importantly about doing the right thing for our students, and this starts with deep reflection within every learning community." Participant H described the "tension between compliance and innovation" and the concerns people have about "walking that fine line." At the end of the discussion, it was noted:

> I do think as educators, we have a responsibility to have some sort of accountability to the public we serve. But at the same time, we have to prepare students for the jobs of the future, we have to be forward looking. And even if we don't know exactly what the future looks like, when we phrase it with intention, and say things like, our current kindergarteners are the graduating class of 2034. That gives people a different window into the challenges that we're facing. We have to be able to, in some ways, predict what our students are going to need in their future, and chart a course in the right direction.

Overall, participants stressed the importance of realigning educational systems to the future of work and creating meaningful opportunities for students to experience learning in the same structure and format as an actual workplace within local and global industries.

Redefine Student Success

Consistent throughout the data, was an expressed need for the field of education to reexamine the way schools define and measure student success. Participants discussed the rationale behind shifting systems of assessment and accountability and viewed this priority as a prerequisite to equitable transformation in P-12 schools. Participant B called for people to "stop racing so quickly toward this fabricated finish line, so much that we fail to reflect on what it is that we are preparing students for." In terms of new approaches in the last decade, Participant D recognized that "some state leaders and policymakers have taken small steps in recent years to

begin looking at new models of assessment," but conveyed that "these small increments are really just the beginning of this conversation, a much-needed conversation around a broader and urgent topic, a call to transform teaching and learning in the 21st century."

Extending on this line of thinking, Participant H shared that this topic is one of those "deeply rooted things that we have to work with in education that goes back all the way to the *Committee of 10* and has been with us since the late 1800s" recognizing that education systems in the early years needed to educate mass numbers of people in basic education skills but now schools are "stuck in old models." Participant H argued that, "we need to break out of assessing only traditional subject matter areas, because the summative state assessments are based on a student's proficiency in language arts and mathematics" and added "until we really, at scale, figure out how to break out of that mold, it's going to continue to hold us back, unfortunately." Participant H expanded on the idea of state assessments and broadened the definition of student success:

> Because statewide summative assessments and all of these different accountability tools, ultimately have a pretty narrow definition of what student success looks like. They're pretty one dimensional. And there's a growing conversation out there within political realms about what would it look like if we expanded that definition of student success to include things like, you know, social emotional learning, emotional intelligence, deeper learning. For kids that may not be great test takers, but are brilliant in terms of problem solving, working with their hands, figuring things out, this really matters. And it's very hard to assess those types of skills on a traditional assessment.

The idea of redefining student success included data about the way that "educators and parents view student achievement through the lens of inadequate measures." Participant G shared "many schools are still preparing for positive gains on standard assessments, and in turn failing to see how students were making positive gains in areas of personalized learning." All of the participants shared concerns that education systems are falling short on their promise to prepare kids for the future and Participant E added that "the way students are currently assessed is a root cause of failed innovation" saying:

> We have a system and a structure in place where educators and parents look at statewide testing results. These are mostly exams that are taken on 1-2 days in a given year. And we also know that teachers and a lot of administrators really push back on that as being a true assessment of deeper learning that happens in our learning communities. So that really is a question that asks, at a higher level, how do we solve this problem, right, we currently live and work in a system that does not have a defined structure to really measure deeper learning outcomes.

Participant E also acknowledged that "local assessments exist and give teachers an understanding of how students are making progress" and "these tools and assessments help inform teaching and learning at the local level, but more needs to be done to build a comprehensive approach to support the transformation that is required." Participant A shared similar concerns and called for "state policymakers to have conversations with local education leaders to create new models of assessment and state monitoring structures." Participant A acknowledged that "large-scale change will not occur if schools and districts are stuck in outdated accountability structures" and added this explanation:

> I'm not a believer in standardized measures. I'm a believer in a set of competencies and the certifications that students earn, the career endorsements that students earn, the successful interdisciplinary experiences that students have…. if we were measuring what really matters at the end of the day, it's how is your child doing as a result of what we did? How did we take your child and change their trajectory and help them get where they needed to be?

All of the participants expressed a need to identify relevant skills and assessment structures to improve student learning outcomes. Participant C connected this idea to "ensuring future pathways and economic mobility for all students" emphasizing that "ultimately, we all focus on what we measure." In closing the interview, Participant H addressed an underlying concern regarding how education systems have previously defined student success, saying "we need to be willing to step out and try some different approaches to learning, because, here's the other thing…there's a dirty little secret, what we've been doing for the last 50 years, hasn't been working so well." In all eight interviews, participants shared that redefining student success was a key factor for moving systems in the right direction and an urgent need at the policy level.

Measure Skills and Competencies

Conversations around defining student success included a focus on measuring deeper learning competencies and the development of lifelong learning skills. These were the skills that Participant A shared "mattered most in a child's trajectory…and could be attributed to strong outcomes in other areas of the curriculum and life." Participants discussed a transition to competency-based assessments that promoted a continuum of personalized learning goals for each student. In each interview, participants shared examples and options for consideration that

provided students, teachers, and parents with rich feedback on the development and mastery of deeper learning competencies over time.

Participant B shared, “Teachers are measuring student success through rubrics, both a self-reflection component and a teacher reflection component, and then also measuring long term progress through learning portfolios.” These options “allowed for ongoing formative progress checks” and were seen as “the indicators that were most likely to result in student success and confidence.” Participant F reinforced that “academic skills mattered and that they were included as part of the assessment” and shared:

> But as important as that is, we want to know if students are actually becoming competent in our Lifelong Learning Standards. And we can measure that too, because we can actually see their behaviors and what they're engaging in, what they're doing in the learning environment, how they are growing and most importantly, what they're producing. When you see a student present an idea or project, or defend a position related to an argument…these things can be measured and sometimes matter the most to their overall success.

Participant G asked, “How do we know what competencies students have developed and how they might apply them in school and life?” The development of deeper learning competencies through portfolios and internship models aligned to the district-wide model for student success. Participant G explained:

> We’re working on an accountability model now that would match our directional system, that has goals and measures in it…and we keep the focus on the deeper learning experiences and what internships did the student complete. Teachers asked, what does a

> rich portfolio of artifacts look like, of a student who is successful with communicating, collaborating with others, and applying creativity and critical thinking skills? So, we're expanding on student portfolios and how that might look different. Not just their transcript, but what will they offer the world?

Participants reinforced the idea of integrating new models of assessment within current systems to help transition students, teachers, and parents to new ways of thinking. Participant H discussed the difference in some of the new forms of measurement and expressed excitement about partnerships with outside agencies in developing deeper learning models, saying:

> We're partnering with innovative networks to capture best practices, there are rubrics available, that help define what creativity should look like, in a third grader, this is what critical thinking might look like in a sixth grader, these are some indicators of strong communication skills. There's the mastery transcript consortium, which I'm very interested in, they're doing a lot of amazing work around creating transcripts that do not show grades, or GPAs. They just demonstrate the competencies that the student should have mastered and how they mastered them. And by the way, here's the evidence to support the mastery of that work.

Other participants also discussed working with professional learning networks to develop and share promising practices in rubric-based methods and looked at the potential of accelerating student growth in competencies besides core academics. Participant D emphasized the need for "educators to come together to calibrate rubric implementation" and to "use rubrics to assess oral presentation skills." This process was seen as a "more rigorous measure of writing and communication abilities" by the teachers who implemented this strategy consistently for more

than one year. Participant D reflected on the idea of "measuring what matters through daily experiences and ongoing projects," and shared:

> It's important to look at the skills we all need to be successful in life each day, and then, well we can ask, how might we measure that. So, if you want to know how kids are processing information, how kids are creating, how kids are communicating and collaborating, we have to look at the way they approach a project or task and what they produce as a final product. And, also how it's driving them to actually become leaders in their own right, based upon everything that they're learning at school. These are experiences that help shape who they are, and we can track that development.

All participants saw the need for self-reflection to be integrated as a part of a formal assessment timeline. Participant D saw this as "an opportunity to identify strengths and essential skills" and said "we've got to get past viewing learning as a pass or fail option." Within this subtheme, participants expressed the need to transition away from conventional grading practices and create tools and resources to measure deeper learning outcomes and learner impact.

Monitor Growth and Impact

Monitoring student growth and impact on the world was strongly associated with the priority of redefining student success. While participants overwhelmingly believed that measuring competencies and skills was critical to the future success of all students, they also agreed that success was best measured by looking at growth over time and the overall impact of the work the students were producing. Participant B shared a story where a teacher used checklists and rubrics each day in class to help students track their own progress over time. In

this model, “every student reported feeling more successful, attendance increased and not a single student received a failing grade in the class.”

This model was scaled across the district and parents reported that students demonstrated improved attitudes toward learning and achievement. Participant G built on the idea of growth and shared that “skills and competencies should be formally outlined and identified with goals and success indicators.” This was seen as a “gold standard for learning” within their project-based model.

Participants also stressed the need to understand student growth measures and integrate options for performance metrics that were not based on standardized assessment results. Participant C discussed “the importance of using formative measures beyond test scores” and shared some of the ways the district was changing the way they looked at student success:

> There are some computer adaptive tools that have gotten better, that help students really own their own data and track their own progress, but also gives the teacher and parents a snapshot of growth. So, here's where your child was at this point in time, here are the things they did about it, and here's how they've grown. So, showing a growth metric, which I hope our state gets to at some point.

All participants agreed that students should have an opportunity to track their own growth through multiple metrics related to academics and performance. Participant C added that “monitoring performance and growth must include some way of measuring the trajectory of student outcomes across their future pathways,” and added:

> And then the other thing we're doing related to measuring outcomes is with the World of Work, and we want to measure the efficacy of that initiative and redefine student success.

> And so, we're measuring possible future selves, which is in the career development industry is standardized language, in terms of a person's ability to vividly imagine a possible career. Where they would be deeply engaged and articulate a path to get there. So, we can help students develop a vivid possible future self, and then give them the tools to start mapping out plans on how to achieve that.

Participant A reinforced the idea of "helping a student see a pathway toward their future and aligning learning systems within each step of the process" and shared:

> To identify potential pathways, we need to see what students respond to. So, the deepest design from an equity standpoint, from an engagement standpoint, is figuring out what every student loves to do, what they are good at, what they are passionate about. Now figuring out how those skills and deeper learning competencies intersect with the real world and then we are going to intersect that potential with an ecosystem of possible careers. Then we get each student out into the field with nearly 700 business partners to provoke that response. That's what we need to measure for every student, their growth potential, and then hold our systems accountable.

Some of the most passionate responses recorded from study participants came from their intense belief that a student's work in deeper learning should demonstrate some type of local, or global impact as a result of the learning. Participant E offered:

> Measuring future pathways pushes outside of the boundaries of our current structures, and, begs the question, how do we measure a student's ability to get into college, or a career of their choice. This comes down to the impact they want to have on the world and what kinds of problems they feel compelled to solve. So, if we really want to measure

> authentic learning, the mastery of deeper learning skills, well, we need to give students real problems to solve, and then connect that learning to the future of work.

Similarly, Participant F discussed "formal outcomes that really demonstrate student's success with deeper learning and spoke about current projects in the work that the learners are engaged in and delivering." The district found that these projects "provided a benefit to the community, or to the region or to the state of the world, and just had some level of larger impact beyond just an assignment" Participant F added that "it was through these projects that students created something really meaningful to their family, or to their community, or beyond." Overall, this participant felt that these were the learning and growth goals that teachers and students felt mattered most and that ultimately should be measured. Participant F also emphasized the importance of understanding future impact:

> And mostly, we look at what's happening to our learners when they leave our system. That's our measure of success. And so, are they going to college? Are they engaging in a successful career? Are they moving into some worthwhile opportunity that may not be college or career, yet it might be something else entirely, it might be joining the Peace Corps, and so, do our learners have a plan and a path after they leave our system?

All of the participants included within the study emphasized the need for schools to reevaluate current practices related to student success. Participant A connected this priority to the intentional design of deeper learning communities and the ultimate definition of success when students exit school systems, and shared "if they don't see value in the work they did, and they don't understand the role they can play in the world, I mean really understand the impact, then we have failed them through the design of our programs." Overall, participants consistently

repeated the need for educational programs to generate excitement and passion for learning. Throughout this theme, all eight participants linked the idea of connecting authentic learner engagement to successful student outcomes in school and life.

Research question two produced a total of three main categories along with seven related subcategories. Within this section the subcategories are clustered in relation to significance, relevance, and frequency to develop and organize core themes and subthemes. Each of the core themes appeared in all eight interviews at least once, with a total frequency range of 25-27. The three codes producing the main core themes for research question one include: *Engage the Community*, *Create a Learning Ecosystem*, and *Reframe Complex Systems*. Additionally, a selected group of seven codes appeared consistently and repeatedly with a total frequency range of 13-18 producing the subcategories aligned to each core theme. The seven codes producing the related subthemes include: *Plan for the Future, Develop Human Capacity, Lower the Cost of Failure, Shape Mindsets and Mental Models, Develop a Unifying Framework, Reflection and Feedback Loop, Show and Tell.* Table 3 provides a summary of codes that emerged in alignment with the participants' description of the *leadership practices* involved in preparing students, educators and communities for system redesign. The codes are presented in order of frequency and represented in context with the second research question investigated.

Table 3

Summary of Codes for Leadership Practices to Support the Transition of Deeper Learning

Research Question	Codes	Frequency

RQ2: What are the leadership practices involved in preparing students, educators, and communities for system redesign?	Engage the community	27
	Create a learning ecosystem	26
	Reframe complex systems	25
	Plan for the future	18
	Develop human capacity	17
	Lower the cost of failure	16
	Shape mindsets and mental models	15
	Develop a unifying framework	15
	Reflection and feedback loop	14
	Show and tell	13

The following pages present the findings from each of the core themes. The subthemes are organized by significance and relevance and are included with each core theme. All themes and subthemes include detailed descriptions with data gathered from the participants. Individual textural-structural descriptions are provided to capture the meaning and essence of each participant experience, in addition to composite descriptions representing the meaning of the group as a whole.

Engage the Community

The study participants were asked six questions in relation to the leadership practices involved in transitioning school and district communities to systems of deeper learning. Each of the eight superintendents described the practice of engaging the community in the design of the system transformation multiple times in connection with one or more subthemes. Participants also referred to engaging the community as *building a coalition*. Participant F referred to it as "the making of a movement" and added "a superintendent's role is elevating the aspirations of the community to lead collective change." All of the participants described this core theme as a vital leadership practice and saw this as the first step in system transformation. Participant B

identified this theme as the focus of the work, and added “This work is about building collective vision, shaping a really strong coalition of people who will champion for children no matter what, and who will take the time to know them and do what’s right by them.” When describing the role of the superintendent in this process, Participant B shared:

> This work is complex, and it's about listening. It's about understanding the community, about engaging people in the story of the community, it is about tapping into the resources that already exist, and elevating people and giving them opportunity to raise their voice. It really is relationship building and growing a community of learners aligned to a vision for student success.

Other participants identified relationship building as central to the practice of engaging the community. Participant C called this a central part of the daily work and noted the importance of “building relationships beyond just the immediate people that you work with, but deep into the community” as a way to “move mountains” saying:

> When I first got hired here, I learned not just about my board members, but who do they consider their constituents, and who was important to them in terms of their own return on their stakeholders. There’s a level of trust before we have to make any decisions or ask anything of either party. And then also helping others to build relationships across areas of religion, and race, and political preference, has been something that takes a lot of time and I think most superintendents don't see that their job. And I don't see how we could have done some of this work without community trust.

Participant G also agreed that stakeholder voice was critical to the redesign of learning systems and stressed the importance of “empathy and reflection.” Within the learning community,

Participant G felt that “the most important thing you have to do is understand people, listen to their perspective, learn what it is they're trying to achieve” and then shared this reflection:

> I’ll often ask stakeholders, like what is it that's important to you and where are you trying to get to, and then they know that conversation is important. So, you start those conversations with what you believe is right and you tap into their story. Then we make decisions about learning. I talk about hopes and dreams a lot. I’ve never had a parent tell me, all I dream about for my child is they can pass the state test…their hopes and dreams run deeper than that. So, you listen with intention, and you channel those hopes and dreams to stimulate a message of unity, and then move people forward.

Listening was a common leadership practice associated within this theme as well as other subthemes. Another common practice within this theme was the idea of shaping *learning communities* by engaging stakeholders at every level of the organization. Participant F shared, “In our work, because in everything that we work to do, to engage everyone as a learning community, we try to take it to a systemic level,” and added, “the learning community collective built these systems through a collaborative approach to designing a shared vision.” In describing this process, Participant F stated that the conversations start with the leadership team and then transition to the board, further describing:

> In our school board, we have listed priorities, one of three priorities is our strategic design that is based on deeper learning. It’s literally at the school board level, called out as a priority. And I think that's essential for systemic change, because the bottom line is that it’s, that's one of the 10 or 12 things that I'm officially and formally evaluated on. How well I'm advancing that piece of the work. So, when the school board calls that out,

> it's critical, and because the work is happening at the learning community level, all of our schools are included, because our schools are learning communities.

The other element of systemic change that was noted by Participant F was "involving and engaging the voice of the learner…and making sure that the learner comes to give input…or holds us to a level of accountability for delivering the deeper learning experiences they desire."

Participant H also discussed the levels of engagement within the community as a part of a dynamic process to "build a coalition around the work." Speaking about engagement, it was noted that "discussions take place amongst our governance team, cabinet, leadership team and bargaining units about our portrait of a graduate" and shared that "in order to elevate the community in this work everyone must be included, this is a key part of the majority of our conversations that really have to do with teaching and learning." Participant H added that the team is "always circling back, the Board of Education has a document that details their priorities, their goals, and this deeper learning stuff is front and center on that on that document. And we keep circling back to that North Star every week." Participants anchored the work of transitioning school systems to the success of engaging the community in the vision and implementation of the work. All eight respondents stressed the need to connect this practice to the design for learning and future pathways for students, families and communities.

Develop a Unifying Framework

The practice of developing a unifying framework was another code that evoked a lot of passion from the participants as they responded to questions. All eight participants referenced this code more than once throughout the interview and it was strongly correlated with the theme

of engaging the community. Participant F shared that every learning community needed to begin with a collaborative strategic design and offered:

> This has to be a community driven strategic design. The Strategic Design defines why we exist. It defines the values that we embrace, that regard how we behave, it defines the beliefs and principles we have, and it defines our vision. And it defines the description of our graduate, what we are producing, our gift to the world. And so, that did not come from the superintendent, that did not come only from the school board, that did not come from any individual group, that came from the community, which includes all of us.

Participant F closed with, "so the community-driven Strategic Design is essential as a key framework for change." Participant B described the process of developing a shared framework and described how to set the foundation for this work, saying:

> Building a framework for this work, well, it took a lot of listening, a lot of conversations, a lot of storytelling, and a lot of asking, what would you do? What do we do well, and what would you do differently to make sure our children get what they need? So, we had to come to a lot of agreements about pedagogy and shifting mindsets…and we created lots of shared communications, opportunities to highlight successes within the framework, and we were paving the way with stories, and well, successful experiences.

Participant G described the creation of a directional system that served as the unifying framework for the learning community and shared that "within the community people know the images of the directional system and what the images mean for deeper learning" adding:

> In our community, we have a Directional System…it guides us toward the future we're trying to create for every child. Our Directional System includes our three elements of

> what we believe and how we prioritize our work for our learners. And so, you'll see this image on poster board, you'll see it on flyers, you'll see it everywhere.

Participant H referred to the concept of a Portrait of a Graduate as the written framework the learning community used to guide the work of a shared vision, and explained.

> And so that's how we would define what we're trying to do in the in the school district…but I think more importantly, this visual framework means something, certainly to our educators and administrators, but also our support staff, our community members and our parents. And so, when we talk about these kind of deeper learning mindsets, this model of our Portrait of a Graduate I think, really helps people visually, understand the importance of what it is we're trying to deliver for our kids.

Participant H also shared that "this framework was a game-changer" and described the process as "an opportunity to start a conversation around what skills and competencies were most important and that we could all agree on that all students should leave our system with after 13 years." Participant H added, "when a team agrees that this is the experience we want to provide, well that's powerful…and a unifying force."

Participant F talked about what the district might do differently related to creating a unifying framework now that they had experienced this phenomenon, and reflected:

> And if I could go back and like, even redesign our system, I would make those Lifelong Learning Standards, the framework that holds our work together, that would be the core curriculum before anything else, that would be the most important thing…and we've discovered that when you have those core competencies, then you can actually access the deeper learning and you can access the academic content. But when you don't have those

> things, you might be academic, be very advanced in mathematics, but you're not a caring, compassionate human being. Well, that's not good. You might be a wonderful writer and very advanced in your literacy skills and so forth, but you're not culturally aware or culturally sensitive person, that's not okay.

Participant F closed by linking this practice to values and priorities, saying "that's what our Lifelong Learning Standards did for us…now we prioritize what we value most." Creating a unifying framework was "the glue that holds it all together" for Participant F. All participants agreed that this practice was central to the daily mission of a learning community.

Show and Tell

The subtheme of *Show and Tell* was strongly integrated within the theme of engaging the community. Participants described the idea of demonstrating what deeper learning looks like and telling the story of its purpose and potential. While participants overwhelmingly believed that the work began with engaging the community through relationships, dialogue and creating a unifying framework, they also saw the show and tell strategy as critical to the success of the deeper learning initiative. Participant G offered:

> With this type of transformational work, you have to start with the why, and stay with the why, all the time, every time you present, every time you talk about learning, every time you're trying to motivate a group. Leaders have to say why we are doing this and stay true to that. You have to visit your purpose over and over again. And on the other side, you have to show people what this work looks like. People need to see it in action. So, we call it show and tell. We're going to show everyone what it looks like and continue to tell the story across the community, until no one is left out.

Participant H also described the process of showing people the work and called it “the essence of the being-there experience” reinforcing the need to help people see what innovative work can look like. Describing the leadership practice, Participant H said:

> I've tried to do this over the years. I do think it takes time, but there are probably a couple of critical things that have helped make this transformation possible. And one of the things we were blessed to start doing, is we started taking people to Google. We took principals, teachers, students, parents, so they could actually see what a bonafide 21st century working environment looked like. And when people can actually see what this work looks like and how people organize themselves around the work, it's so transformational, because it's hard for you to do, what you can't see.

Participant B consistently referred to the show and tell strategy as the “art of framing our work” and noted that people “are drawn to positive interactions they can experience in real environments.” Within the district it was noted that “telling the story” was part of learning:

> And as we learn, we're going to frame it so that people understand, that there is an art in framing our work, telling our story. I worked really hard, helping them understand how it was all connected all the time, always connected. And that's huge for people, you know, when we frame a theory of action, and always tell the story of our work, these systems and structures, well, there is power in these types of leadership practices.

Participant D spoke about culture and the opportunity to symbolize change through this strategy. This description added to “the idea of symbolic, culture shifting approaches,” saying:

> You’ve got to tell those stories in a way that doesn't put others off, like, oh, look at them shining the light on those really amazing educators at that particular school. But it's the

> telling of the story. A strategy that I used was that I would visit schools every Wednesday, and at the end of every visit I would do a less than one minute video of how I saw aspects of our strategic design, alive and well in this school. And I would just tell one story. And that would go up on a special page on our website, and people kept asking for these stories, and I could get thousands and thousands of hits on them, because I was just basically telling a story, but it mattered to the community.

Participant D emphasized the need to have everyone in the community learn how to tell the story of the unifying framework, and shared:

> And then my invitation to the principals is, when you're walking your halls and your classrooms, teachers when you're working with your grade partner, or your department teammate, talk about how you're employing one thing today that's trying to move towards this implementation of deeper learning.

Participant D described this strategy as "simple, and easy to do, because we all carry some kind of phone in our pocket, easy to send, tweet, Facebook, or put on a web page. And it captured what we were committed to do." Participant H agreed with Participant D regarding the efforts to motivate people and move this work through social media emphasizing:

> The last thing I'll say on this in terms of moving this transformation ahead is, motivate don't mandate. And so early on, I was carrying around, they don't even make them anymore, those little flip cameras. And I would go do visits at schools. And anytime I saw something I was really excited about, I would film it. And then I would go back, dump it into iMovie and give that movie to the principals and say show this to your

> teachers at your next staff meeting. These are the things that I saw, evidence to support deeper learning, that I was super excited about.

Participant H stressed the importance of "constantly reinforcing that culture of innovation and telling the story through social media" as a way to "show people what matters." This subtheme was described as a practical strategy throughout the interviews and participants expressed that the practice of show and tell encouraged a joy for learning and highly motivated all stakeholders to lead this work through their own interests and passions.

Create a Learning Ecosystem

Within the study, participants continuously referred to their organization as a learning ecosystem. This code appeared in all eight interviews along with similar phrases such as, *community of learners* and *deeper learning ecosystem*. Participant B shared, "we all learn together around this common purpose, students and adults" and provided an example of "small groups of learners, maybe a grade level, or a department team, that bring forward their knowledge and shared experiences forward to the learning community." Participant A talked about "a community where everyone is a learner" and referred to "subtle shifts within the learning that keep taking us closer to our overall goal." Describing the commitment to deeper learning Participant A offered, "what you do is you commit to the full ecosystem of possibilities within that concept" and provided this example of bringing people together:

> Now we've built this learning bridge, where it isn't union framed, or administration framed, it's a partnership framed, learning framed, ecosystem approach. And it's more nuanced. And it's framed within a construct that is about improving and solving challenges together. Just like the frame for student learning. That is a real symbol. It's this

> network support system that we've built, where you're not an isolated practitioner, you're part of a network, you know, within the ecosystem.

Participant D reinforced the idea of an "ecosystem of learners working collaboratively" and added, "So we've got our plan, we build support for our plan in terms of our own learning, and everyone knows that learning is the priority." Participant E discussed growing teacher agency by "creating a learning ecosystem," and shared:

> Growing the capacity of the adults within the system is a priority. And, of course this includes our teachers, but it really spills over into the classified staff also, it includes learning for our parents, and it spills over into other organizations within the community, because in presenting a topic, that is learner driven, right, and administrator supported, it has momentum, and a lot of people learn that way.

Participant F reinforced the idea of "the learning ecosystem being connected to the unified framework created by the community," and explained:

> Our Lifelong Learning Standards is one kind of thing we do that's unique, but then what you do is you is, you define them, you make them clear, we have a clear progression of learning around those standards, as a community. So, you put them into progressions of learning, and you build them into your learning ecosystem.

Participant G added to the discussion about the impact of the unifying framework and emphasized "the importance of providing professional learning for children and adults around the North star identified by the community," saying:

> So, you have to have a variety of ways to provide professional learning for children and adults…you can't change the learning system for the students and not change the learning

> system for the teachers. You can't expect teachers to teach one way and you model something different.

This was a key feature of the learning ecosystem within the district and this work revolved around creating opportunities for "shared learning experiences." Participant G connected this to the show and tell subtheme, adding:

> The number one way a lot of folks get a deeper meaning, I call them go-and-sees. It's important to provide people with a lot of opportunities, go see the learning, to understand the human experiences that take place within deeper learning, so open all the doors and we can learn from each other."

Participant H built on this idea of "creating an ecosystem of shared learning" and "finding educators who are willing to follow their passion…and challenge the system to improve our practices." Participant H stressed the importance of "embracing a culture where people feel empowered to have the conversations around changing things" and reinforced:

> We've got teachers who have come up with some amazing ways to serve students. I've always felt like it's my job to then capture what they're doing, create a prototype and see if we can scale it across the district. And that's been something that I've been trying to do for a lot of years, create this community of learners. I think when you are a healthy organization, it means you're a listening and learning organization. And if you're going to be a listening, learning organization, you have to have the systems and structures in place that allow stakeholders to hear what principals need to liberate their teachers, in other words, free them from the things that are getting in the way of teaching and learning.

For Participant C, learning ecosystems included the idea that "information changes at a rapid pace and learning communities must find a way to evolve and stay agile and keep learning." Each participant described the learning ecosystem with subtle differences, but all participants agreed that this was a key leadership practice for system transformation.

Lower the Cost of Failure

The study participants were also consistent in discussing the relationship between failure and learning. Throughout the study, participants discussed the need to "lower the cost of failure" in order to achieve a meaningful transition to deeper learning. Participant A shared that "this was the most important variable to isolate in our efforts to transform learning communities through deeper learning" and shared:

> We're wired to solve problems, and we're wired to continue to learn. And if we will lower the cost of failure in schools, we will actually find that we promote learning in general, for adults and students, which is how you get to a deeper, more authentic level of learning. You can't do deeper learning if you're not doing learning. It starts with just the constructs of what really engenders a learning environment. And so, a lot of my thinking has just been informed by what actually works, what the science says.

Participant A provided an example of why failure is so important in learning and how we might utilize this information in schools, saying:

> If your brain sees something, you automatically, even at the subconscious level, try to solve that puzzle. And it's why kids will play video games for hours on end and not stop. Because the brain wants to solve that puzzle. As long as the cost of failure is low, your brain will continue to try to solve that puzzle. But what we do in schools, is we do the

> very thing that inhibits that deeper learning, we introduce punishment for being wrong. And so, what does that look like? Well, it's when we introduce grading systems and failures and labels and things like that. So, if we thought about this design, for deeper learning in schools, we would think about how people actually learn, and follow that.

Participant B referred to "celebrating failure as the messiness that is inherently human" and referred to lowering the cost of failure as "one practice we cannot let go of," and shared that it all comes down to:

> Really having adults and students valuing their own growth within deeper learning competencies, their ability to not be perfect and to be willing to redesign past models. And understand the dynamic nature of being an amazing, effective educator. Then in turn, we are positioned to value these same skills in children. And so, we really spent lots of time helping the adults see that they are the models for the same processes and practices that we need to have in place for children. And it's ok to experience failure. And we're here to help you, walking and learning together.

Participant D also connected this idea to students and adults and asked, "How do we help students, and adults for that matter, understand that we learn from failure?" This question was described as "the entry point for transformation and change" and Participant D added:

> To me, the design of the learning experience is the most important criteria for engaging in deeper learning. How often do kids get a question that has one answer? And then they get it right, or they get it wrong. And I've never understood it. And, to make this change, I think we're navigating externally people's own perspective of what schooling is. And I think we are navigating internally, people's fears about, I don't know if I know how to do

> this, I don't want to make a mistake, I want to be an effective educator, and I want to be sure my kids are prepared for the next step.

Participant G shared that "sometimes the main challenge is that people might feel like they are afraid to fail." In this context, the idea of failure was connected to empowering teachers and "creating a space where they feel free to take risks…so teachers won't be judged harshly." Participant G added, "And well, we have to give some professionalism back to teachers, because we're trying to change our systems and we don't allow the real deep conversations to occur." Participant H talked about building "a culture where people are willing to try something different and know that they aren't going to be punished for it" and followed up with this response:

> And how do you do that? You model that for people. Again, this is about people, and so you admit it when things don't go well. I think that's another part of it. And you try and shift people's thinking around failure, this is key, because I think we've all been socialized as educators that we don't do well, with failure, we want to get it perfect on the first try.

Participant H added, "And that's something we can learn from our engineers and our design thinkers, that, you know, failure is just another data point, and how do we fail forward and embrace that concept." The subtheme of lowering the cost of failure was seen as a way to "accelerate the transformation to deeper learning" and also "repair the harm created by harsh accountability models of the past." All participants agreed that by lowering the cost of failure, learning communities would create human beings ready for all of life's challenging moments.

Develop Human Capacity

Throughout the theme of *Creating a Learning Ecosystem* a subtheme of developing human capacity was reinforced by the participants. Each participant believed that "empowering learners" and "nurturing human talent" was an important leadership practice within a deeper learning community. Participant A discussed the importance of building the conditions for this work, saying, "you've got to create an organization that has the capacity to learn at an organizational level" and added:

> The other thing that I've tried to do, to really care about, is empowering teachers, empowering learners. So, from a design thinking standpoint, it was the thing that I learned about our cooperative learning teachers, which is, whoever's using the strategy, those are the people who are ready to lead it. What if you took a learning idea to scale, and you try to create a model where every teacher is empowered to be a leader at some level? That's internal capacity building. So, take that idea, and duplicate it with the kids.

The idea about internal capacity building was connected to creating authentic learning teams and Participant A reinforced the need to "co-construct learning activities" as part of this approach.

Participant B saw "opportunity" and "talent development" as a priority for growing the capacity of deeper learning and shared:

> Learning communities must provide opportunity and an expectation that the adults who are responsible for facilitating the learning and leading the work are upskilled, they have the capacity to lead the work. So consequently, we have a responsibility to the educators, to position them, so that they not only understand what deeper learning is, but also what are those competencies, skill sets that are needed in order for them to lead and to facilitate the learning.

Participant C added to the idea of "growing the expertise within the staff to lead this work with a focus on the district vision and mission," sharing:

> Our staff has expertise in work development, and employee engagement and performance metrics, so using strengths and interests, and values, and different types of assessments has really changed the way people see themselves and the way they see their colleagues. And so, it's given us permission to not be good at everything, but to understand our strengths and to find that place in the organization to best apply them.

Participant C discussed that this focus has "changed the way educators communicate with each other" and described "a balance of validating, coaching, and rewarding strengths and positivity…and supporting the capacity building of all employees."

Participant D connected this subtheme to other themes and subthemes within the study as the "element that ties it all together" saying, "We've got to create an internal ecosystem of learning, where we all learn from each other and leaders at every level model the way… and we've got to accelerate human capacity for change within the system." Participant F examined the relationship between learning and coaching, and shared:

> In developing capacity, each lead learner actually learns, and they become certified in how to coach, and how to provide feedback, and how to create a cycle of continuous improvement for the learning facilitators. And then, our learning facilitators get a micro credential focused on what learners produce. So, it's really, about the pedagogical approach to capacity building, is about developing the competence of people at those core levels of the organization.

Participant F connected this subtheme back to the purpose of deeper learning and preparing students for the future, and provided this example:

> When I think about the types of people that we really are responsible for developing, we think of our graduates as our gift to the world. And, well they don't just need average experiences within our system. They need to be incredible human beings, who are hardworking, and globally responsible, you know, so on all of those Lifelong Learning Standards we need adults who can lead this work and model the way for our scholars. And, we've got to develop the human capacity within the system to serve in this role, but this happens through really looking at deeper learning experiences that are relevant to making the world a better place.

Overall, developing human capacity was seen as a core component of every learning ecosystem.

Reflection and Feedback Loop

The subtheme of feedback and reflection also appeared consistently within the theme of creating a learning ecosystem. Participants also saw this leadership practice as central to the growth and development of students and adults. Participant A referenced the need to "create reflection and feedback loops throughout the system" and "maintain the practice as a long-term strategy." Participant B shared that "the most important tool within a learning ecosystem was the implementation of feedback loops within learning cycles" and elaborated by saying:

> Maybe there's always something, through feedback, that we can investigate, and learn. To me, one piece of true deeper learning is to circle back, and think, and to continue to circle back, and to be able to say, well, this is some of the feedback we got. Are we missing

> anything? How can we do it differently? Assuming we need to? And then how do we still create collaborative solutions, and solution focused work?

Participant D felt that “reflection is a missed art” and discussed “the way organizations build capacity, and learn how to grow and learn.” The idea of feedback and reflection was connected to continuous improvement and deeper learning within the classroom, saying:

> We're not doing it enough, I don't think, which really allows us to think about what just happened. What did we learn? How did we apply the learning? What were the results? And what are we going to do now based upon what it is that we've just learned? So that there's also a cyclical nature to things. It goes with feedback, feedback and reflection. This is true for adults and students. It's not just I just finished the next unit. Now we're moving on to the next one. No, it doesn't work like that, in my experience, not within authentic learning communities.

Participant D connected this line of thinking to the learning that takes place in the classroom:

> I pay a lot of attention to the kind of feedback that educators provide kids, I want to hear rich feedback, I want to hear feedback that speaks to the success criteria that had been developed as a team, I want to hear really concrete ways in which educators are helping kids get to the next place and space on their trajectory. So, feedback, to me, is one of the most underutilized instructional strategies that happens in deeper learning environments, and I don't understand why. This is how we all learn, as a community.

Participant E expanded on reflection “as a way to improve classroom learning for students and teachers…and as a way to make learning meaningful,” offering:

> When we're applying our own learning, that drives us to synthesis and deep reflection. So, we have to help students see that learning includes reflection, that's where the learning takes hold, and it takes root and it lasts a lifetime. Students can assess their own learning through reflection. And teachers can model this too. And really, those are those moments that students can look back on to talk about, remember when we learned that in the fifth grade, even though they're 45 years old now.

Participant E expanded on this idea saying that "students and teachers can learn from each other in feedback loops within the classroom" and added, "we want to see that people can apply this learning in new ways, that starts with reflection and using feedback to make improvements." Participant G also agreed that the feedback process was an ongoing cycle, and shared:

> I would say that the thing that we aren't there yet, which I envision getting there at some point, the ultimate lifelong learning is not about a score, it's not like okay, you checked off the boxes. It's actually about feedback. And what feedback tools do you have and how are you sustaining that journey? Because you know, we're actually never there, we are always learning and growing, developing our skills. And, so it's not so much you check off the box, but it's more of a feedback process that never ends.

All participants advocated for integrated reflection and meaningful feedback for students and adults. This reflective cycle was viewed as a co-learning model.

Reframe Complex Systems

As a culminating theme within the study, participants emphasized the role of the leader as someone who worked to address complexities within the system and reframe the vision and purpose of educating children in the 21st century. Study participants recognized that efforts were

underway in many areas of the country to begin this work and Participant H commended "colleagues who were making progress on shaping schools of the future." However, each of the participants agreed that we are at the beginning of this transition and Participant A shared that superintendents who are leading this work are "constantly working to mitigate challenges within the education system to do the work that matters most for kids and teachers." Both of these participants advocated for a deep design process that "elevated the voice of the community" in reframing complex systems. Participant A shared:

> We have to include stakeholders in the vision for redesigning the system. This work is complex, and so I had to really reframe and communicate that thinking, because I was committed to this concept of being a learning ecosystem. And that's the brain metaphor that I started with. Well, in order to do that, you've got to have some common language, some common norms, some common practices, some common learning routines, and some common expectations. But you also have to have a vision for what it might be in the future. That's the vision that each community shares and builds from.

Participant B agreed that "this work is complex, and it's about listening first, and then engaging in the work." This participant prioritized "understanding the community and tapping into resources that already exist" as a way to begin the process. Participant B also discussed "growing continuity within the system to establish common values and norms" and shared:

> You have to be, what I call, quick but not in a hurry. Be quick about what you stand for and steadfast in working toward the main goals. Every learning community needs to know what they value most and then create a structure around the priorities within the system. Sometimes this work takes place through protocols and practices that are

> replicated throughout the system, and communicating the priorities, and providing shared experiences around the message. No matter what, I think you have to take people with you, systems work is about bringing people together, assessing the current reality and comparing that to the vision of where you want to go. Then you can begin to plan.

Participant F connected this idea with "the need to create a unifying framework" and emphasized that this work begins when communities engage in "reframing systems through a collaborative design." Participant F provided this example:

> We live and work in complex systems, and so, the reason you have that framework, is so you can always connect people to what matters, when people say, so why are you doing this? Well, because our community strategic design calls us to be that way. Why do we want learners to engage in this way? Because our strategic design calls out the description of our Lifelong Learning Standards. And so, the system design doesn't rest on any individual, not a school board, not a superintendent, not a principal. And we would say, that's the will of the community, and that's who we serve in our jobs. We serve the will of the community, and they have called out, what their will is, we are simply fulfilling that. That's our responsibility. And so, from the systemic level, that's really critical.

Participant E discussed reframing learning systems and focused on the complexity of navigating multiple layers of politics outside the control of the learning community" and shared:

> I think one of the things that's so important in this conversation is the work that we do with our legislators and our school board members. This work must include a systems approach. They don't have the opportunity to experience deeper learning structures, and hands-on learning in today's learning environments in a way that prepares today's

> students for their tomorrow, but they're the ones that are being called upon to make the laws and to allocate the funding, to basically write and adopt the policies. It's critical to engage these decision-makers, and hold them accountable.

Participant E emphasized the need to "engage decision-makers at every level of the education system to create effective structures for transformation and change" and added, "We need to redesign our systems. Again, policy makers are writing and adopting laws, allocating funding for education, until they can own this from a place of understanding, because they've experienced it, I think we're going to be stuck." The participants saw the practice of reframing complex systems as the way to design learning communities of the future.

Shape Mindsets and Mental Models

Participants within the study repeatedly called out the need for transformative change. As a part of this process, the idea of shifting mindsets and shaping mental models was frequently connected to the theme of reframing complex systems. Participant B referred to "shifting adult mindsets" as "the foundation for which this work must move forward." Within the discussion Participant B declared that "the real work begins inside each one of us, to question our assumptions, to be aware of our own thought patterns, and biases, and be ready to lead people in this messy work." Participant G communicated two very clear priorities within this subtheme, and shared:

> First, we're going to need to be bold about addressing the elephant in the room, and let's be clear, that's systemic racism. This is actually the first step, in building trust, in reframing our learning communities, and really, in shifting the mental models that have been holding us back. We've got to be so clear, clear that we are here to see all children

> succeed. Then we'll need to address the old models of learning, which frankly, still exist in most schools, and hold children back from their true potential. These are two mindsets that need to change, you know, for us to go about transforming our systems.

Participant D agreed with this line of thinking and also emphasized "the importance of shifting mental models around biases within the system," saying:

> So, once we've removed adult biases, or at least tried to, once we've actually understood each student from a place of strength, then how we think about teaching and learning, more deeply, is how I think we actually start to prioritize things. One of the things I've learned from being a superintendent is that, even when we make great decisions, policy decisions, instructional decisions, operational decisions, it's only as good as our communication strength, and how we assist people in shifting their mindset, people who might be hearing what we are saying, from their own paradigm or experience.

Participant D provided examples of "teachers and parents being hesitant to change" and explained that "folks are only afraid of not meeting the expectations that were established through old models" and that "everyone is holding deeply to how we were taught in the past, and we've continued to perpetuate this irrelevant educational system." Participant D emphasized that "We are attempting to create a new mental model and reframe the way people are seeing the system." Participant E continued reinforcing the idea of a developing a deeper learning mindset within the community and added:

> As a leader we have to define what does deeper learning look like, it's really a mindset, it's how we are engaging with the four C's, that we now know are central to what we do in education - critical thinking, creativity, collaboration, communication, and making sure

> they are connected to everything, everything our community stands for, and deep learning being the final goal for all of our students. This is designed with intention. It takes a deeper learning mindset to create this culture for students. So systems work is really about shaping mental models within the community, in all stakeholder groups.

Participant F reiterated the importance of connecting to the strategic design as a way to shape the thinking within the learning community, saying "It doesn't sit on the shelf in a binder, it lives in the hearts and minds and actions of everyone in the organization, first and foremost, the leaders, as they model that. It's about shaping our mindsets." In discussing the forces that disrupt this work Participant F shared:

> Sometimes, to navigate the systemic disruptions and engage the community, you have to know what matters. And you have to stay the course on that. And so, we have our core values, which are critical, from integrity, to teamwork, to excellence, to accountability to alignment, courage, risk taking, and really allowing the core values to live in the engagement and mental models of the people in the system. Because this is what we believe and where we're going, and the values we embrace. And if you aren't there or don't want to go there, that's okay. There's lots of places that you can work, it's not here.

Participant H called out "the need for people to address this deep work head-on" and added, "This is not a conversation to shy away from and if you're worth your salt as an educator, you've got to have the courage to have these conversations. And my take is, you'll be quite surprised at the outcome." Participant A reinforced this concept saying, "the real shift is that adults need to see every child as an individual of great worth" and added, "in shaping this work, we've gotta be

relentless in our advocacy to see changes in the way schools design learning for kids." Addressing mental models was consistently seen as the foundation for transformation.

Plan for the Future

Much of the data provided by the participants in this study centered around a need to guide learning organizations toward the future of education and work. All eight participants expressed the need to plan for the future and connected to the idea of building systems that were preparing kids for the future. Participant F expressed that "leaders must understand how teaching and learning is connected to the future of our society" and shared that "alignment to future models was the best place to start thinking about systems design." Participant A identified this approach as a key leadership practice and shared:

> I have always been blessed with having the ability to look pretty far down the road. I think, really long-term, and I take the long view on things. And so, for system redesign, I think about how things could be. I've got a pretty vivid imagination and I'm able to sort of imagine future scenarios in a three-dimensional way, and then try to design from there. And it sounds really stupid and corny, but that's just how my brain works.

Participant B agreed with the idea of "planning for the future" and "taking a long-term approach to designing for systems change." As a part of this strategy Participant B offered:

> Absolutely be willing to be so candid and forthright, to be clear about what you believe in. Using every moment to give us an opportunity to think differently about where we're headed, to tell the story of the future…When leaders can imagine the future and paint that picture for everyone to see, there's a sense of ownership that develops over time. And this is the backward planning model, a way to dream big and start small.

Participant B also shared that “the team would sit together, and they would ask questions about initiatives, and I guided our team to think about future learning and local and global opportunities” and added that “this is about the vitality of a school system and its implications on the community and how we might build those pathways.” Participant D discussed “breaking the future vision into bite sized pieces” and provided this example of planning for the future:

> So, I learned from a great mentor, that you actually have to describe what it is that you intend to do. And the word she would use is, draw the line in the sand. In other words, we will be at this stage by next September, we will be at this stage by the September after that. This is about looking at possible future scenarios, what is possible. So, in other words, it doesn't mean that the plan is so airtight, that it can't pivot, it can't shift, and it can't be influenced by new learning, but it's got to be courageous enough, it's got to be bold enough, and it's got to be something that really motivates.

Participant E added to the idea that “learning communities needed to have a long-term focus” and connected this strategy to facilitating change, saying:

> Leaders have to get better at requesting the gift of time. Deep and lasting change takes time. So often, we want to see initiatives take place in one year, maybe we want to see those one-year results, but this doesn’t bring about lasting change. So, we’ve got to plan for the future and begin taking small steps toward it. We look at many different scenarios and uncertainties on the path toward this goal, and through this type of process, basically, you are able to imagine what might happen and then create a viable plan… As a community, you have to plan for the future, and the rest will come.

Participant H discussed the “collaborative process within this work” and provided this example:

> When we are able to take all that information that has been gathered, synthesize it, and get it on one sheet of paper. Then we can create scenarios for possible futures, what we want for our kids, where do we see them in the future. And anytime you can get important ideas on one sheet of paper, that is super exciting to me, because that means people can remember it. And even better than that, if you can connect it to the future and, you know, your vision of 21st century learning.

All eight participants saw the practice of planning for the future as central to the organizational goals and key factor for determining resource allocation and program implementation.

Summary

Chapter four provided a presentation of the data collected to measure perceptions of deeper learning priorities and leadership practices investigated as a part of this qualitative, phenomenological study. The researcher reviewed the data collection and analysis methods used to evaluate the responses of eight superintendents serving public school districts in the United States. Data provided by this study was obtained through individual, semi-structured interviews lasting approximately 45-60 minutes in length. The average experience of the district superintendents was just over nine years and was essential to understanding the research questions used to guide this study. The voices and experiences of the participants were recorded and transcribed to provide rich textural-structural descriptions related to the phenomenon. The Van Kaam approach, modified by Moustakas (1994), was applied for data analysis.

A preliminary coding process, using the In Vivo coding method (Saldaña, 2016) led to the emergence of 35 initial codes. A subsequent coding process was applied for further analysis using the emerging codes and a total of 21 final codes were placed into categories aligned to the

two overarching research questions guiding this study. The analysis of the data elicited from the participants lived experiences resulted in six main themes: *Center the Learner, Design Authentic Learning Experiences, Redefine Student Success, Engage the Community, Create a Learning Ecosystem, Reframe Complex Systems.* Data from all six themes were presented in this chapter, along with corresponding subthemes.

In Chapter 5, a discussion of the significance of these findings will provide further analysis of the priorities for deeper learning and the leadership practices recommended for accelerating this work in P-12 public schools. In addition, a summary of the results, as well as recommendations and study conclusions are presented.

CHAPTER FIVE: CONCLUSION

Emerging technologies and industry innovations continue to evolve to accommodate new workplace priorities and future generation needs. The complexity of these changes is further compounded by pandemics, global upheavals, and communication networks that drive connectivity in unpredictable ways. As radical changes in industry, urbanization, and socio-cultural priorities begin to ignite community activism related to the future of schooling, the evolution of human-centered needs pushes to the forefront of this dialogue. Deeper learning communities offer students and staff an opportunity to engage and interact with new pedagogical approaches that promote healing and diversity of thought within the application of authentic learning experiences. While deeper learning has made its way into innovative classrooms and occasional policy discussions, the push to reform teaching and learning has not yet resulted in transformational systems-wide change.

If policymakers and education leaders are to prepare for these transformative shifts and reshape the educational system, guidance will be needed to determine the priorities that will accelerate this work and an understanding of how districts might grow the capacity of educators leading these efforts at district, school, and classroom levels. A growing body of literature describes the pedagogical aspects of deeper learning and examines the benefits of this approach in closing equity gaps in underserved communities and accelerating a wide range of positive student outcomes (Charles et al., 2017; Fullan & Langworthy, 2014; Mehta & Fine, 2019; Noguera et al., 2015; Rickles et al., 2019; Schneider & Vander Ark, 2017; Wagner & Dintersmith, 2015). Additionally, leading researchers immersed in this work suggest that while the education community can agree on what deeper learning is, and recognize that there is a

sense of urgency behind this movement, the real hurdle lies in communicating and reinforcing how this work can be implemented at a systems level to realize deep and sustainable change for all students (Mehta & Fine, 2019; Fullan et al., 2017). This study fills a gap in the research by providing the perspective of the district superintendent as a critical leader in this work and a facilitator of change at a larger systems level.

Superintendents participating in this study reported a wide range of years dedicated to a focus on deeper learning within their school and district communities. The average tenure of the study participants was just over nine years and this experience contributed to a rich and deep understanding in response to the research questions guiding this study. Collectively, the school districts dedicated resources to support this transition for over five years, on average, with one district reporting a 10-year focus on the transition to deeper learning. The participant inclusion profile (Table 1) demonstrated the vast experience of the education leaders and their institutions related to the phenomenon being explored. All of the participants in this study described the implementation of deeper learning systems as *in-progress* and acknowledged the need for ongoing efforts to sustain innovative practices and continue shifting mental models within the community. Accordingly, many of these leaders brought forward questions about the purpose and alignment of our current education systems and recognized that the learning that students experience in conventional classrooms does not meet the level of need in the modern workforce or society. The superintendents interviewed in this study consistently design for the functionality of new and improved learning systems, investing considerable resources and seeking new options to redefine the future of school through the implementation of deeper learning communities.

The phenomenon explored in this study included the transition to deeper learning methodologies within a public school system and the examination of leadership practices that create the conditions for success within the learning community. Two research questions guided this study to better understand this complex challenge and the lived experiences of district superintendents leading this work. The overarching questions include:

RQ1. How do superintendents describe deeper learning priorities within their school systems?

RQ2. What are the leadership practices involved in preparing students, educators, and communities for system redesign?

The primary purpose of this phenomenological study was to examine the lived experiences of superintendents actively engaged in the transformation of deeper learning systems in P-12 public schools. A transcendental phenomenological approach was selected to uncover deep perceptions and learn about the priorities and leadership practices emerging from participating districts. The methodology identified for this study used semi-structured interviews to collect qualitative data and provide descriptions of the essence of each participant's lived experience (Creswell & Poth, 2018; Moustakas, 1994).

The conceptual framework within this study allowed for synthesis from two perspectives. The first area of focus included an examination of the construct of deeper learning through four instructional shifts. The foundational shifts of deeper thinking and learning, learner agency, authentic work, and technology infusion provided context for the framework (McLeod & Graber, 2019). These specific attributes were not meant to provide a comprehensive

understanding of deeper learning, as this was provided in the review of literature, but rather, to provide a foundation from which to situate the study. This dual framework simultaneously examined the leadership practices needed to transition complex organizations. Four leadership frames provided additional context and allowed the researcher to examine the internal and external forces impacting system redesign (Bolman & Deal, 2017). These frames looked at realigning the organization through symbolic, political, human-centered, and structural practices (Bolman & Deal, 2017). The application of these complimentary frameworks supported the development of the study design and interview questions to ensure saturation of the data around deeper learning priorities and the implementation of new pedagogies and practices through the lens of complex systems. This chapter provides an interpretation of the findings, including six emergent themes based on the results of the study. Following the interpretations, implications of the research are considered, as well as recommendations for action and further study.

Interpretation of the Findings

The analysis of data derived from the research questions guiding this study resulted in a total of six emergent themes and 15 related subthemes. The interpretation of findings section organizes the six emergent themes in alignment with the corresponding research question. Research question one produced a total of three themes along with eight related subthemes. Table 4 provides the correspondence of themes and subthemes that emerged in alignment with the participants' descriptions of the *deeper learning priorities* within their school systems. Each of the subthemes were clustered according to significance, relevance, and frequency in relation

to the core themes. Emergent themes and subthemes provide rich insight into research question one, as experienced by the participants.

Table 4

Correspondence of Research Questions and Emergent Themes: Deeper Learning Priorities

Deeper Learning Priorities	Themes	Subthemes
RQ1: How do superintendents describe deeper learning priorities within their school systems?	1. Center the Learner	a. Equity and inclusion b. Learner agency c. Strengths, interests, passions
	2. Design Authentic Learning Experiences	a. Deeper learning competencies b. Globally connected learning spaces c. Align to the future of work
	3. Redefine Student Success	a. Measure skills and competencies b. Monitor growth and impact

RQ1: How do superintendents describe deeper learning priorities within their school systems?

When asked to describe the priorities for deeper learning, the participants provided in-depth responses consistent with the literature related to the adoption of a micro and macro systems framework (Fullan et al., 2017). At a micro-system level, the participants identified priorities addressing the needs of students, teachers, administrators and parents. At the macro-system level, the participants highlighted priorities addressing systems reform through state and federal accountability, policy agendas, and the alignment of the future of work in global industries. The overall conclusions reinforce the need to address systems change from both of these perspectives.

Center the Learner

Superintendents leading the transition to deeper learning provided a clear vision for centering the learner as the foundation for transforming culture and practice. According to the literature, learner-centered environments create an adaptable experience for each student to customize learning experiences and optimize outcomes (Vodicka, 2020; Wolfe, 2017). Findings from the study indicate that participants shared a commitment to shifting the culture of the learning environment to a place where everyone is celebrated as a learner and highlighted the importance of understanding and addressing the needs of each learner as a part of the learning experience. For example, Participant D shared that this work begins with "challenging adult bias" and described, "If we had only one priority, I would say that being learner-centered in our approach would be the one that we couldn't let go of…and I think as long as we center the learner…equitable opportunities begin to emerge." Participants also recognized the development of a learner's identity as central to creating relevant learning goals and advancing deeper learning. Just as important, participants indicated that ongoing training in cultural competence and inclusive practices allowed adults to challenge individual and collective biases and see the true strengths of all learners. Consistent with the literature, participants viewed equity as an entry point for empowering authentic learning experiences (Darling-Hammond & Oakes, 2019; Mehta & Fine, 2019; Riordan et al., 2019).

Within this theme, learner agency emerged as a priority for creating learner-centered environments. Efficacy and agency improved when students were provided with voice and choice within the learning experience and encouraged to create personalized, rigorous goals for learning. This idea is supported by Vodicka (2020), reinforcing the importance of teachers co-

constructing learning experiences with students to foster ownership and highlight unique strengths and talents. Participants stressed the importance of student voice and highlighted two perspectives including a focus on students co-creating learning experiences, as well as prioritizing student presentation of information as the voice for deeper learning. Participant G formalized this thought by saying, “I think when students realize they have ownership over their learning, they begin to express themselves differently, and that’s when they find their voice.” As additional evidence, participants cited instances when student efficacy and accountability for learning increased when they were provided with opportunities to share what they learned with authentic audiences. Student-led experiences were seen as transformational and resulted in positive overall learning outcomes.

Centering the learner within deeper learning experiences was closely linked with the importance of developing and embracing the strengths, interests, and passion of all learners. Participants frequently observed the increased likelihood of success with rigorous learning goals when teachers connected a student’s passions and interests within an authentic learning experience. Participant A confirmed this idea saying, “adults work harder and enjoy learning more when they are passionate about something, the same is true for kids,” and added, “we can change the way students perceive school by making this one critical change.” These findings are supported by similar studies concluding that there is a unique relationship between motivation and engagement in deeper learning experiences (Mehta & Fine, 2019). This idea was often integrated with the benefits of awakening curiosity in learners and changing the way students perceive school. Participant E linked these two ideas and offered, “the potential of sparking curiosity with learners is that it helps to develop future interests and passions that lead to ongoing

deeper learning." Ultimately, the participant group agreed that when students were able to co-create learning experiences with the teacher and design around personal strengths and interests, they were motivated to invest in the learning and work toward deeper, more impactful outcomes.

Design Authentic Learning Experiences

Consistently throughout the study, the superintendents leading for deeper learning emphasized the need to focus collective efforts around designing authentic learning experiences for students. Participant C shared evidence that "students reported feeling successful when they were solving problems or challenges in authentic ways." This research revealed the urgency of transforming learning environments and investing in professional learning for teachers and administrators to support the implementation of new pedagogical practices. Darling-Hammond & Oakes (2019) provided a framework for understanding teacher preparation for deeper learning and described the importance of examining desired student outcomes to determine the design of classroom learning experiences. Participants within the study reinforced this thinking and suggested that authentic learning is connected to creating a positive impact in the real world and ultimately stems from what learners are producing within the learning environment.

Participant G reinforced this thinking and added, "often authentic learning is best shaped through problem-based and design-based experiences…we know that deeper learning is about the learning application and connecting that application to overall student outcomes." The research supports these findings confirming that school communities that focus their efforts on shifting equitable access to true deeper learning practices increase engagement and produce higher levels of achievement for low-income and minority students (Noguera et al., 2015). Promising practices exist to support this transition and include a focus on deeper learning

competencies (Fullan et al., 2017; Wagner & Dintersmith, 2015). At the heart of these pedagogical practices, students and teachers co-design for impact and co-create learning opportunities that have the potential to make a positive difference in the world.

Findings from this study revealed that a priority for deeper learning, for students and adults, includes a focus on the competencies and skills needed to be in alignment with the modern world. The participants reinforced that classroom learning should look like the work happening in every other industry. Participant H defined deeper learning competencies and gave specific examples sharing, "Deeper learning competencies are transformative and our work focuses on communication, collaboration, critical thinking, creativity, and for us that includes flexibility." The skills and competencies cited by the superintendents in this study align to the research behind deeper learning emphasizing critical and creative thinking, problem-solving and extended communication and collaboration techniques (Fullan et al., 2017; Mehta & fine, 2019; Wagner & Dintersmith, 2015). The superintendents also viewed designing for impact related to local and global needs as a prerequisite for deeper learning outcomes.

Consistent within the research was an overarching need for adults to reshape mental models regarding the perceived structure of classroom spaces and to reimagine the possibility of place-based learning (Gros, 2016). Evidence was provided where students engaged in rigorous learning experiences in alternate locations and teachers modeled that learning occurs anytime and anywhere through globally connected learning spaces. For example, Participant H concluded, "In the past, learning has typically been confined to the 960 square foot classroom…but technology changes that dynamic and allows students to communicate and collaborate not only among themselves, but outside the walls of the classroom." These data are

consistent with the research of Sterrett and Richardson (2019) who examined technology-savvy superintendents and found that these leaders played an important role in influencing learning across unique environments and often created space for new learning opportunities through technology-driven innovations. This idea was reinforced by Gros (2016) who advocated for digital learning experiences to take place in real time in real locations to adapt to the content and situation of the learner. While participants agreed that technology was not a requirement for deeper learning, they concluded that access to digital resources maximized opportunities for teachers and students to extend learning outside of the classroom and connect with industry professionals as additional mentors for students within the learning environment. Participants argued that the public education system needs to stay ahead of technological advancements to ensure that students remain competitive, but to integrate this learning with human-centered approaches that foster the development of interpersonal skills.

Redefine Student Success

The superintendents leading this work reported that a meaningful transformation of P-12 learning would include an overhaul of state and federal assessment and accountability systems. The participants pointed specifically to the disconnect between desired student outcomes and the majority of standardized testing measures. Participants described that districts working to implement deeper learning systems battle multiple layers of complexity, often trying to navigate internal change while also racing to keep up with state and federal guidance that can sometimes be in conflict with the vision for schools of the future. Participant E viewed this from a systems-lens and confirmed, “we know that large scale change will not occur if schools and districts are stuck in outdated accountability models.” While all participants recognized small

changes in assessment practices in recent years, they concluded that more must be done to design new models of competency-based and holistic assessment measures aligned to future industry skills.

Similarly, findings of this study were consistent with Fullan et al. (2017) who proposed that public policy must address current methods of assessment and accountability at the individual and collective levels to provide reliable measures for deep, authentic learning. Moreover, participating superintendents described this priority as the tipping point for transforming teaching and learning and advocated for defined structures to measure deeper learning outcomes. Specifically, participants cited a concern that adults in the education system will continue to focus on conventional teaching and learning practices if it is perceived that these practices continue to be valued by the larger system. Participant H added, "until we really, at scale, figure out how to break out of that mold, it's going to continue to hold us back unfortunately." Overall, redefining student success was viewed as a transformative opportunity and way to ignite change through policy and advocacy at the macro-system level.

In addition to suggestions for policy reform, participants shared a commitment to measuring deeper learning skills and competencies through formative measures within their learning communities. Participant G recommended this practice for continuous improvement at the local level and to measure gains in personalized learning and explained, "Formative progress checks are monitored through rubrics and portfolios and exciting new developments are emerging related to summative options through competency-based transcripts." This evidence provided reinforcement for implementing learner-centered practices and understanding the strengths and needs of each student from a holistic perspective. The literature suggests that

learner-centered models of assessment provide optimal conditions for accelerating learning outcomes (Vodicka, 2020). Findings also indicate that deeper learning communities value self-reflection for students and adults as a way to access transformative learning. Superintendents in this study found that new options for assessment provided strong alternatives to traditional grading scales and the conventional grade point average model. Participant C suggested that students were more likely to invest in personalized data through self-driven goals and confirmed, "the importance of using formative measures beyond test scores." The study revealed promising practices that included new forms of student transcripts that provide evidence of skills and competencies developed by learners over time and the measurement of *possible future selves* through industry-aligned career development profiles. All participants agreed that monitoring student growth was the most important factor in preparing students for successful college and career outcomes.

The previous themes and subthemes were applied as a result of the alignment with the participants' description of *deeper learning priorities* within P-12 school systems. The lived experiences of the superintendents offer a foundation for understanding the priorities for deeper learning as described by the participants. The first three themes also provided the context for the investigation into the second research question and the leadership practices involved in accelerating the success of deeper learning systems in school communities. Within this study, research question two produced a total of three themes along with seven related subthemes. Table 5 provides the correspondence of themes and subthemes that emerged in alignment with the participants' description of the *leadership practices* involved in preparing students, educators and communities for system redesign. Each of the subthemes were clustered according to

significance, relevance, and frequency in relation to the core themes. The following section presents each of the core themes, along with the related subthemes and provides detailed descriptions including data gathered from the participants.

Table 5

Correspondence of Research Question 2 and Themes Emerged: Leadership Practices

Leadership Practices	Themes	Subthemes
RQ2: What are the leadership practices involved in preparing students, educators, and communities for system redesign?	4. Engage the Community	a. Develop a unifying framework b. Show and tell
	5. Create a Learning Ecosystem	a. Lower the cost of failure b. Develop human capacity c. Reflection and feedback loop
	6. Reframe Complex Systems	a. Shape mindsets and mental models b. Plan for the future

RQ2: What are the leadership practices involved in preparing students, educators, and communities for system redesign?

When asked to describe the leadership practices to support learning communities in redesigning systems for deeper learning, the participants provided in-depth responses consistent with the literature related to the adoption of a dual framework to support micro and macro systems (Fullan et al., 2017). At a micro-system level, the participants identified leadership practices that supported the needs of students, teachers, administrators and parents with the implementation of new learning models. At the macro-system level, the participants shared key insights related to the practices supporting systems reform through both internal and external

structures. The final three findings related to research question two reinforce the need to address systems change at both of these levels.

Engage the Community

Leadership practices related to leading collective change emerged as a central focus within each interview. Superintendents leading the transition to deeper learning agreed that this was a vital practice and the core foundation for the development of future ideas and initiatives. Findings within this study confirmed the need for district leaders to build a coalition of stakeholders around the vision for deeper learning within the community. Participant A called it "the making of a movement" and Participant F shared that it was "guiding learning communities to a North Star." Within this leadership focus, participants unanimously advocated for creating a unifying framework. This unifying framework described the characteristics and attributes each community prioritized for all children to prepare them for college, career, and life. Studies exist that reinforce the idea of engaging students, parents, and community members as leaders in educational change and defining the shared goals of the learning community (Ishimaru, 2014). The superintendents participating in this study stressed the importance of engaging and including all stakeholders as valued internal partners and pushing this vision deep into the community. Participant B described the importance of this practice and further explained, "This work is complex and it's about listening…about engaging people in the story of the community, it's about tapping into the resources that already exist and elevating people and giving them an opportunity to raise their voice." The implications of this strategy are supported by the research of Aidman and Baray (2016), concluding that cross-sector collaboration within a learning community increases educational achievement, especially in schools with limited social and

economic resources. The study confirmed that superintendents leading transformative change intentionally included multi-sector collaboration as the underlying factor in the vision for success and sustaining long-term school improvement.

Participants also provided examples of strategies to demonstrate how they created a vision around a unifying framework. Participant H defined the unifying framework as "an opportunity to start a conversation around what skills and competencies were most important and that we could all agree on that all students should leave our system with," and said that this kind of a community-driven framework was "powerful…and a unifying force." The work to create a collaborative design for learning included a process for showing local teams what the new model for learning looked like. Superintendents provided opportunities for students, parents, teachers, administrators, and community members to visit learning environments that showcased the rich and authentic elements of deeper learning methodologies. Participant B referred to this practice as, "a transformational experience that engages everyone in framing the work and telling the story." This strategy was not meant to convince stakeholders to support the suggested change, although the practice did result in high levels of confidence in the new learning models. More importantly, the strategy was intended to engage stakeholders in the possibilities related to deeper learning and provide a variety of instructional and environmental models to generate creative ideas. Following this practice, teams returned to the community to begin the work of designing a collaborative framework with a shared understanding of what might be possible. Participants discussed another aspect of this strategy as well and engaged in a variety of forms of storytelling, thus reinforcing *why* the new learning models mattered for all students. The findings from this study included overwhelming evidence that telling a story about a desired future led to

progressive change. Superintendents used all forms of digital and social media such as, Facebook, Twitter, and Instagram, as well as newsletters, articles and local news to create a sense of pride and unity, and to tell the story of change. More importantly, the participants encouraged and supported all stakeholders to mobilize and find opportunities to tell the story from their perspective.

Create a Learning Ecosystem

Consistent throughout the study, the participants referred to the school district as a learning community. This provided a common thread across all themes and connected to the essence of existing in a community where everyone is a learner. Participants communicated a sense of pride in the ecosystem approach where adults and students worked collaboratively on developing competencies and growing as a learner. Participant B referred to a deeper learning ecosystem and defined this model as a place where "we all learn together around a common purpose, students and adults… it's a liberating concept." Findings from this study indicate that accelerated outcomes occur as a result of because of aligning adult learning to the learning of students. These findings have many implications for increasing efficacy and agency through the development of shared learning goals within the learning community. Essential practices moving this work forward include building a sense of agility within the organization to flex when needed and lowering the cost of failure to promote learning and innovation (Bennet & Lemoine, 2014; Hall & Rowland, 2016). Participants asserted that the rapid pace of information and new learning required agility in all team members and worked toward aligning the learning goals of the organization to maximize the impact of disruption and channel energy toward productive change.

Evidence from the study suggested that creating a learning ecosystem provided a strong association with the practice of developing human capacity. First, participants promoted the idea of failure as a possibility to learn and innovate. Lowering the cost of failure for teachers and students, allowed them to make mistakes and learn in rapid cycles. Participant A defined this practice as "the most important variable to isolate in our efforts to transform learning communities." Findings indicate that every participant viewed this as an essential practice and utilized this approach to build talent within the organization. Participants shared that staff and students reported feeling motivated to try new things and reach outside of their comfort zone to develop new skills. Participants B and D defined "failing forward" as an accelerant to growing the capacity of the team to learn at an organizational level. These findings are supported by the research of Jakubik (2018) who proposed an ecosystem framework for advancing the co-creation of knowledge and innovative practices within an organization, or a shared learning environment.

Participants within the study emphasized co-constructing learning experiences and empowering all stakeholders as learners and leaders. Participant H expanded on this thinking and shared "reflective leaders model the learning…they are always building a culture where people are willing to try something different and know that they aren't going to be punished for it." Evidence from the study revealed that growing human-centered competencies strengthened collective efficacy and deeper learning methodologies across the learning community. Superintendents reported that lowering the cost of failure allowed for powerful cycles of reflection and feedback and Participant G shared, "this is an idea that you want to scale across the organization." Findings indicated that once learners felt safe and motivated to grow, feedback and reflection loops generated continuous improvement throughout the system. Through this

learning ecosystem model, rigorous goals were implemented and the team worked together to accelerate shared results.

Reframing Complex Systems

Additional findings from this study revealed a strong connection to the research related to reframing complex systems. The conceptual framework for this study allowed the participants to reflect on internal and external forces to further describe the leadership practices used to advance deeper learning within each community. Bolman and Deal (2017) described the modern organization as a messy reality full of complexity and value dilemmas that challenge the majority of organizational leadership models. Superintendents leading the change for deeper learning viewed their work with complex systems as integral to the transformation of learning priorities and sustaining culture and results over time. Participant A connected the work of complex systems to the practice of "finding clarity" and all superintendents agreed that this work takes place through shaping mental models and shifting mindsets to accelerate change. Given the barriers to modifying adult behavior, the participants attempted to narrow the focus to specific strategies for engaging in this work. Each superintendent communicated that the work of shaping mental models included a focus on questioning previously held assumptions and addressing implicit bias. Participant B argued that self-awareness was the foundation for change and communicated, "the real work begins inside each one of us, to question our own assumptions, to be aware of our own thought patterns, and biases, and be ready to lead people in this messy work."

Findings from the study revealed a need to align everyone to the core values of the learning community and operate from a strengths-based approach. Embracing the core values of

the community by creating common norms and practices and modeling shifts in thinking built trust and reinforced new mental models. Participants discussed a need for adults to engage in dialogue around systemic racism as a part of developing a deeper learning mindset. Participant G called on leaders to "address the long-standing need for social justice" and felt that "this was the first step in building trust and reframing our learning communities." This practice is supported by the research where framing systems toward equity and deeper learning provided a new perspective and laid the foundation for transforming teaching and learning (Noguera et al., 2015).

Leadership practices related to complex systems were often associated with planning for the future. Participants saw the ability to design for future scenarios as a way to implement long-term change. Two ideas resulted from this thinking. First, the superintendents leading this work invested in learning about the future of work and developing innovations related to this knowledge. Participant F discussed this concept as critical to shaping the direction of the organization over time and stated, "leaders must understand how teaching and learning is connected to the future of our society." Second, they saw the ability to design for the future as a way to accelerate learning and success for the team. With this strategy in mind, learning communities could begin designing for elements of complex change prior to engaging in the ground-level work. Participant D referred to this strategy as "breaking the future vision down into bite-sized pieces," and "planning for possible future scenarios." This practice allowed for resource allocation and professional learning in advance of implementation measures. Research in this area supports these findings and indicates that designing backwards to meet desired future outcomes improves decision-making practices and maximizes tools and resources (Lloyd &

Paige, 2016; Willis, 2014). Results from this study concluded that key leadership practices for guiding systemic change include strategies for future scenario planning. At the center of these new practices lies the potential for strategic partnerships and cross-sector alignment between education and industry.

Themes four, five, and six, along with related subthemes were applied as a result of the alignment with the participants' description of *leadership practices* that accelerate the transformation of P-12 school systems. Findings from each of the themes and subthemes were presented in response to research question two and offer a foundation for understanding the leadership practices of superintendents engaged in this work as described by the participants. These themes also provide context for how school and district leaders might accelerate the implementation of deeper learning priorities in school and district learning communities.

Implications

Implications related to this research are multi-faceted and fill a gap in the literature related to the superintendents' perceptions of priorities and leadership practices associated with transitioning P-12 public schools and districts to communities dedicated to deeper learning. The results of this study have deep implications within the field of education and the potential to scale promising practices emerging across the country. Executive leaders in educational organizations play a critical role in advancing equitable deeper learning systems and guiding learning communities toward schools of the future. First, this study sought to highlight the priority actions emerging in communities where the implementation of deeper learning methodologies are transforming school culture and instructional practice. Secondly, the study

sought the perspective of superintendents leading this work to determine the leadership practices currently being implemented that are causing the greatest change at the local level.

Implications for Practice

Several key assumptions were fully supported through the findings from this study. First, creating the conditions for deeper learning within school districts requires a broad-scale commitment from the district superintendent, the Board of Education, and diverse stakeholder groups within the community. The participants in this study also revealed the importance of creating a unifying framework for deeper learning and providing opportunities for students, teachers, and community members to observe innovative learning environments and new pedagogies as part of the design process. The analysis and synthesis from this research aligns with studies emerging from the field that demonstrate the impact of igniting a collective focus on deeper learning competencies and fostering the mindsets that form through positive interactions with authentic learning experiences (Cator et al., 2015; Mehta & Fine, 2019; Noguera et al., 2015; Rickles et al., 2019). Participant D described this collective focus as "optimizing the best of what the community could offer its children." Additionally, centering the learner through inclusive environments that build on individual strengths, interests and passions has the potential to develop learner agency that is contagious and leads to both individual and community transformation.

Implications for practice are also supported by evidence that lowering the cost of failure within a learning community enhanced risk-taking and personal ownership of learning goals. Perhaps the most revealing priority came in the form of encouraging staff and students to fail in an environment that typically rewards the highest grade. Participant A described the combination

of lowering the cost of failure along with designing authentic learning experiences as a way to "accelerate problem-solving competencies and a instill a desire to make an impact on the world." The study implications expand on the goals and methodologies for deeper learning identified in previous studies (Cator et al., 2015; Noguera et al., 2015; Rickles, 2019) by revealing the priorities that are taking hold within public P-12 institutions and leading to slow, but steady change. Findings revealed from the participants in this study demonstrate that transformational change is possible when the commitment to deeper learning is valued and prioritized as a community and viewed as a long-term initiative.

Implications for Policy

The implications of the outcomes from this study call for changes in classroom practice and school reform, but also demonstrated a need to influence educational policies on a larger scale. Priorities identified by the participants in this study indicated a need to redesign the way learning institutions define and measure student success. Participants in this study reinforced the need to ensure accountability for learning, as demonstrated in the commitment of the participating learning communities to monitor the growth and impact of student success through multiple measures. However, the findings also suggested that the majority of students across the country are not currently being assessed on the skills and competencies that matter most for real-world success, or to future industry employers. Participant E outlined the ways that learning communities were measuring competencies and skills, but argued that, "we currently live and work in a system that does not have a defined structure to really measure deeper learning outcomes." Policymakers should consider whether the convenience of standardized testing

methods outweigh the benefits of holistic, competency-based measures and an investment in comprehensive reform.

These findings also contribute to the need for dialogue around transformation at the systems level. Participants demonstrated the need to design outside of the current system, while simultaneously complying with continuous disruption related to compliance measures and outdated educational models. Participant H described "a dual systems approach" as a way to allow room for innovation to occur, but shared, "we have to be willing to step out and try some new approaches to learning, because…what we've been doing for the last 50 years hasn't been working so well." Participants also expressed that ongoing external forces related to state and federal mandates caused internal team members to question the need for change and develop competencies at a slower rate. These findings indicate that public policy related to curriculum, instruction, and assessment directly inhibits the acceleration of deeper learning practices within P-12 public schools committed to the hard work of engaging in transformational change. Participant B urged policy makers and education leaders to "stop racing so quickly toward this fabricated finish line, so much that we fail to reflect on what it is that we are preparing students for." Another revealing implication of this study included the acknowledgement of community members and industry partners that were willing to invest in deeper learning programs within the local public schools. These partners viewed ongoing investment at the local level as a way to honor the commitment to shared values and support the alignment of new instructional programs to the needs of the local workforce. Thus, the community itself transformed into a pivotal partner in school transformation and further legitimized the need for reform and shifts in policy change.

Recommendations for Action

This study explored the priorities and leadership practices that contribute to the successful transition of deeper learning communities and fills an existing gap in the research to better understand the role of the superintendent in facilitating transformative change. The themes and subthemes presented in this study included insight from district superintendents in the process of leading a transition toward deeper learning and offered specific recommendations for identifying the priorities of this work and practical tips for leading these efforts within schools and districts. In addition to the recommendations provided by the participants, the study offers three overarching recommendations to address broad-scale change for policy and practice. These recommendations are included in the following section and outline a need for transformative change through collective purpose and coordinated action.

Teach and Lead for the Future of Education

Superintendents leading the transition for deeper learning envision a learning ecosystem that nurtures and develops the talent of every student and staff member and engages them in meaningful and exciting teaching and learning experiences. To increase the quality and scale of implementation efforts, districts should consider aligning the professional learning experiences of adults with the desired learning outcomes of students within the program. This idea was reinforced by Participant D describing “an ecosystem of learners working collaboratively,” and added that “all members of the school community engage in the learning that matters most.” Moreover, internal schools systems must find a way to lower the cost of failure within the learning experience for both students and adults. Participants reported the greatest levels of success in environments where adults and students collaboratively identified learning outcomes

and all learners felt comfortable taking risks, engaged in reflection and feedback, and applied learning through the context of real world challenges. Participant A remarked that "teaching and leading for the future of education must include a strong alignment to the work taking place in local and global industries." Findings suggested developing ongoing partnerships with local industry leaders as an innovative way to accelerate teaching and learning for both students and adults.

To accelerate change at the local level, the researcher also recommends a dedicated focus on growing the capacity of all learners to develop the essential deeper learning skills and competencies identified within the emergent body of research. This study reinforced the positive impact of deeper learning pedagogies, not only on positive growth in academic outcomes, but also on the social-emotional well-being of adults and students. While conventional schools see a decline in the motivation and engagement of students and teachers, the deeper learning communities included in this study saw an increase in collective efficacy and learner agency, and a desire to engage deeply in rigorous learning through interdisciplinary approaches. It is recommended that school learning programs facilitate opportunities for students to co-design learning experiences that have the potential to create a positive impact on the world and cultivate joy in teaching and learning.

Produce Results that Matter

Advocating for change within our educational programs is not a hard sell. When educators look at what is happening outside of schools and compare those experiences with what has been happening inside conventional classrooms, the need for change becomes clear. Recommendations for action include a need to examine the work that students are being asked to

produce and the environment that prepares them to be successful with that work. The world is complex and ambiguous and the education system is not any different, but policymakers and education leaders can bring clarity to the work by providing clear guidelines related to student outcomes. The superintendents leading change for deeper learning stressed the importance of redefining student success and called it *the tipping point* for changing education systems. Participant B called on education leaders to "lead by example and forge a new path forward, toward a more compassionate and equitable future, for our schools and our children." It is true that this transition will be disruptive, but disruption teaching and learning practices can serve as a force for positive change. Education institutions and policymakers need to be clear about systemic measures for deeper learning at the local and state level to initiate critical conversations about the learning that must occur to produce those outcomes.

The researcher recommends convening teachers and instructional specialists leading this work to provide guidance on assessment tools that can be used to measure deeper learning competencies. Models of practice exist that can be curated and scaled to accommodate formative and summative assessment needs. At a broad level, the education community must increase efforts to measure achievement and accountability through the overall success of students as they exit public educational programs and begin post-education endeavors. Current practices can be improved to provide a better understanding of student success at two years and five years post-graduation. This indicator provides a higher quality measurement of the success of school programs than information included on standardized testing measures. Findings from this study emphasized the need to monitor the growth and development of deeper learning competencies and question the underlying values of our approach to reporting student success. Policymakers

should consider opportunities for comprehensive reform of assessment practices and inclusive methods that produce results that matter most for students.

Invest in Social Capital at the Local Level

This study highlighted the ways schools and districts are galvanizing efforts with local partnerships to enhance and accelerate the implementation of deeper learning programs. Superintendents participating in this study strategically engaged in grass roots efforts to strengthen relationships between schools within the community to connect with family structures, cultural centers, local businesses, and industry partners. Participant F revealed that building deep connections within the community was one of the most important lessons learned along the way, and shared, "a superintendent's role is elevating the aspirations of the community to lead collective change." Recommendations include expanding these connections to provide formal outlines of models that articulate the benefits of family and community relationships on deeper learning opportunities, mentoring, internships and job shadowing. Schools should consider including wider stakeholder groups in the design for student success and the creation of a unifying framework within the community. It is recommended that schools expand the role of these valued partners to nurture a collective purpose and coordinate action for deeper learning within the community.

Schools and districts engaging in collective purpose and coordinated action within the community reported an infusion of energy and excitement related to the ongoing learning goals and future career pathways of participating students. This recommendation serves to strengthen the fundamental purpose of deeper learning by aligning schools to the future of work. Educators must intentionally engage students in learning that is meaningful, that creates a positive impact,

that provides engagement with real-world challenges, and develops future citizens and local leaders. Investing in the social capital of a learning community provides immediate access to the resources and infrastructure of the community itself. Findings from this study included recommendations to design the instructional programs as a functional part of the community they serve. Schools participating in this model report increased access to local resources and higher levels of transformation through deeper learning.

Recommendations for Further Study

Recommendations for further study include widening the sample of district superintendents who are currently leading for deeper learning and engaging these practitioners in additional research to generate a critical mass. Phenomenological studies recommend a minimum of six participants to reach data saturation and this study included eight participants serving as public school superintendents. The researcher suggests conducting further studies with additional participants to strengthen the recommendations and create a leadership profile to support further development of implementation efforts. Additional research may impact policy decisions and result in consistency and coherence to support district leaders in facilitating change.

To help answer questions related to broader systems, the researcher also recommends addressing specific aspects of this work taking place at state and federal agencies. This process would allow a review of state policies and a better understanding of formal direction to review the implications of deeper learning on a national scale. These system-level recommendations include opportunities for longitudinal studies with students and teachers to determine best practices in assessment and accountability through student portfolios and competency-based transcripts that measure growth and development of student success over time. Additional care

should be taken as a part of the research to include the valued role community members play in driving deeper learning outcomes. An examination of this research might include the parents' perception of the strengths and opportunities related to deeper learning and seek to understand the lived experiences of students and families through daily interactions and engagement sessions with teachers and education leaders. The researcher suggests that further study should include families, business partners, community investors, and post-secondary institutions as a way to expand priority recommendations for aligning resources within local systems to improve equitable outcomes for students and share promising practices with others outside of the learning community.

Conclusion

The promise of deeper learning is fueled by the development of organic practices that continue to emerge and expand across the United States. This unprecedented movement is energized by passion and purpose from those who teach and lead for transformative change in American education systems. In response to a global pandemic in 2020, educators across the nation galvanized resources in an effort to implement a myriad of learning adaptations and address a wide range of complex needs to provide immediate support for students and families. Stakeholders across the country witnessed the speed at which organizations can change when there is a sense of urgency and motivation to support the systemic shifts holding past practices firmly in place. However, changing the nature of schooling in education systems over the course of time has not yet resulted in meaningful reform, or radical change. Education leaders revealed that complex change requires complex and adaptive systems, as well as the underlying motivation to learn and improve. Public education systems have the ability to transform

conventional classrooms into globally connected learning spaces that offer every student a future-ready education through deeper learning methodologies. The question is whether or not the collective education community will rise up to challenge past assumptions and outdated models to align our schools to the future of work and provide students with the competencies needed to thrive in a rapidly changing world.

Ongoing societal developments highlight the consequences and urgency related to long-term neglect in educational disparities and the social-emotional well-being of communities (Reimers & Schleicher, 2020). Educational systems must equip learners with a new cadre of skills to navigate disruption, solve profound challenges, and design for positive change (Fullan et al., 2017). Moving forward, schools and districts will face mounting pressure to transform the conditions of teaching and learning and prepare graduates to work and lead in this rapidly changing world. Schools have an opportunity to emerge from this global crisis stronger and better prepared to provide an inclusive vision for recovery and system redesign (Reimers & Schleicher, 2020). Existing studies demonstrated the positive impact related to deeper learning communities in developing the essential skills needed for graduating students to be competitive in a global economy (Cator et al., 2015; Noguera et al., 2015; Rickles, 2019). The role of the education leader has never been more important as the world engages in an unprecedented conversion of social, environmental and economic change. Continued pleas to radically transform our schools are mounting across the nation and deeper learning fills a need in this transition. Superintendents leading the charge for deeper learning serve on the forefront of this movement, working as outliers to provide access to the educational experiences students need and paving the road toward the future of teaching and learning in American schools.

REFERENCES

Aidman, B., & Baray, S. (2016). Leveraging community resources: Creating successful partnerships to improve schools. *The Educational Forum (West Lafayette, Ind.), 80*(3), 264-277. doi:10.1080/00131725.2016.1173149

Antoniou, C., Ioane, A. (2018). Technology for social change in school contexts: A new landscape for K-12 educational technology research. *Education and Information Technologies*. Retrieved from https://doi-org.une.idm.oclc.org/10.1007/s10639-018-9721-7

Avendano, L., Renteria, J., Kwon, S., & Hamdan, K. (2019). Bringing equity to underserved communities through STEM education: Implications for leadership development. *Journal of Educational Administration and History: A Cross-Cultural Perspective on Leadership Development Programs, 51*(1), 66-82. doi:10.1080/00220620.2018.1532397

Battelle for Kids. (2020). *21st Century Learning and Assessment Design.* Battelle for Kids Network. Retrieved from https://www.battelleforkids.org/how-we-help/learning-design

Bellanca, J. (2015). *Deeper learning: Beyond 21st century skills*. Bloomington: Solution Tree.

Bennett, N., & Lemoine, J. (2014). What a difference a word makes: understanding threats to performance in a VUCA world. *Business Horizons*. Georgia Institute of Technology

Bernard, H., Wutich, A., & Ryan, G. (2016). *Analyzing qualitative data: Systematic approaches*. Sage Publications.

Bickett, J., & Huchting, K. (2020). The need for career-long professional learning for social

justice leaders in affluent school contexts. *Professional Development in Education, 47*(1), 50-62. doi:10.1080/19415257.2020.1787194

Bogin, A., & Nguyen-Hoang, H. (2014). Property left behind: An unintended consequence of a No Child Left Behind "Failing" school designation. Journal of Regional Science, 54(5), 788–805. https://doi-org.une.idm.oclc.org/10.1111/jors.12141

Bolman, L., & Deal, T. (2017). *Reframing organizations: Artistry, choice, and leadership*. New York: John Wiley & Sons, Incorporated.

Brocas, I., & Carrillo, J. (2018). The determinants of strategic thinking in preschool children. *PloS Oe*, 13(5), e0195456. doi:10.1371/journal.pone.0195456

Brown, C., Boser, U., Sargrad, S., Marchitello, M. (2016). *Implementing the every student succeeds act: Toward a coherent, aligned assessment system.* Center for American Progress. Retrieved from https://files.eric.ed.gov/fulltext/ED568079.pdf

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. New York, NY: Norton.

Burns, D., Darling-Hammond, L., & Scott, C. (2019). *Closing the opportunity gap: How positive outlier districts in California are pursuing equitable access to deeper learning*. Palo Alto, CA: Learning Policy Institute. Retrieved from https://learningpolicyinstitute.org

Calarco, A. (2020). *Adaptable leadership: What it takes to be a quick-change artist.* The Center for Creative Leadership

Castillo-Montoya, M. (2016). Preparing for interview research: The Interview Protocol Refinement Framework. *The Qualitative Report*, 21(5), 811–831. Retrieved from https://nsuworks.nova.edu/tqr/vol21/iss5/2

Cator, K., Lathram, B., Schneider, C., & Vander Ark, T. (2015). *Preparing Leaders for Deeper Learning*. Seattle, WA: Getting Smart.

Charles, K., Knapp, L., Silver, D., & Warkentien, S. (2017). Charting the progress of the Hewlett Foundation's deeper learning strategy. *Research Triangle Institute International*. Retrieved from http://www.hewlett.org/wp-content/uploads/2017/04/Deeper-Learning_2017_RTI-.pdf

Choi, D., & Kang, J. (2019). Introduction: The future of jobs in an increasingly autonomous economy. *Journal of Management Inquiry,* 105649261982737. doi:10.1177/1056492619827373

Chu, S., Reynolds, R., Tavares, N., Notari, M., & Lee, C. (2016). *21st century skills development through inquiry-based learning: From theory to practice*. Singapore: Springer. Retrieved from http://ebookcentral.proquest.com/lib/uneedu/detail.action?docID=4694487

Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches.* (Fourth ed.). Thousand Oaks, Ca: Sage.

Creswell, J. & Poth, C. (2018). *Qualitative inquiry and research design: Choosing among five approaches.* (Fourth ed.). Thousand Oaks, Ca: Sage Publications.

Curry, D. (2017). Where to focus so students become college and career ready. *Journal of Research and Practice for Adult Literacy, Secondary, and Basic Education, 6*(1), 62.

Daniel, J., Quartz, K., & Oakes, J. (2019). Teaching in community schools: Creating conditions for deeper learning. *Review of Research in Education, 43*(1), 453-480. doi:10.3102/0091732X18821126

Darling-Hammond, L., & Oakes, J. (2019). *Preparing teachers for deeper learning*. Harvard Education Press. Cambridge, MA.

Davidow, W., & Malone, M. (2020). *The autonomous revolution: Reclaiming the future we've sold to machines*. Retrieved from https://ebookcentral.proquest.com

Dettmers, J., & Brassler, M. (2017). How to enhance interdisciplinary competence—interdisciplinary problem-based learning versus interdisciplinary project-based learning. *Interdisciplinary Journal of Problem-Based Learning, 11*(2) doi:10.7771/1541-5015.1686

Dewey, J. (1910). *How we think.* D.C. Heath and Company Publishers. Retrieved from: http://ia601406.us.archive.org/17/items/howwethink000838mbp/howwethink000838mbp

Dewey, J. (1940). *The later works, 1925-1953*. Volume 10: 1934, Art as experience. Edited by Boydston, J. Retrieved from: https://books.google.com/books?isbn=0809328208

Dixon, C., Palmer, S. (2020). *Transforming educational systems toward continuous improvement: A reflection guide for K-12 executive leaders*. Carnegie Foundation for the Advancement of Teaching.

Downey, D., & Condron, D. (2016). Fifty years since the Coleman report: Rethinking the relationship between schools and inequality. *Sociology of Education* 89(3):207–20.

Facer, K., & Sandford, R. (2018). The next 25 years: Future scenarios and future directions for education and technology. *Journal of Computer Assisted Learning, 26*(1), 74-93. doi:10.1111/j.1365-2729.2009.00337.x

Feldman S., & Tyson K. (2014). Clarifying conceptual foundations for social justice in

education. *Springer International Handbooks of Education*, vol 29. Springer, Dordrecht. https://doi-org.une.idm.oclc.org/10.1007/978-94-007-6555-9_55

Form, S., & Kaernbach, C. (2018). More is not always better: The differentiated influence of empathy on different magnitudes of creativity. *Europe's journal of psychology*, *14*(1), 54–65. https://doi.org/10.5964/ejop.v14i1.1432

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Continuum.

Fullan, M., Hill, P., & Rincon-Gallardo, S. (2017). *Deep learning: Shaking the foundations*. New Pedagogies for Deeper Learning: A Global Partnership

Fullan, M., & Langworthy, M (2014). *Towards a new end: New pedagogies for deep learning*. Seattle: Collaborative Impact.

Fullan, M., Quinn J., & McEachen, J. (2017). *Deep Learning: Engage the World Change the World*. Thousand Oaks: SAGE Publications.

Garreta-Domingo, M., Sloep, P. B., & Hernández-Leo, D. (2018). Human-centered design to empower "teachers as designers". *British Journal of Educational Technology, 49*(6), 1113-1130. doi:10.1111/bjet.12682

Gray, A. (2016). *The 10 skills you need to thrive in the fourth industrial revolution.* World Economic Forum. Retrieved from: https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution

Gros, B. (2016). The design of smart educational environments. *Smart Learning Environments, 3*(1), 1-11. doi:10.1186/s40561-016-0039-x

Haber-Curran, P., & Tillapaugh, D. (2015). Student-centered transformative learning in

leadership education: An examination of the teaching and learning process. *Journal of Transformative Education, 13*(1), 65-84. doi:10.1177/1541344614559947

Haghighi, S. (2014). *Transformational learning toward transformative leadership.* ProQuest Dissertations Publishing. Retrieved from http://une.summon.serialssolutions.com/2.0.0/

Hall, R., & Rowland, C. (2016). Leadership development for managers in turbulent times. *The Journal of Management Development, 35*(8), 942-955. doi:10.1108/JMD-09-2015-0121

Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students.* Corwin: Sage Publications.

Hargrove R., & Rice A. (2015). The challenge of beginning. *International Journal of Art and Design Education*, 34(2), 159-168. doi: 10.1111/jade.12027

Hartle, L., Pinciotti, P., & Gorton, R. (2015). ArtsIN: Arts integration and infusion framework. *Early Childhood Education Journal*, 43(4), 289-298. doi:10.1007/s10643-014-0636-7

Heise, M. (2017). From no child left behind to every student succeeds: Back to a future for education federalism. *Columbia Law Review, 117*(7), 1859-1896. Retrieved from www.jstor.org/stable/44425412

Hirschi, A. (2018). The fourth industrial revolution: Issues and implications for career research and practice. *The Career Development Quarterly, 66*(3), 192-204. doi:10.1002/cdq.12142

Hines, M., Catalana, S., & Anderson, B. (2019). When learning sinks in: Using the incubation model of teaching to guide students through the creative thinking process. *Gifted Child Today*, 42(1), 36-45. doi:10.1177/1076217518804858

Holmlund, T.D., Lesseig, K. & Slavit, D. (2018). Making sense of "STEM education" in K-12 contexts. *IJ STEM Ed* 5, 32. Retrieved from https://doi.org/10.1186/s40594-018-0127-2

Honig, M. & Rainey, L. (2015). *How school districts can support deeper learning: The need for performance alignment*. Students at the Center: Deeper Learning Research Series. Jobs for the Future.

Ishimaru, A. (2014). Rewriting the rules of engagement: Elaborating a model of district-community collaboration. *Harvard Educational Review, 84*(2), 188-216. doi:10.17763/haer.84.2.r2007u165m8207j5

Krahenbuhl, K. S. (2016). Student-centered education and constructivism: Challenges, concerns, and clarity for teachers. Clearing House, 89(3), 97–105. doi:10.1080/00098655.2016.1191311

Jakubik, M. (2018). Practice ecosystem of knowledge co-creation. *International Journal of Management, Knowledge and Learning. 7*(2), 199-216.

Kania, J., Kramer, M., & Senge, P. (2018). *The water of systems change*. Foundation Strategy Group.

Khalifa, M. A., Gooden, M. A., & Davis, J. E. (2016). Culturally responsive school leadership: A synthesis of the literature. *Review of Educational Research, 86*(4), 1272-1311. doi:10.3102/0034654316630383

Lapek, J. (2017). 21st-century skills: The tools students need. *Children's Technology & Engineering*, 21(3), 24–26. Retrieved from http://search.ebscohost.com.une.idm.oclc.org/login.aspx?direct=true&db=a9h&AN=123248687&site=ehost-live&scope=site

LaVenia, M., Cohen-Vogel, L., & Lang, L. B. (2015). The Common Core State Standards initiative: An event history analysis of state adoption. *American Journal of Education*, 121(2), 145–182. https://doi-org.une.idm.oclc.org/10.1086/679389

Li, T., Miller, E., Chen, I., Bartz, K., Codere, S., & Krajcik, J. (2021). The relationship between teacher's support of literacy development and elementary students' modelling proficiency in project-based learning science classrooms. *Education 3-13, 49*(3), 302-316. doi:10.1080/03004279.2020.1854959

Luka, I. (2019). Design thinking in pedagogy: Frameworks and uses. *European Journal of Education, 54*(4), 499-512. doi:10.1111/ejed.12367

Luria, S., & Kaufman, J. (2017). Examining the relationship between creativity and equitable thinking in schools. *Psychology in the Schools, 54*(10), 1279-1284. doi:10.1002/pits.22076

Ma, J., Pender, M., & Welch, M. (2019) *The benefits of higher education for individuals and society.* Trends in Higher Education Series. College Board. Retrieved from https://research.collegeboard.org/pdf/education-pays-2019-full-report.pdf

Mahoney, E. (2017). *The industrial revolution: The birth of modern America*. Greenhaven Publishing. https://ebookcentral.proquest.com

Martin, K. (2018). *Learner centered innovation: Spark curiosity, ignite passion and unleash genius.* Impress, LP.

Martinez, M., & McGrath, D. (2014). *Deeper learning: How eight innovative public schools are transforming education in the twenty-first century*. New York Press

McClure, K. (2015). Exploring curricular transformation to promote innovation and

entrepreneurship: An institutional case study. *Innovative Higher Education, 40*(5), 429-442. doi:10.1007/s10755-015-9325-8

McDonald, D. (2016). Striving for equity in implementing the every student succeeds act (ESSA). *Momentum, 47*, 68-69,13. Retrieved from https://une.idm.oclc.org/login?url=https://search-proquest com.une.idm.oclc.org/docview/1840798660?accountid=12756

McFeely, S. M. (2016). *The effects of paradoxical and convergent thinking during problem construction on creative problem solving*. Retrieved from http://une.summon.serialssolutions.com/2.0.0/link

McGlashan, A. (2018). A pedagogic approach to enhance creative ideation in classroom practice. *International Journal of Technology and Design Education*, 28(2), 377-393. doi:10.1007/s10798-017-9404-5

McLeod, S., & Graber, J. (2019). *Harnessing technology for deeper learning.* Bloomington, Indiana: Solution Tree.

McLeod, S. & Shareski, D. (2018). *Different schools for a different world.* Bloomington, IN: Solution Tree Press.

McTighe, J., & Silver, H. F. (2020). *Teaching for deeper learning: Tools to engage students in meaning making*. Retrieved from https://ebookcentral.proquest.com

Mehta, J. & Fine, S. (2019). *In search of deeper learning: The quest to remake the American high school*. Cambridge: Harvard University Press

Mezirow, J. (1991). *Transformative dimensions of adult learning.* San Francisco, CA: Jossey-

Bass.

Miller, E., & Krajcik, J. (2019). Promoting deep learning through project-based learning: A design problem. *Disciplinary and Interdisciplinary Science Education Research, 1*(1), 1-10. doi:10.1186/s43031-019-0009-6

Monis, I. (2018). Designing for STEM: California community colleges are helping shape the STEM workforce of the future. *Planning for Higher Education, 47*(1), 32. Retrieved from https://une.idm.oclc.org/login?url=https://search-proquest-com.une.idm.oclc.org/docview/2161040868?accountid=12756

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: SAGE.

Muhammad, G. (2020). *Cultivating genius: An equity framework for culturally and historically responsive literacy*. Scholastic Teaching Resources.

Noguera, P., Darling-Hammond, L., & Friedlaender, D. (2015) *Equal opportunity for deeper learning*. Students at the Center: Deeper Learning Research Series. Boston, MA: Jobs for the Future.

Paige, K., & Lloyd, D. (2016). Use of future scenarios as a pedagogical approach for science teacher education. *Research in Science Education 46*(2), 263-285. doi:10.1007/s11165-015-9505-7

Pang, W. (2015). Promoting creativity in the classroom: A generative view. *Psychology of Aesthetics, Creativity, and the Arts*, 9(2), 122-127. doi:10.1037/aca0000009

Podolsky, A., Darling-Hammond, L., Doss, C., & Reardon, S. (2019). *California's positive outliers:Districts beating the odds*. Palo Alto, CA: Learning Policy Institute.

Ravitch S., & Riggan M. (2017). *Reason and rigor: How conceptual frameworks guide research.*

2nd Edition. Thousand Oaks, CA: Sage Publications.

Reimers, F., & Schleicher, A. (2020). Schooling disrupted, schooling rethought. Organisation for Economic Co-operation and Development. https://doi.org/10.1787/68b11faf-en.

Richmand, R. (2014). Closing the skills gap. *The Economist Intelligence Unit*. Lumina Foundation. Retrieved from https://eiuperspectives.economist.com/talent-education/closing-skills-gap/white-paper/closing-skills-gap

Rickles, J., Zeiser, K., Yang, R., O'Day, J., & Garet, M. (2019). Promoting deeper learning in high school: Evidence of opportunities and outcomes. *Educational Evaluation and Policy Analysis, 41*(2), 214-234. doi:10.3102/0162373719837949

Riordan, M., Klein, E. J., & Gaynor, C. (2019). Teaching for equity and deeper learning: How does professional learning transfer to teachers' practice and influence students' experiences? *Equity & Excellence in Education, 52*(2-3), 327-345. doi:10.1080/10665684.2019.1647808

Robinson, K. (2017). *Out of our minds*. 3rd edition (3rd ed.) John Wiley & Sons. Retrieved from http://une.summon.serialssolutions.com.

Saldaña, J. (2013). *The Coding Manual for Qualitative Researchers*. Thousand Oaks, CA: SAGE Publications.

Sanford, C. (2017), *The Regenerative Business: Redesign Work, Cultivate Human Potential, and Achieve Extraordinary Outcomes.* Nicholas Brealey Publishing, Boston, MA.

Santamaría, L., & Santamaría, A. (2016). Toward culturally sustaining leadership: Innovation beyond 'School improvement' promoting equity in diverse contexts. *Education Sciences, 6*(4), 33. doi:10.3390/educsci6040033

Schwab, K. (2016). *The fourth industrial revolution*. New York, NY: Crown Business.

Schneider, C., & Vander Ark, T. (2016). Deeper learning for every student every day. *Getting Smart*. Hewlett Foundation.

Siman, N., Yang, R., Zeiser, K. (2016). Deeper learning and college attendance: What happens after high school? *American Institutes for Research*. Retrieved from https://www.air.org/resource/three-studies-show-impact-deeper-learning

Smith, P., Trygstad, P., & Banilower, E. (2016). Widening the gap: Unequal distribution of resources for K–12 science instruction. *Education Policy Analysis Archives, 24*(8), 8. doi:10.14507/epaa.24.2207

Snape, P. (2017). Enduring learning: Integrating 21st century soft skills through technology education. *Design and Technology Education, 22*(3)

Stevens, Y. A. (2016). The future: Innovation and jobs. *Jurimetrics Journal of Law, Science and Technology, 56*(4), 367.

Swanson, H., & Collins, A. (2018). How failure is productive in the creative process: Refining student explanations through theory-building discussion. *Thinking Skills and Creativity, 30*, 54-63. doi:10.1016/j.tsc.2018.03.005

Torrance, D., Forde, C., King, F., & Razzaq, J. (2021). What is the problem? A critical review of social justice leadership preparation and development. *Null, 47*(1), 22-35. doi:10.1080/19415257.2020.1787198

Van de Kamp, M. -T., Admiraal, W., & Rijlaarsdam, G. (2015). Enhancing divergent thinking in visual arts education: Effects of explicit instruction of meta-cognition. *British Journal of Educational Psychology*, 85(1), 47-58.

doi:10.1111/bjep.12061

van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. London: Routledge. Retrieved from https://ebookcentral.proquest.com/lib/uneedu/detail.action?docID=4693331

Vaughn, M. (2020). What is student agency and why is it needed now more than ever? *Theory into Practice, 59*(2), 1-10. doi:10.1080/00405841.2019.1702393

Vegas, E. (2020). Investing in public education worldwide is now more important than ever before. *Education Plus Development*. The Brookings Institution. Retrieved from https://www.brookings.edu/topic/k-12-education/

Vodicka, D. (2020). *Learner-centered leadership: A blueprint for transformational change in learning communities.* Impress Books. San Diego

Wagner, T., & Dintersmith, T. (2015). *Most likely to succeed: Preparing our kids for the innovation era*. New York: Scribner.

Wang, H. (2019). Fostering learner creativity in the English L2 classroom: Application of the creative problem-solving model. *Thinking Skills and Creativity*, 31, 58-69. doi:10.1016/j.tsc.2018.11.005

Weikle, B. (2018). *Innovative education programs key to future job markets, experts say*. Toronto: Torstar Syndication Services, Toronto Star Newspapers Limited. Retrieved from http://une.summon.serialsolutions.com

White, I., & Lorenzi, F. (2016). The development of a model of creative space and its potential for transfer from non-formal to formal education. *International Review of Education, 62*(6), 771-790. doi:10.1007/s11159-016-9603-4

Willis, A. (2014). Designing back from the future. *Design Philosophy Papers, 12*(2), 151-160. doi:10.2752/144871314X14159818597595

Wolfe, R. (2017). *Leadership competencies for learner-centered, personalized education.* Council of Chief State School Officers. Jobs for the Future.

World Economic Forum (2018). *The future of jobs report.* Centre for the New Economy and Society. Retrieved from https://www.weforum.org/reports/the-future-of-jobs-report-2018

APPENDIX A: PARTICIPANT RECRUITMENT EMAIL

Dear Superintendent,

My name is Caryn Lewis and I am reaching out to you today as a doctoral student at the University of New England (UNE). I am conducting research on the leadership practices of superintendents who are navigating current challenges to transform education programs to systems of deeper learning for all students. Your program has been identified by multiple criteria as a positive outlier for the implementation of deeper learning competencies in grades P-12. First, I would like to congratulate you on the purposeful approach demonstrated by your learning community in transforming school systems to meet the needs of future college and career opportunities.

My purpose in contacting you today is to invite you to participate in a study to better understand the experiences of superintendents who have engaged in this work. If you agree to support this study, you will be invited to participate in a confidential, semi-structured interview. The interview will be conducted this fall through the Zoom virtual meeting platform and will take approximately one hour to complete. Participation in this study is voluntary and throughout this process your identity will be protected. All recordings and transcribed notes will be destroyed upon completion of the study.

Equitable access to deeper learning programs continues to be a barrier for many students. Your contribution to this research is of tremendous value and may contribute to successful system redesign for education communities throughout the country. Thank you for your dedication to closing opportunity gaps for students who will someday lead our country in solving some of the most complex challenges we have faced as a global society.

If you are willing to participate in this study, please sign the attached letter of consent and return to me via email. Once your participation is established, we will collaborate to determine the best date and time for your interview. A summary outline of my study is included with the letter of consent to provide you with additional information. I would be happy to answer any additional questions you may have.

I appreciate your consideration and look forward to your response.

Sincerely,

Caryn Lewis
Doctoral Candidate, University of New England

APPENDIX B: LETTER OF CONSENT

UNIVERSITY OF NEW ENGLAND
CONSENT FOR PARTCIPATION IN RESEARCH

Project Title: Creating the Conditions for Deeper Learning:
Leadership Practices for Reframing 21st Century Education Systems

Principal Investigator: Caryn M. Lewis

Introduction:

- Please read this form. You may also request that the form is read to you. The purpose of this form is to give you information about this research study, and if you choose to participate, document that choice.
- You are encouraged to ask any questions that you may have about this study, now, during or after the project is complete. You can take as much time as you need to decide whether or not you want to participate. Your participation is voluntary.

Why is this research study being done?

The purpose of this study is to document the lived experiences and leadership practices of superintendents who are creating the conditions for deeper learning within their school districts.

Who will be in this study?

This study will interview district superintendents in public school districts serving students in preschool through grade 12.

What will I be asked to do?

You will be asked to participate in a semi-structured interview to discuss your experiences with transitioning district priorities to systems of deeper learning for all students. This interview will take less than 60 minutes. Additionally, you will be asked to review the transcript of your interview in order to ensure that your experiences have been captured correctly.

What are the possible risks of taking part in this study?

There are no risks associated with participating in this study.

What are the possible benefits of taking part in this study?

There are no benefits associated with participating in this study.

What will it cost me?
There are no costs associated with participating in this study.

How will my privacy be protected?

All participants will be asked to choose a pseudonym to be used in the study in place of your name. Additionally, all identifying information related to the school district will be removed.

How will my data be kept confidential?

The interview will be recorded through a high-quality audio file and stored in a secure location. The recording will be transcribed using a transcription service and the service keeps all files securely encrypted and is accessible only to the researcher. The researcher will use thorough security measures to protect all digital and paper files. At the conclusion of the study, all documents, recordings, and transcriptions will be destroyed.

What are my rights as a research participant?

- Your participation is voluntary. Your decision to participate will have no impact on your current or future relations with the University.
- You may skip or refuse to answer any question for any reason.
- If you choose not to participate there is no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You are free to withdraw from this research study at any time, for any reason.
    - If you choose to withdraw from the research there will be no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You will be informed of any significant findings developed during the course of the research that may affect your willingness to participate in the research.
- If you sustain an injury while participating in this study, your participation may be ended.

What other options do I have?

- You may choose not to participate.

Whom may I contact with questions?

- The researchers conducting this study are Caryn M. Lewis
    - For more information regarding this study, please contact me at clewis10@une.edu.
- If you have any questions or concerns about your rights as a research subject, you may call Mary Bachman DeSilva, Sc.D., Chair of the UNE Institutional Review Board at (207) 221-4567 or irb@une.edu.

Will I receive a copy of this consent form?

- You will be given a copy of this consent form.

Participant's Statement

I understand the above description of this research and the risks and benefits associated with my participation as a research subject. I agree to take part in the research and do so voluntarily.

_____ _____

Participant's signature or Legally authorized representative — Date

_____

Printed name

Researcher's Statement

The participant named above had sufficient time to consider the information, had an opportunity to ask questions, and voluntarily agreed to be in this study.

_____ _____

Researcher's signature — Date

_____

Printed name

APPENDIX C: RESEARCH PROPOSAL SUMMARY OUTLINE

Introduction

Consideration of workforce dynamics and new sociocultural needs suggests that the progressive skills needed to drive innovation will continue to thrive within the workplace and further transform the future of jobs (Vegas, 2020). The challenge is aligning schools to this transformation and ensuring access to a more equitable and sustainable future economy. The World Economic Forum (2018) estimated that only half of the jobs identified as part of the traditional workforce will remain relevant in the twenty-first century. The predicted number of declining jobs is conservatively estimated at almost one million, and although 1.5 million new jobs are projected, significant differences exist in the specialization of the skills that will be required to perform this work (World Economic Forum, 2018).

Proficiency in future industry skills becomes increasingly relevant as students in the United States graduate from top universities without the competencies needed to be successful in this new era (Richmond, 2014). The emphasis on emerging technologies drives a significant portion of this change, as work previously performed by humans begins to shift toward algorithms performed by machines. Still, technological advances reveal only one part of the story behind this evolution (Stevens, 2016). This same shift will also increase the demand of a wide variety of *human* skills needed in the areas of creativity, flexibility, and critical thinking (World Economic Forum, 2018).

Education leaders play an important role in redefining twenty-first century teaching and learning practices. There is an urgent need for deeper learning in school programs and creating environments where students can practice the skills needed for future success (Wagner & Dintersmith, 2015). Superintendents who have been on the forefront of this work understand the potential of designing for the functionality of deeper learning within school and district programs and the need to disrupt current learning systems and transform outdated models (Mehta & Fine, 2019; Wagner & Dintersmith, 2015).

Specific Aims

This qualitative research study aims to contribute to existing research highlighting the need for equitable access to deeper learning in America's educational programs. The proposed research study seeks to obtain insight from district superintendents and identify the leadership practices that contribute to the redesign of deeper learning programs within P-12 educational systems.

Methods of Data Collection and Analysis

A transcendental phenomenological approach was selected as the design for this study. The researcher will examine the lived experiences of eight superintendents who have engaged in comprehensive systems change to implement deeper learning systems within their school

districts. Two research questions were designed to better understand this transition from the lived experience of these leaders.

RQ1. How do superintendents describe deeper learning priorities within their school systems?

RQ2. What are the leadership practices involved in preparing students, educators, and communities for system redesign?

Data collection for this phenomenological study will include collecting information through in-depth semi-structured interviews. The interviews will include structured and open-ended questions regarding the phenomenon of interest. Analysis of the data will include organizing and coding the data, as well as identifying any themes that emerge as a result of the process (Creswell & Poth, 2018).

Description of the Setting

The research sites selected for this study are located throughout the United States. The research will be conducted with eight superintendents from public school districts serving students in grades P-12. The selected districts serve diverse student populations within a variety of settings. Each school district has demonstrated success in improving the outcomes of diverse student subgroups as well as meeting key criteria for reorienting learning programs toward deeper learning methodologies.

APPENDIX D: INTERVIEW QUESTIONS

Statistical and Priori Selection Questions

a. How many years have you held your position as superintendent of the school district?

b. How many years has your district shared a commitment to deeper learning?

c. What formal outcomes demonstrate student success with deeper learning programs?

Interview Questions

Correspondence of Research Questions, Interview Questions and Literature

Research Questions	Interview Questions	Literature
RQ1: How do superintendents describe deeper learning priorities within their school systems?	1. As a superintendent, how would you define the priorities for deeper learning within your school district? 2. What pedagogical priorities have been instrumental in creating deeper learning experiences for all students?	McLeod & Graber (2019) McLeod & Shareski (2018) Mehta & Fine (2019) Fullan & Langworthy (2014) Darling-Hammond & Oakes (2019) Martinez & Mc Grath (2014) Rickles et al. (2019) Wagner & Dintersmith (2015)
	3. How do deeper learning experiences engage students in higher level thinking? 4. How do deeper learning experiences promote learner agency within your school communities? 5. How do deeper learning experiences integrate authentic, real-world experiences? 6. What does technology infusion look like as a part of deeper learning programs?	Chu et al. (2016) Dettmers & Brassler (2017) Garreta-Domingo et al. (2018) Hartle et al. (2015) Holmlund et al. (2018) Lapek (2017) Martin (2018) McGlashan (2018) McTighe & Silver (2020) Pang (2015) Snape (2017)

Research Questions	Interview Questions	Literature
RQ2: What are the leadership practices involved in preparing students, educators, and communities for system redesign?	7. What are the major internal and external forces that have impacted the implementation of deeper learning priorities within your district? 8. What leadership practices have you relied on to launch the vision for deeper learning within your school district?	Bolman & Deal (2017) Charles et al. (2017) Darling Hammond & Oakes (2019) Mehta & Fine (2019) Fullan & Langworthy (2014) Hines et al. (2019) Smith et al. (2016) Vodicka (2020)
	9. What symbolic elements drive the vision and mission of the work within your deeper learning community? 10. How do you navigate political forces within the school district learning community and how do these coalitions effect decision-making related to deeper learning? 11. What key insights can you share about hiring, supporting, and training the people who lead this work in schools and classrooms across your district? 12. What systems, and structures exist to help your team define and measure goals to ensure equitable deeper learning outcomes?	Battelle for Kids (2020) Bennet & Lemoine (2014) Bolman & Deal (2017) Calarco (2020) Charles et al. (2017) Mehta & Fine (2019) Fullan et al. (2017) Hargrove and Rice (2015) Honig & Rainey (2015) Kania et al. (2018) Martinez & McGrath (2014) Sanford (2017) Torrance et al. (2021) Willis (2014) Wolfe (2017)

APPENDIX E: INTERVIEW PROTOCOL

The following information will be reviewed before the interview.

Thank you for agreeing to meet with me and share your experiences from the perspective of a superintendent in a public-school system serving students in grades preschool through grade 12. Your profile as a superintendent was selected for this research because you have experienced a minimum of three years leading district-wide efforts to transform educational programs to systems of deeper learning for all students.

I expect the interview to last approximately 45-60 minutes, which would allow four to five minutes per question, at your discretion. If you agree, I will take notes of our conversation throughout the interview and will record the interview in its entirety. The audio recording is for the use of this research study only and will be transcribed using a transcription service.

The assurance of confidentiality affirms that no actual names, or identifying information will be used in the final document in order to protect your privacy. As I shared in a previous email, we will be using the pseudonym you selected throughout the interview to keep your identity confidential. Please know that if any identifying information exists within the transcript after I receive it, it will be removed to ensure confidentiality.

In approximately one week, the transcript will be sent to you for review and final approval before analyzing the data. I want to remind you that the transcribers have signed a confidentiality agreement and the files will be kept secure through encryption. All audio files will be destroyed once the service has finished the transcription process and the file is transferred back to me.

As stated per email, your participation is voluntary. At any time during the course of this interview, you may choose to stop, or decide not to answer a specific question. I want to thank you again for agreeing to share your experiences with me today.

Do you have any questions before we begin the interview?

At this time, do I have your permission to begin recording?