Leadership Futures by Design

A Case Study of Futures-Oriented Innovation in a Principal Preparation Program

by

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ABSTRACT

The purpose of this action research study was to better understand how aspiring school leaders orient themselves toward present and future uncertainty and to explore what mindsets and conceptual understandings they believe they need to lead through uncertainty. An innovation, delivered through a graduate course on leading change in a Master of Educational Leadership program, focused on supporting participants' mindsets and conceptual understanding toward leading change in the midst of uncertainty, including the COVID-19 global pandemic. A total of 34 students participated in this qualitative case study. The educational innovation was designed by this action researcher and was informed by transformative leadership theory, design thinking, and imagination. Four sources of data were used to answer the research questions, including students' written assignments and video reflection assignments, as well as researcher course observations and semi-structured interviews with participants. Major findings suggested that the educational innovation was effective in supporting participants identity development as transformative leaders, as well as supporting participants' adoption of design thinking mindsets and use of imagination as tools for leading change in complex systems and during uncertain times.

DEDICATION

This dissertation is dedicated to educators everywhere doing the difficult, necessary, and emancipatory work of leading the futures of learning. May you continue to create the spaces and existential possibilities through which students can encounter their freedom and the call to exist in the world in a grown-up way, as subjects (Biesta, 2017).

I also dedicate this dissertation to my daughter, Eliza. I can only imagine the whitewater world you will live through, and I hope that you navigate each future opportunity and each challenge with the verve, curiosity, and joy with which you have with thus far.

I love you.

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CHAPTER 1

INTRODUCTION AND CONTEXT

> I can't recall a time since high school when I wasn't thinking about education as a part of larger cultural and political systems. So when something has frustrated me about schooling or institutions of education, I have usually thought about that frustration as a systemic symptom of a larger context. As I reflect on my journey thus far, my experiences as an educator seem to be marked by striving to improve whatever system I find myself working within, while**,** simultaneously searching for ways to do transformative work toward a system that could be.
>
> –Ben Scragg, EdD program application personal statement

Long before I pursued educational inquiry or design as a focus of study, I was interested in exploring why schools are the way they are, how they came to be, and how they might be otherwise. I wrote the above paragraph as an applicant to the doctoral program from which this dissertation arises approximately three years ago. But this theme of systemic frustration extends back several decades. As a K12 and undergraduate student, I often felt alienated within a system that seemed to uncouple achievement from learning. As a classroom educator with Chicago Public Schools, I often felt disheartened with the accountability measures and public discourses of deficit around education that seemed to continually assert blame on the part of hard-working teachers and beleaguered students and their families. And as a higher education professional who has served in roles of a learning specialist, instructional designer, and grant program manager, I often encountered the troubling ways in which bureaucratic expediency and a sense of self-inefficacy from educational leaders, educators, students, parents, and various other stakeholders led to the maintenance of status quo operations in the various systems in which I worked.

As I reflect on the sum of my experiences as a student, educator, and administrator in educational contexts, I recognize that each successive professional step I have taken has led me to increased opportunities to work toward innovation and transformation for more humanizing, equitable, and democratic systems of education. That work has often blurred the distinction between theory and practice, and to work toward a praxis that also shapes who I am continually becoming. I take as a maxim for my life and my work the aphorism of Maxine Greene, who offered, "I am what I am not yet" (Teachers College, Columbia University, 2001, para. 1).

This dissertation takes the form of an action research study, as a methodological approach to ameliorate my problem of practice (Branbury, 2015; Mertler, 2017; Reason, 2006; Sangiorgi & Scott, 2014). I choose to speak in the first-person as a way to articulate my positionality toward my own challenges as a scholar-practitioner (Loescher, 2018; Miles, Huberman & Saldaña, 2020). While my role and operational focus as a practitioner has shifted over the past three years, I can see the foundation for my research pursuit has never wavered. Through all, I am still so curious about framing *what is* clearly, in hopes of seeing the ways in which our systems might be otherwise (Greene, 1995). While I do not have a concrete articulation or normative vision for what *should be* otherwise, I like to imagine systems of formal, informal, and even postformal learning where the neoliberal and dehumanizing mechanisms of our current systems are transformed into democratizing, open, adaptable, and humanizing spaces. I see this study, and my work in the Mary Lou Fulton Teachers College at Arizona State University in general, as a pursuit toward supporting the reimagination and redesign of these systems.

The purpose of this study is to analyze a programmatic innovation designed to equip educational leaders to imagine and prepare to lead toward transformed futures for the education systems in their charge. This study took the form of a qualitative action research case study. In this chapter, I begin by tracing a broad global context of current and looming societal challenges and their implications for education and educational leaders. Next, I situate my context as a scholar practitioner within my larger university and organizational unit contexts to articulate the problem of practice and the research questions driving the study. In Chapter 2, I show how the literature on design thinking, imagination and transformative leadership inform the theoretical framework for my innovation, known as Learning Futures Leadership. In Chapter 3, I introduce my research design, including data collection methods I used to explore my research questions, as well as a sketch of the action research cycle for this iteration of the innovation. Chapter 4 introduces the qualitative data findings from the study, and Chapter 5 discusses the findings in relation to the research questions and extant literature, as well as discussed the study's limitations and future implications for further practice and research.

Context for the Study

The following section situates the study as a contextual funnel, operating from a global sphere down to my local, situational and personal contexts. Through this funneling, I present the problem of practice and research questions driving the study.

Global Context: Our Whitewater World

Even prior to the global disruption of the novel coronavirus and subsequent COVID-19 pandemic outbreak in early 2020, our contemporary moment finds us living through immense complexity and a time of continual, rapid change. While change is a

pervasive, persistent truth for life on Earth, the changes humanity is experiencing in the first quarter of the 21st century have been taking place at an unprecedented scale and pace (Cook, 2019; Harari, 2018; Schwab & Davis, 2018). Klaus Schwab, Executive Chairman of the World Economic Forum, has described our world as undergoing a *Fourth Industrial Revolution*, in which the proliferation of technological advancement across the globe is "merging the physical, digital and biological worlds in ways that create both huge promise and potential peril" (World Economic Forum, n.d.). At the same time, challenges like global climate change, mass migration and the implications for public health in an interconnected world, geopolitical instability, the rapid rise in technological disruption, and environmental degradation are just a few of the challenges we collectively face as a human species. Futures scholar Jennifer Gidley (2016) has referred to these challenges as *planet-sized*, while designer Cheryl Heller (2018) takes an even larger scale to label our current challenges as *intergalactic.* Elsewhere, our world has been described as volatile, uncertain, complex and ambiguous, or VUCA (Cousins, 2018; Shields, 2018).

Historically in academic literature, these kinds of problems in the social sciences have been identified as *wicked problems*. First coined by Rittel and Webber (1973), wicked problems, broadly, are contemporary social problems that are not solvable simply by moving through a deductive or even an inductive form of analytical, stepwise problem solving. The nature of wicked problems makes solving them difficult, because they are hard to understand and the precise approaches needed to solve them can be even more difficult to identify. Wicked problems are also characterized by their indeterminacy, meaning they also can appear without limit (Buchanan, 1992). Further, wicked problems

typically do not yield to approaches that attempt to apply existing solutions (Buchanan, 1992; Zafeirakopoulos & van der Bijl-Brouwer, 2018;), thus working to ameliorate such problems may require reframing them or refreshing our views on them (Fisher, 2016; Pacanowsky, 1995). Recently, Levin et al. (2012) have identified global climate change as a kind of *super wicked problem*, where "traditional analytical techniques are ill equipped to identify solutions, even when it is well recognized that actions must take place soon to avoid catastrophic future impacts" (p. 123).

I think of our current lived contexts as what design scholars Ann Pendleton-Jullian and John Seely Brown (2018a, 2018b) referred to as a *whitewater world*; that is, a world of "dynamic flows in which so much of what we do and know is radically contingent on the context at the moment one is looking at it, or operating in it" (p. 28). Our whitewater world, with all the benefits and emerging difficulties that our technological advances have wrought, is now broadly connected, rapidly changing, and radically contingent (Pendleton-Jullian & Brown, 2018b). The metaphor of a rafter navigating whitewater rapids is apt; change often happens at a faster pace than we are able to keep up with, and the wicked problems that emerge from the dynamic circumstances of our contexts can often render our traditional, analytic approaches to managing and solving them ineffective.

Appropriately, educational leaders have started to describe educational contexts as being imbued with intractable complexity in line with the wicked problems of our whitewater world. Diefenthaler, Moorhead, Speicher, Bear, and Cerminaro (2017) have written about the dynamic and changing context that education often presents for educational leaders. Given the shifting demands on schools, from accountability and

testing reforms to the increased demands for social services that schools must provide, the field of education is full of complexity. As Bryk, Gomez, Grunow & LeMathieu (2015) argued, leading successful innovations in our complex education systems requires aspiring change agents to recognize that all of the requirements for a change can't be neatly laid out in a predictive fashion – nor can the potential consequences and externalities that may ensue. Given the difficulty of both untangling the complexity of a given problem and the contingent nature of the solutions that arise, educational leaders are beginning to look beyond traditional leadership models and strategic planning methods to address these kinds of challenges.

While a turn to the field of design is relatively recent and might typically be considered beyond the traditional sphere of education and educational studies, it is worth recognizing that our educational systems have themselves been *designed*. As Richter and Allert (2017) stated:

> Education and educational systems are artificial phenomena in the sense that they emanate from human intervention and effort. Irrespective of whether we look at policies, curricula, instructional measures, tools, networks, or environments, educational processes are essentially shaped by man-made inventions and artifacts. As a consequence educational processes are not uniform and lasting but contingent on the socio-material, and historical conditions in which they take place (p. 1).

As outcomes and operations of human invention, educators are also recognizing that the artificial and contingent nature of our education systems open up possibilities for

how these systems might be otherwise designed. Some are beginning to explore the ways in which educators can embrace thinking and acting like designers to develop meaningful, rich educational innovations. Thus, as the pace of our whitewater world and its complex problems continues, educational leaders are finding promise in the imaginative mindsets and methods of design.

Local Context of the Study: Innovation by Design

Institutional Context. Arizona State University (ASU) sits as a major public research institution of higher education in the heart of the greater metropolitan Phoenix area in the southwestern United States. As a principal focus of President Michael Crow's leadership, ASU "has reconstituted itself through a deliberate design process as a foundational prototype for a New American University," (Crow & Dabars, 2015, p. 240). As a prototype, Crow has moved to reposition ASU as "a comprehensive knowledge enterprise dedicated to the simultaneous pursuit of excellence, broad access to quality education, and meaningful societal impact," (Arizona State University Office of the President, n.d.). Central to these pursuits are eight design aspirations, which serve as "institutional objectives that guide the ongoing evolution of ASU as a New American University" (ibid.). Among the design aspirations are calls to "transform society" by catalyzing social change and "fuse intellectual disciplines" in order to create knowledge (ibid.).

The inclusion of design language for President Crow is not incidental nor strategically used for buzzworthy purposes at a time when design is rapidly rising across numerous organizational domains (Baker & Moukhliss, 2020; Schell, 2018). Rather, design occupies a prominent place in Crow's, and by extension, ASU's organizational

leadership and operational imperatives. In April 2019, Crow delivered an opening keynote at the ASU GSV Summit in San Diego, California, titled "Designing Partnerships for Social Impact and Transformation" (Global Silicon Valley, 2019). In that presentation, he framed his remarks around a canonical definition of design from seminal design theorist Herbert Simon (1988), who offered that "Everyone designs who devises courses of action aimed at changing existing situations into preferred ones" (p. 111). As the notion of change from *what is* to *what is preferred* applies to the design of a university, Crow has noted that design's importance to his vision for ASU lies in its utility as a way to identify, begin to verbalize, and then take action toward reimagining the institutional design in higher education that he lamented has often become internalized, isomorphic, and stagnant (Crow & Dabars, 2015). Across the landscape of the university, this emphasis on design as a vehicle for recognizing challenges and as a proposed methodology for taking action for change has disseminated through numerous organizational units at ASU. In addition to a design school that offers education in classic and emerging design disciplines, numerous other academic and administrative units across the university include *design* in their name and/or core mission. The university, then, through the efforts of its leaders to reposition its role in the landscape of education of the United States, has come to engage in design as a reflexive component of its identity and mission.

Organizational Context. Given the aforementioned emphasis on design at an enterprise level of the university, it is no surprise that ASU's design aspirations, which also include a call for social embeddedness and responsibility for the surrounding community, should permeate the organizational imperatives of its college of education.

Since 2017, the Mary Lou Fulton Teachers College (MLFTC) has instantiated a Design Initiatives (DI) team which fuses design-based practices with educational leadership and technology to work with school districts in partnerships to identify and ameliorate their self-identified problems of practice. In line with the larger design aspirations of the university and its positioning as a prototype for a new kind of institution of higher education, the goal of this work sought to position the college as an "education innovation engine," which would support community-based cohorts of teams using design thinking-based approaches to drive organizational innovation in the communities' schools (Mary Lou Fulton Teachers College, 2017). As MLFTC Dean Basile shared in an open letter in 2017, the college's effort to engage in this design work as an innovation laboratory to work toward ameliorating communities' wicked problems in education is a part of the larger mission of MLFTC to improve education outcomes and ultimately, the civic and economic health of Arizona's communities (Basile, 2017). The DI team's work has been established as one strand in a series of MLFTC initiatives aimed at spurring systemic transformation across the educator sector, which also include a curricular redesign of its teacher education program to emphasize role-based specialization and teacher teaming, as well as a workforce development team emphasizing expanded educator roles and personalized learning for students.

Personal Context. From September 2019 to March 2021, I served as the director of the DI team. I began my work as the lead design strategist for the team in September 2017 and worked for two years in that role to plan and deliver the training and project management work of design partnerships with local districts. For the first nine months, I was the only design strategist on the team, and I was largely responsible for all of the programmatic and relationship management work within the partnerships. In September 2019, I stepped into the team director role, where I supervised a team of two design strategists, and regularly collaborated with nearly a dozen other staff members across my unit in the college's Office of Scholarship and Innovation.

At its outset, the DI team's operational focus centered on building school-university partnerships, referred to within the organization as Community Design Labs (CDLs). Through the CDLs, the DI team worked with partner schools and districts to identify the partner's needs and problems of practice. Then, the DI team worked with partner districts to pursue design processes, informed by a variety of popular and scholarly design guides and toolkits, to design, test, and iterate solutions toward the identified problem of practice.

One notable example from the initial operational efforts of the DI team lends insight into the connection of the DI team's work to MLFTC's efforts to spur systemic innovation, and to ASU's larger design aspirations. During the 2017-2018 school year, the DI team initiated a CDL with the Kyrene Elementary School District, located in the Phoenix metropolitan area, to redesign one of the district's 25 elementary and middle schools into a model *school for the future*, in hopes of attracting both students and educators as a means of improving student enrollment and teacher retention in the

district. This CDL focused on leading a core district design team, assembled from administrators, educators, support staff, parents, and community business leaders, through the design thinking processes to explore and understand the challenge, generate ideas, and develop a prototype model to test. By the start of the 2019-2020 school year, the district operationalized the prototype in a small, mixed-age classroom block in an existing school. Data collection and research on the prototype, as well as plans for future expansion, have been ongoing throughout the 2020-2021 school year.

While working as a lead design strategist across more than half a dozen partnerships, our team experienced a number of problems of practice, which led me to pursue action research doctoral study. Initially, we had the challenge of helping school partner participants develop the skills to effectively utilize the skills and tools of design and design thinking for organizational innovation, which is becoming an increasingly common challenge for non-designers working to develop design efficacy (Schell, 2018). As our work with partners progressed, we recognized that so many of our partners expressed difficulty embracing the tools and mindsets of design and design thinking, as well as their constrained orientation toward the possibilities for how their systems and institutions might be otherwise, due to the demands of their present reality. Partner leaders often expressed their frustrations with the systemic barriers to change to many of their problems of practice, including the underlying bureaucratic requirements and structural incentives that kept them focused more on day-to-day challenges at the expense of imaginative rethinking about what their systems might otherwise be. Some of these challenges included the need to improve their school's or district's letter grade rankings

and test scores, the need to craft more effective discipline policies, and the need to manage personnel complaints from parents and teachers about one another.

The DI team recognized these leaders' frustrations as tacit articulations of a normative *grammar of schooling* that constrained their leadership efficacy. The grammar of schooling (Mehta & Fine, 2018; Tyack & Cuban, 1995; Tyack & Tobin, 1994) represents the regular, often implicit or taken for granted structures and rules that organize the work of organization and instruction in school. Examples of this grammar include standardized organizational practices like sorting students into age-based grade cohorts, organizing learning by content area, and structuring time according to bell schedules (Mehta & Fine, 2018). Many features of this grammar have remained remarkably sticky in public schools, sometimes dating back to the beginning of the 20th century, despite various attempts to alter it (Tyack & Cuban, 1995).

A prominent explanation for this stickiness is that many of these features of the grammar of schooling are taken for granted as inherent to schooling itself, often making it difficult to even see alternative approaches. Returning to the informal interviews with educational leaders, some expressed a frustration that while they envisioned themselves leading innovative change and having the agency and capacity to truly redesign the systems in their charge to meet the looming challenges of a whitewater world, many of them shared that they simply felt like mid-level managers whose primary responsibility was to maintain or make palliative improvements to the status quo. Thus, as CDL projects came to a close and the DI team reflected on next steps, the team began to imagine how it might better support partner leaders to develop their agency to lead for systems change.

Through the reflective practice of the CDL work, DI team's operational focus has shifted away from primarily building classic school-university partnerships to foster schools' use of design thinking approaches and dispositions as an organizational strategy for innovation. During the 2019-2020 academic year, the DI team began to prioritize the development and launch of products, services, and programming aimed at supporting leaders' efforts to become systems change agents in an initiative called Learning Futures. Core to the idea of Learning Futures is school leaders' development as systems designers and transformative change agents. As internal communication and strategy documents developed, an aspirational articulation of Learning Futures emerged:

> Learning Futures at ASU proceeds from the conviction that, in a world experiencing faster and bigger change, we need education leaders who can make informed, ethical and effective decisions about what to do and not do. Our work is rooted in a core value of principled innovation, which holds that education should answer to three imperatives:
>
> - An equity imperative: We need to deliver excellence in education to all learners across geography, income, race, ethnicity, gender, learning style, disability or any human characteristic that might lead to unfairness or discrimination in learning opportunities.
> - An economic imperative: We need to prepare learners for the next economy and equip them for success in the workforce of the future.

- A democratic imperative: We need to prepare learners to be caring, responsible citizens capable of balancing individual ambition and the public good.

> Through principled innovation, Learning Futures at ASU supports collaborative leaders who bring people and ideas together to advance equity and excellence in education systems (Mary Lou Fulton Teachers College, n.d., para. 4).

The DI team's shift toward focusing on educational leaders has been driven by the internal reflections of the DI team for how to best support systems redesign, as well as a recognized need within the college to better align the Design Initiatives team's work to support and align with MLFTC's other strategic initiatives to redesign its teacher preparation curriculum and support new education workforce models with partner K12 districts in the surrounding community.

As the DI team worked to reposition its efforts to support school leaders' efforts through its Learning Futures programming, a unique opportunity to prototype the Learning Futures leadership programming with aspiring educational leaders has emerged. In the spring of 2020, MLFTC's division of educational leadership and innovation began to redesign its master's program in educational leadership, in anticipation of launching the new program in the fall of 2021. One important focus of the redesign was to expand the intended audience from a narrower focus on principal preparation toward a broader conception of preparing aspiring leaders across the education sector. I refer to these students as *aspiring school leaders* in line with how college faculty describe them. While undergraduate students in teacher education programs are sometimes referred to as pre-

service teachers, a similar pre-service principals' moniker may not be applicable for these graduate students, whose aspirations for school leadership may lead them to roles other than toward K12 school principalship.

Learning Futures concepts and activity protocols were identified as potential programmatic elements that might be adopted as part of the redesign. As a participant in the redesign process, I discussed introducing elements of Learning Futures Leadership programming as a curricular innovation in the program during the 2020 fall semesters, thus creating an opportunity for the emerging body of Learning Futures work to function as a design prototype within the program, in order to gain exposure, feedback, and iterative learning from aspiring educational leaders.

The Problem of Practice

The problem of practice that drove my study was that educational leaders are not well prepared to lead transformative change initiatives (Gidley, 2016; Shields, 2018) in an uncertain, complex, and rapidly changing world. Largely isomorphic designs of school structures and bureaucratic requirements effectively incentivize adherence to the status quo, and foster resistance to the kinds of systemic change the college has pursued through its initiatives to spur systems innovation. What this problem of practice suggested was that educational leaders have incredible agency to lead innovation within their contexts, but that they needed to be equipped not only with new methods for leadership, but with new paradigms and conceptual understandings to support a focus on systems transformation and leading change. This problem of practice stemmed from a felt difficulty as a practitioner and was consistent with recent literature on how education doctoral students derive their problems of practice (Gillham et al., 2019; Kennedy et al.,

2019). As I worked to develop professional learning products, services, and events that support transformative and futures-oriented leadership to practicing and aspiring school leaders, the problem of practice that drove this study laid at the heart of the work my team and I were directed to support and find solutions toward.

The purpose of this action research study is to understand how a prototype of Learning Futures Leadership (LFL) programming, offered through course instruction in a Master of Education in Educational Leadership program, might empower aspiring school leaders to imagine and prepare to lead toward transformed futures for the complex systems that are K12 districts in the contemporary United States. The innovation is based on a framework informed by the mindsets and dispositions of design thinking, with particular emphasis on abductive reasoning and imagination, and is situated upon a foundational leadership approach known as transformative leadership (Shields, 2018, 2011; 2003), which calls for educational leaders to critically reflect on the structural and systemic injustices in education systems and begin to work toward more equitable systems.

Research Questions

This study uses an action research methodology to describe aspiring school leaders' perceptions about the future and its demands on their future role as leaders, to understand aspiring leaders' perceptions about the programming in regard to its support for their agency to lead systems change, and to derive lessons learned about the innovation for future use and adoption for the DI team. The research questions follow:

RQ1. How do aspiring educational leaders contextualize the ways in which uncertainty facing the education system might impact their future leadership?

RQ2. What mindsets and conceptual understandings do aspiring educational leaders believe they need in order to lead during uncertain times?

RQ3. To what extent did the experiences of the EDA 634 course innovation result in the underpinnings for a mindset shift to lead during uncertain times?

At heart, this study is a design project. By getting an empathetic, human-centered perspective about our uncertain times, we can better support and prepare offerings to train and develop our (future) education leaders.

Chapter 1 Summary

In this chapter, I have introduced my positionality as a scholarly practitioner, and set myself within the global context of a whitewater world, as well as situated my personal context within the design aspirations of my university and organizational unit. I have articulated the purpose for the study, which is to respond to the problem of practice that educational leaders are not well prepared for transformative change initiatives. I have stated the research questions driving this study, which I will seek to explore through a qualitative action research study analyzing a programmatic innovation designed to equip educational leaders to imagine and prepare to lead toward transformed futures for the education systems they will lead. In Chapter 2, I will describe the theoretical perspectives guiding the study, which provide the foundational components for my innovation framework, as well as describe previous cycles of action research.

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

> It is unlikely that educational reality will remain stable over time for the very practical reason that educators today are confronted with many problems that did not even exist in the past. This suggests that if educational research is to make a contribution to the improvement of education, it will be through the provision of new intellectual and practical resources for the day-to-day problem solving of educators. Improvement of education is, in other words, to be found in the extent to which research enables educators to approach the problems they are faced with in a more intelligent way. (Biesta & Burbules, 2003, p. 111)

In Chapter 1, I situated my problem of practice and research questions guiding the study a global and local context of a whitewater world; that is, one which is rapidly changing, radically contingent and hyper-connected. In this chapter, I establish the theoretical grounding for a Learning Futures Leadership (LFL) innovation that draws from literature on design thinking, imagination, and transformative leadership theory in education to support educational leaders' capacities to navigate this whitewater world. I situate my theoretical framework within a pragmatist paradigm, and show how action research connections between emphasizing the role of design thinking (DT) methods and mindsets for solving complex problems, and paying attention to its use of abductive reasoning and imagination. Next, I explore literature on imagination and how it informs educational leaders' capacity to generate possible future states related to their complex and wicked problems. I then ground the LFL framework in educational leadership theory of transformative leadership. I conclude the chapter with a description of previous cycles of action research.

Theoretical Alignment of the Study

It is worthwhile for qualitative researchers to make their perspectives and positionality clear (Miles, Huberman & Saldaña, 2020). To that end, the theoretical perspectives and research methodology guiding this study are theoretically aligned along largely pragmatist grounds, stemming from my ontological and epistemological leanings. The following section details the alignment of my ontological and epistemological outlook and theoretical perspectives for my study's design. I will articulate the theoretical alignment of the study's research methodology and data collection methods in Chapter 3. The theoretical alignment for the research study is shown in Table 1.

Table 1.

Theoretical Alignment of the Action Research Study

Ontology	Epistemology	Theoretical Perspectives	Methodology	Methods
Transactional realism	Pragmatism	Design Thinking; Imagination and abductive reasoning; Transformative leadership	Action research; Case study	Document analysis; Video analysis; Semi-structured interviews; Observations;

Throughout this study, while I call on a variety of theories and perspectives that I marry to inform the Learning Futures Leadership framework, I consider the sum of the perspectives driving this work to be both inspired by and to serve as an instantiation of Deweyan pragmatism for educational inquiry. In the following section, I broadly trace an outline of Deweyan thought related to educational inquiry, its implications for

educational research, and its connections — both compartmentally and holistically — to Learning Futures Leadership.

Ontology

With respect to my ontological outlook, I operate from a perspective of Deweyan *transactional naturalism*, which may be understood as a kind of phenomenological realism. As Biesta and Burbules (2003) noted, Dewey's transactional realism claims that while knowledge is a construction, it is not "a construction of the human mind, but a construction that is located in the organism-environment transaction itself" (p. 11). This study, then, takes as a given that there is a tangible, corporeal reality in which human beings interact with their environment. That is, as humans make their way through a contingent and ever-changing world, they both act and are acted upon by numerous other subjects and objects, including other people, animals and organisms. The imperative underlying this transactional naturalist position is that the situatedness of existence for living organisms in this corporeal reality demands they take care for survival (and any other higher purposeful aspiration).

Epistemology

Given my ontological positionality of transactional naturalism, a pragmatist epistemology follows, entailing that human knowledge is largely provisional, positing that what human beings know results not from a traditional *correspondence* of truth between our perceptions and an external reality, but rather from the lived and felt experiences humans have (Boyles, 2006; Stuhr, 2003). Put another way, a pragmatist epistemology does not take human truths or knowledge to be grounded in a priori, idealist principles to which we align or correspond our experiences; instead, it takes the lived

experience as a means through which humans act and interact with their surrounding environment. Through experience, humans can develop warranted assertions (Biesta & Burbules, 2003; Dewey, 1938; Boyles, 2006; Hickman, 2007). For educational researchers, an epistemological stance toward warranted assertability suggests that inquiry is the very tool they should use to determine the workability of their own hypotheses and data, as opposed to the idea that some external mechanism for truth exists (Morgan, 2007).

Deweyan Pragmatism and Educational Inquiry: A Paradigmatic View

The work of American philosopher and educator John Dewey tends to hold a special place in the sphere of education. Dewey was a leading figure in the emergence and articulation of pragmatism, a philosophical tradition that has been widely cited as one of America's most important contributions to the field of philosophy (Crow & Dabars, 2015; Menand, 2001; Westbrook, 1991). Throughout his career, Dewey's work focusing on education played a central role in the articulation of his pragmatist stance, both as an epistemology and as an argument for the purposes and possibilities education ought to pursue. Broadly, Dewey's pragmatist philosophy stresses a few primary tenets, including: metaphysical/ontological realism, a rejection of the mind-body duality, and an emphasis on judging the truth or usefulness of a proposition by its outcomes (Biesta & Burbules, 2003; Menand, 2001; Stuhr, 2003; Westbrook 1991). With respect to education, Dewey's contributions are widely cited in informing the American movement toward progressive education during the early 20th century (Boisvert, 1998, Ryan, 1995; Westbrook, 1991).

Today, one domain of education in which pragmatism tends to flourish is as a foundational research paradigm that provides a framework for educational inquiry (Biesta

& Burbules, 2003; Feilzer, 2010; Mertens, 2015; Morgan, 2007). Pragmatism as an education paradigm does not dictate any particular research design or methodology, and methods used under a pragmatist umbrella can include traditional quantitative, qualitative, mixed methods, and action research designs (Mertens, 2015). As a paradigm, pragmatism has typically concerned itself more with the orientation researchers take toward inquiry itself, as opposed to a specific program of research. Dewey (1908) himself noted that an education based on pragmatism would "turn out persons who were alive to the necessity of continually testing their ideas and beliefs by putting them into practical application, and of revising their beliefs on the basis of the results of such application" (p. 188). Appropriately, large swaths of his work are dedicated to inquiry and even the notion that educators should be inquirers. In this sense, a pragmatist paradigm grounds inquiry itself as a mode of educational practice. To that end, Dewey wrote extensively on how inquiry in education could be used to help educators become more informed and more intelligent practitioners (Biesta & Burbules, 2003; Dalsgaard, 2014; ; Dewey, 1908; Schon, 1987; Steen, 2013).

Pragmatism as a research paradigm has both proponents who praise its relative strengths in shaping and informing research students, and critics who take the pragmatic research paradigm to task for its relative weaknesses. Morgan (2007) has suggested that the pragmatic approach to social science research might be a better alternative to the dominant positivist metaphysical approach to traditional research, and notes that the pragmatic approach offers: a) an abductive reasoning response to the connection of theory and data; b) a relationship to the research process marked by intersubjectivity; and c) a transferability of the inferences from data (p. 71). However, Denzin (2012) has

offered that while pragmatism is a paradigm or doctrine of meaning, it is not a methodology per se. And because of pragmatism's emphasis on what works, Denzin (2012) argues that the meaning of research study founded on pragmatist underpinnings can't be given in advance, nor can its meanings be revealed by a given methodology.

Pragmatism and Action Research

While a pragmatist paradigm may be more appropriate as kind of general approach to inquiry rather than as a prescribed methodology for educational research, the foregoing analysis does suggest that an action research study may be an appropriate methodological choice, given a researcher's interest in looking to understand and act on their own contexts. To clarify this connection, it is worth examining Dewey's theory of inquiry and its implications for action research.

In his 1938 work *Logic: The Theory of Inquiry*, Dewey offered that a proper interpretation of the term *pragmatic* entails "the function of consequences as necessary tests of the validity of propositions, provided these consequences are operationally instituted and are such as to resolve the specific problem evoking the operations," (p. 4). From its foundations, Dewey's theory of inquiry adopts a kind of transactional, consequentialist view for how we work to resolve problematic situations that depend on human action to test or assess our efforts (Biesta & Burbules, 2003; Levi, 2010). Similarly, as Stuhr (2003) has noted, Dewey's theory of inquiry is, contextual, temporal, operational and reconstructive, meaning that it is grounded in and actualized through humans' lived situations and actions as they seek to transform problems into provisional solutions.

As Dewey maintained that inquiry should never be final or permanent, his understanding of how humans attempt to solve problems likely seems largely congruous for how and why we solve problems today; namely, to make our way through a complex, changing world as best we can. As Dewey (1938) himself suggested, "inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole" (p. 108). Dewey's theory here is also in line with a fellow originator of pragmatist thinking, Charles S. Peirce, whose 1878 articulation of the pragmatic maxim Dewey scholar and philosopher Larry Hickman (2007) summarized thusly: "the meaning of a concept is the difference it will make within and for our future experience," (p. 36). Inquiry, for both Dewey and the pragmatists, is a highly practical matter that aims to help humans take action in lived, situated contexts.

While Dewey offered several articulations of how his theory of inquiry might be operationalized, most of his attempts suggested that inquiry be a serial or sequential process (Biesta & Burbules, 2003). Steen (2013) offers the following sequence for Dewey's sequential inquiry as: *Exploring and Defining the Problem (Phases 1 and 2)*; *Perceiving the Problem and Conceiving Possible Solutions (Phase 3)*; and *Trying Out and Evaluating Solutions (Phases 4 and 5)* (p. 22-23). In 1909's *How We Think*, Dewey suggested the following steps: (a) A felt difficulty; (b) its location and definition; (c) suggestion of the possible solution; (d) development by bearings of the reason of the suggestion; (e); further observation and experiment leading to its acceptance or rejection (as cited in Biesta & Burbules, 2003). It is important to note here that for Dewey, these serial attempts to conduct inquiry were not based on positivistic or static notions of a

need for empirical certainty based on the results of inquiry. Because he believed that this inquiry was a mode of living and transacting with the world, Dewey did not think the results of the inquiry should be mono-directional in changing the orientation of the inquirer. Moreover, Dewey did not see the outcomes of inquiry simply as thought exercises to inform one's thinking; rather, he saw the very role of inquiry to be an embodied endeavor to help people solve problems and make progress (Biesta & Burbules, 2003; Boisvert, 1998). Related to that, he also thought these outcomes of inquiry would change the context or environment in which the person acted.

Design Thinking

Broadly, design thinking (DT) is an umbrella term to describe a multidisciplinary, reflexive, and iterative approach to generate new solutions to existing problems, and primarily seeks to develop in non-designers the kinds of attitudes and practices that designers employ in their craft. (Brown, 2009; Liedtka et al., 2011; Loescher et al. 2019; Schallmo et. al, 2018). DT has leapt into the public consciousness and its popularity has proliferated beyond traditional design domains over the past few decades, including in fields of business administration, healthcare management, urban and civic planning, and education (Baker & Moukhliss, 2020; Lockwood & Papke, 2017; Schell, 2018). Across domains and fields, DT has been described as variously as a process or method for solving wicked problems (Diefenthaler et al., 2017; Henriksen et al., 2017; Henriksen et al., 2019), as dispositions needed for solving wicked problems, and as an organizational leadership and management approach to fostering an innovative culture (Buchanan, 2015; Johansson-Sköldberg et al., 2013; Kimbell, 2009; Loescher et al., 2019; Orthel, 2015). While this study limits its focus to the literature on DT, there is widespread use, both

interchangeably with and complementary to DT, of terms like human-centered design, user-centered design, service design, and social design (Goldman & Kabayadondo, 2017; Stickdorn et al., 2018).

In practice, DT has proliferated across various sectors and industries to address real-world challenges in everyday life (Baker & Moukhliss, 2020; Diefenthaler et al., 2017). For example, prominent firms like IDEO and Frog Design have emerged as global design consultancies, working toward large scale solutions (Lockwood & Papke, 2017). Governments in the United States, the United Kingdom, and Finland have established policy labs utilizing design thinking for social innovation (Cook, 2019; Liedtka et al., 2017a, 2017b). Elsewhere, non-profit firms like +Acumen and several universities, including Stanford University's d.school, have established formal DT learning experiences, including free, massive online open courses (MOOCs), as well as fee-based, for-credit "crash courses" and sprints (Baker & Moukhliss, 2020; Schallmo et al., 2018; Schell, 2018). The rise in popularity of DT can largely be attributed to its espoused benefits to help individuals, teams, and organizations generate new solutions to wicked problems. As Schell (2018) noted, "design thinking has hit peak popularity; there is no time in history when it has been more talked about, desired or needed" (para. 3). Given the context of our whitewater world from Chapter 1, and the inadequacy of traditional, analytic problem solving and management approaches, it is little wonder that people have begun looking for alternatives. From a pragmatist sense, this is a natural extension of inquiry for people looking to make their way in a contingent world.

Design Thinking as Method and Mindset

While a wide array of operational definitions and conceptual representations of design thinking exist, recent reviews of the literature on design thinking (Baker & Moukhliss, 2020; Loescher et. al, 2019; Panke, 2019; Razzouk & Shute, 2012; Schallmo, et al., 2018) have tended to identify design thinking within two prominent avenues of application: as a process or methodology for problem solving, and as a set of mindsets or principles for how to approach problem solving. In this section, I explore the literature related to each of these dimensions of design thinking.

Design Thinking as Method. As a methodology, DT is commonly understood as a simplified problem-solving process that borrows from the many research and design techniques and tools that practicing designers use (Baker & Moukhliss, 2020; Dalsgaard, 2014; Goldman & Kabayadondo, 2017; Schallmo, 2018). Most notably, DT is a reflexive, non-linear process for creating artifacts, products, and services that often spring from non-linear problems. (Kolko, 2015; Lor, 2017; Orthel, 2015). Depending on the model, there are usually a pre-defined number of steps or phases, but these phases can be visited and revisited as part of iterative and reflexive learning on the part of those working the problem (Dorst, 2007; Diefenthaler et al., 2017; Henriksen et al., 2019). In this way, DT asks its users to become reflective practitioners (Schön, 1987), immersed in their problem context to solve and re-solve their problems, often opening up new opportunities or possibilities in the process (Dalsgaard, 2014; 2017).

Method models for DT often focus on discrete phases or processes steps. This usually begins with a focus on the people most affected by the challenge or problem to be solved. Next, the process progresses to a (re)framing of the challenge, moves through a

period of solution ideation, and then develops iterative prototypes of the solution and gathering feedback from stakeholders or clients (Lor, 2017; Panke, 2019; Schallmo, 2018). The Stanford d.school model, which has been used in recent literature with practicing teachers (Henriksen et al., 2018; Henriksen et al., 2017) has five phases: *Empathize*; *Define*; *Ideate*; *Prototype*; and *Test*. The IDEO process from the *Design Thinking for Educators Toolkit* offers the following steps: *discovery*, *interpretation*, *ideation*, *experimentation*, *evolution* (IDEO, 2012). The Liedtka et al. (2011) model presents key questions that drive the design process: a) What is?; b) What if*?*; c) What wows*?*; and d) What works?

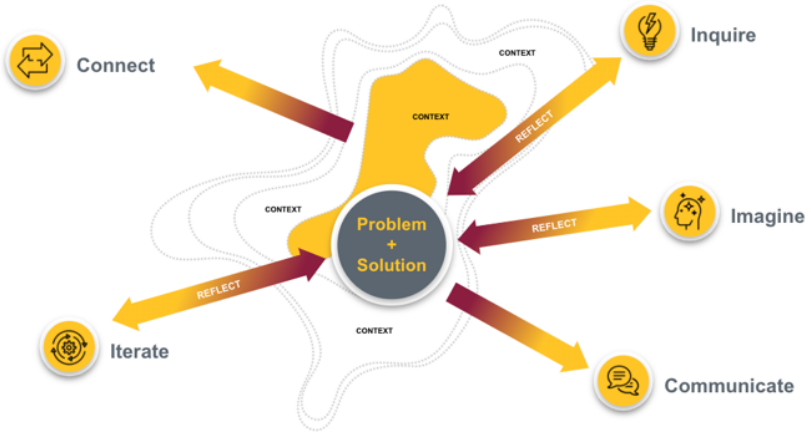
Several popular design thinking guides accompanying these frameworks also suggest facilitation protocols for how to conduct design thinking in practice. These protocols often take the form of ad hoc design research and data collection, and share or borrow from strategic tools used in social design, user experience (UX) design, and service design (Gallagher & Thordarson, 2018; Pannafino & McNeil, 2017; Stickdorn et al., 2018.). In a review of the tools that characterize design thinking, Panke (2019) found more than 50 tools used in design thinking guides, ranging from single techniques to whole processes. Some of these tools include the protocols of card sorting, empathy mapping, interviews, storyboarding, persona mapping, role playing, fishbone diagrams, and focus groups (IDEO, 2102; Liedtka et al., 2011; Panke, 2019; Pannafino & McNeil, 2017; Stickdorn et al., 2018).

The DI team in MLFTC has established its own process model for the DT process that guides its work and work with partners. At launch, the team initially leaned on models from the Henry Ford Learning Institute, IDEO.org, Liedtka et al. (2011), and the

Stanford d.School. As the team honed its practice, it found these prescribed processes and their associated toolkits to present somewhat generic, sequential models defined by a series of steps and activities to follow, irrespective of the design context or problem in the moment (Mishra, 2020). The DI team established its own DT process model, with support from MLFTC Design Fellow Dr. Melissa Warr, which focuses specifically on the role of DT in educational spaces. This model is shown in Figure 1.

Figure 1.

MLFTC DI Team Design Process Model



Design Thinking as Mindset. In addition to being defined by an array of adoptable processes for application, DT is also typically understood to foster integral mindsets or dispositions toward solving complex problems. Here, the term *mindset* is employed as an extension of its usage in educational contexts through the work of Dweck (2008). Building on that scholarship and popular understanding, Crum et al. (2013) define mindset as "a mental frame or lens that selectively organizes and encodes information, thereby orienting an individual toward a unique way understanding an experience and guiding one toward corresponding actions and responses" (p. 717). In this

way, mindsets are integral to DT and the mental frames that non-designers may need to adopt in order to process through DT behaviors, processes, and protocols (Liedtka et al., 2017b; Royalty & Roth, 2016). Across the literature, a variety of mindsets or dispositions have been identified as useful for engaging in DT, as well as those that may be developed or enhanced through the application of DT. Most prominently, two key dispositions emerge from the literature to solidify their place as cognitive anchors to the concept of DT: human-centricity or empathy, and an openness toward and comfort with ambiguity (Gallagher & Thordarson, 2018; IDEO, 2012; Mosely et al., 2018; Panke, 2019).

Among the most-cited dispositions DT asks of practitioners is the need for empathy. Scheer et al. (2012) define empathy as "the competence of recognizing feelings, thoughts, intentions and characteristics of others" (p. 12). This cognitive competence is a human-centered disposition (Loescher et al., 2019), and serves as an essential habit of mind for DT (Baker & Moukhliss, 2020; Calgren et al., 2016; Gallagher & Thordarson, 2018; Lande, 2012; Lor, 2017). In this way, empathy is particularly vital to DT precisely because it asks practitioners to learn about and develop an understanding of the needs of those impacted by the challenges or problems at hand.

Developing a comfort with ambiguity is another foundational mindset that DT purports. Given that the problems designers face often occur as messy, indeterminate situations (Meyer, 2015; Schön, 1987), DT asks practitioners to recognize and embrace ambiguity in working through problems (Diefenthaler et al., 2017; Gallagher & Thordarson, 2018; Taheri et al., 2016). Further, this mindset of developing comfort with ambiguity helps delineate DT from more instrumental problem solving approaches that may include a predetermined intention (Jordan, 2016), whereas DT requires practitioners

to constantly move through problems with inquiry and imagination (Kolko, 2011; Steen, 2013), often between what they know and don't know (Pendleton-Jullian & Brown, 2018b; Schon, 1987).

Beyond these primary dispositions, DT literature also reflects an exhortation for practitioners to develop creative confidence (Kelley & Kelley, 2013; von Thienen et al., 2018), which supposes that all people have creative capabilities that can be developed. Others have called for a needed disposition to learn from failure (IDEO, (2012) and develop resilience through iterative design efforts (Goldman & Kabayadondo, 2017; Henriksen et al., 2017). Other mindsets often included in the discussion of DT include a bias toward action (Burnett & Evans, 2016; Gallagher & Thordarson; IDEO, 2012), curiosity (Burnett & Evans, 2016; Liedtka et al., 2011; Lockwood & Papke, 2017), and a desire to create or affect positive change in the world (Heller, 2018; Zafeirakopoulos & van der Bijl-Brouwer, 2018). The literature also suggests that existing psychological theories like positive psychology, self-efficacy theory, and growth mindset contribute to DT mindsets and the ways that designers think (Diefenthaler et al., 2017; Schell, 2018).

DT as a Model for Pragmatic Action Research

Returning to Dewey and the notion of pragmatic inquiry, robust connections emerge between the methods of DT articulated in the foregoing section and the sequential iterations of Deweyan inquiry identified earlier in the chapter. Broadly speaking, both Deweyan inquiry and DT can be conceptualized as reflexive processes of inquiry that seek to generate transformative, if contingent and temporal, solutions for real, lived problems. To this end, some educational publications have begun to look at DT as a pedagogical intervention with explicit connections to action research, and Deweyan

principles of constructivist learning (Gallagher & Thordarson, 2018; Goldman & Kabayadondo, 2017; Jordan, 2016; Loescher et al., 2019; Scheer et al., 2012). For example, design thinking has been identified as having roots in the action research tradition (Romme, 2004). Elsewhere, design theorists have noted how a designer's approach to working as reflective, action-oriented practitioners aligns with pragmatic concepts of inquiry (Buchanan, 1992, 2001; Dalsgaard, 2014, 2017; Melles, 2008; Schön, 1987).

Imagination

At a glance, the concept of imagination may seem fanciful and insufficiently rigorous to include in a research study. Yet Maxcy and Caldas (1991) traced the literature on imagination to the middle of the 20th century, citing its rich history and applications in educational leadership, particularly in educational administration studies focusing on the role of the school principal. Given its long and rich history, this study limits its considerations of imagination to two frameworks for the 21st century that have strong connections to design and educational leadership: the social imagination of Greene (1995) and the Pragmatic Imagination of Pendleton-Jullian and Brown (2018a, 2018b). Both frameworks are used to build connections to both design thinking and educational leadership, and pragmatism more broadly, with particular attention paid to the use of abductive reasoning.

From a Deweyan perspective, imagination plays an important role in projecting possibilities in human thinking, and thus is central to problem solving (Boisvert, 1998). In line with a pragmatist orientation, Boisvert (1998) defines design thinking as "quite simply the capability to envision alternatives to present conditions" (p. 128). Fesmire

(2003) offers that imagination is "the capacity to engage the present with an eye to what is not immediately at hand" (p. 67). And for Dewey (1934), imagination was not a fanciful flight of disconnected navel-gazing, but rather as a capacity for "welding together of all elements, no matter how diverse in ordinary experience, into a new and completely unified experience" (p. 272). Thus, to embrace imagination is also to reject a strictly rationalist or dualistic mode of thinking in line with more inductive or deductive reasoning approaches.

As Maxine Greene (1995) has noted, imagination plays a central role for educators who wish to pursue a new state of affairs. Greene describes this as the *social imagination*, which is "the capacity to invent visions of what should be and what might be in our deficit society, in the streets where we live and our schools" (p 5). This social imagination seeks to create more possibilities and move educators toward more empowered and critical stances toward their practice (Kohli, 2016). Greene also described the act of imagining things as if they could be otherwise as a necessary prerequisite for acting on the belief that change or transformation is possible (1995, p. 4).

In the book series *Design Unbound*, designers Ann Pendleton-Jullian and John Seely Brown (2018a, 2018b) have articulated a set of knowledge, skill, and method-based instruments for tackling problems in a whitewater world known as the Pragmatic Imagination. Taking the position that "complex problems, and a pragmatic approach to shaping a desired future, require imagination and tools that instrumentalize the imagination," they detail the ways in which humans use imagination as a tool of reasoning to not only make sense of the way things are, but to sense-break from current realities to imagine what things might be (2018a, p. 19).

In the pragmatist tradition, the Pragmatic Imagination rejects the strict rigidities in traditional philosophical approaches toward human experience, such as the pure rationality of idealism. Instead, they see imagination as part of a spectrum of perception and reasoning, finding its location at the end of human sense-making and toward the sense-breaking in order to imagine possibilities for future states of being beyond the present scope of reality. As defined by Pendleton-Jullian and Brown (2018b), the Pragmatic Imagination is a framework that sees imagination as:

> a spectrum of coherent, synthetic image making that runs from dealing with the known to projecting the novel, and from prosaic sense making to pöietic sense breaking. It values the entire spectrum, but suggests that the last portion of the spectrum, the domain of the pöietic imagination, is necessary in a world that is rapidly changing and radically contingent. And finally, it proposes catalyzing, scaffolding, and instrumentalizing the entire spectrum for a pragmatic purpose (p. 419).

In this way, imagination may be more than a cognitive process for projecting an improved future state, but also as a tool to engage in inquiry and action toward that imagined future state.

Imagination in Educational Leadership

In the educational leadership literature, there is relatively scant research about imagination and how it is contextualized in the conceptions or practices of educational leadership. Recently, Judson (2020a) has begun to explore more deeply the connections of imagination to educational leadership. As she has theorized, “the reason we see imagination so little in educational leadership is that it continues to be misunderstood.

Based on misunderstanding (typically that imagination is make-believe, for children, and 'just ideas') we don't notice its active role in our daily lives" (para. 6). Through a recent qualitative content analysis of available literature in the field on imagination and educational scholarship, she found that imagination can serve as a prominent tool for educational leaders to use in addressing leadership challenges (Judson, 2020b).

Furthermore, imagination has been cited as an important cognitive function for leadership. With respect to studies on educational leadership, Glickman (2006) makes the case that educational leaders, too often constrained by demands to avoid failure in the form of mandated standards and test scores, lose sight of imagination and the role it plays in supporting leaders' efforts to transform and innovate the systems in their charge. Elsewhere, Greene's conception of the social imagination has been used to articulate aspirations for an education system constrained by legacy thinking and adherence to the status quo (Darling-Hammond, 1998). In leadership development, learning experiences with curriculum based on the social imagination improved imaginative and creative thinking in aspiring school leaders (Kaimal et al., 2016). Within educational leadership programs, the concept of moral imagination has been introduced as a way to support adaptive leadership capacity and emotionally engaged thinking, and as a way to develop students' moral imagination competencies (Andenoro et al., 2019; Odom et al., 2015).

More broadly, Weick (2005) has noted that when organizations fail to make use of imagination, occasionally to their peril, it happens in part because most organizational decision-making focuses on deductive rather than abductive reasoning. Relating to the literature on imagination for educational leadership, specific instances of the use of abductive reasoning also abound. For example, research has demonstrated that school

leaders' use of abductive reasoning toward "average student" achievement occurred as reactions against excessive rationalism, leading toward more inquisitive approaches to leadership decisions (Hunter, 2014). One way to promote this type of reasoning in our leadership programs is to engage candidates in coordinated and programmatically congruent learning experiences that lead them into doubt, cause them to reveal and challenge the beliefs that they hold, weigh those beliefs against relevant educational theory, research, and effective practice, and alter or replace those beliefs that keep them from reaching consonance.

Transformative Leadership

Transformative leadership theory in education was introduced by Shields (2003; 2009; 2010; 2011; 2018), to call upon educational leaders to develop a critical awareness and engage in critical reflection and analysis, and to take action against injustices of which they become aware. Shields has identified eight interdependent principles for transformative leadership:

1. The mandate to effect deep and equitable change.
2. The need to deconstruct and reconstruct knowledge frameworks that perpetuate inequity and injustice.
3. Need to address the inequitable distribution of power.
4. An emphasis on both private and public (individual and collective) good.
5. A focus on emancipation, democracy, equity, and justice.
6. An emphasis on interdependence, interconnectedness, and global awareness.

7. The necessity of balancing critique with promise.
8. The call to exhibit moral courage (2018, p. vii).

Transformative leadership posits that in a whitewater and VUCA world, leaders must let go of command-and-control forms of leadership (Shields, 2018; Wheatley, 1997) to critique and question the dominant cultural assumptions and structures that underlie education systems, as well as to seek ways to transform those systems to be more equitable and just. Recently, Montouri and Donnelly (2017) have introduced an expanded definition and framework which extends the focus of transformative leadership beyond Shields's emphasis on education and social justice. While this study adopts and seeks to operationalize Shields's use of the framework in the literature review, it borrows from the more general applications from Montouri and Donnelly (2017).

Transformative leadership is a theory which challenges educational leaders to ask fundamental, critical questions about the purposes and outcomes of education, in order to enhance social, political and cultural capital to "address issues of power and privilege" (Shields, 2010, p. 571). Ultimately, transformative leaders aim to both "critique underlying social, cultural, and economic norms, but also offer promise—to find ways to equalize opportunities and to ensure high quality education and civil participation for all" (p. 19). Shields (2018; 2010) makes the case that other forms of leadership do not sufficiently account for the robust need for leaders to develop the characteristics, tools and processes to lead change, and the reflective and goal-based theoretical background necessary to enact meaningful structural change.

Transformative leadership can be distinguished from other forms of leadership theory, most notably from transactional and transformational forms of leadership (Burns,

1978, Shields, 2011). Contrasted with other theories of leadership, Shields (2018) suggests that transformative leaders do not limit their focus simply to the characteristics of individuals leaders, processes of leadership, or the goals or outcomes of leadership. While these facets of leadership are important, transformative leaders expand their focus toward contextual issues of equity and justices to situate their understanding and development of personal leadership characteristics, processes of leadership, and the outcomes of leadership. Importantly, transformative leaders also interrogate and question the very purposes of education (Blackmore, 2011).

Transformative leadership has been used in numerous studies as a theoretical lens through which to study school leaders, their approach to leadership, and professional learning. For example, transformative leadership has been an instrumental framework to principals constrained by neoliberal influences (Mrozik, 2015). Elsewhere, transformative leadership has been used to study the extent to which leaders, who may not fully understand the implications of their district's positionality in relation to education as a public and/or private good (Barrett, 2012). Transformative leadership has been used to examine school culture (Caragena, 2019; DeMartino, 2016), as well as how leaders' self-perceptions and sense of personal identity shape their leadership practices and behaviors (Himes, 2018; Williams, 2019).

Innovation Framework: Learning Futures Leadership

This study proposes a Learning Futures Leadership (LFL) innovation for a contextually responsive and emergent set of leadership knowledge, skills, and dispositions that might support aspiring school leaders' efforts to transform the whitewater systems they are preparing to lead. LFL fuses together design thinking's

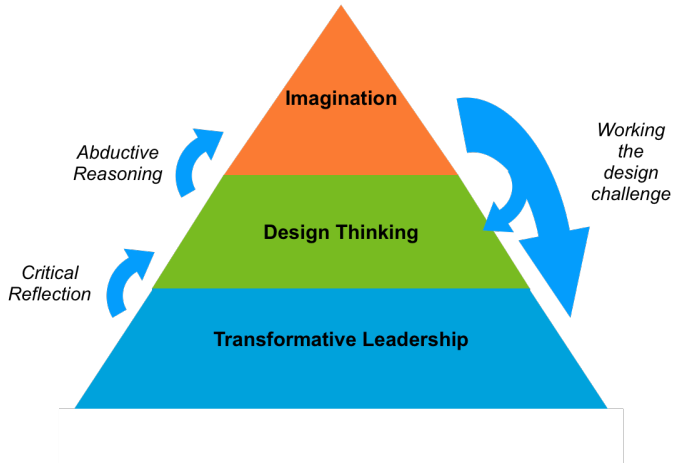
emphasis on abductive reasoning and imagination with transformative leadership—to craft tools and methods for the action research innovation described in Chapter 3.

As described in Chapter 1, the whitewater world we live in, including but certainly not limited to the ongoing global COVID-19 pandemic, has exposed the limitations of rationalist, analytical methods of problem solving for educational leaders. This whitewater world has awakened us to the potential for design thinking in ameliorating these problems iteratively, with reflexive approaches and mindsets that embrace empathy, optimism, and a tolerance for ambiguity. But there is further potential to not only solve the challenges in front of us, but to also imagine and work toward new possibilities of what could be or what we desire things to be.

The Learning Futures Leadership framework, then, takes as its operating philosophy a grounding purpose and leadership theory based on transformative leadership which calls upon leaders to lead for equitable transformation of our educational systems. It seeks to guide educational leaders to engage in critical reflection on the current state of affairs, not only in the context of the systems and/or schools acutely within their control, but also to think about the larger contextual power dynamics, cultural influences, norms, and the implicit and explicit goals various stakeholders have. Through design thinking methods, mindsets, and organizational leadership approaches, design thinking engages leaders in abductive thinking about *what could be*, and spurs the use of pragmatic imagination to think about how their systems and schools might be otherwise. A visual schematic for FL is displayed in Figure 2.

Figure 2.

Learning Futures Leadership Framework



The LFL framework has been designed to be reflexive and open-ended, which is appropriate given the central role design thinking plays in its conception and operationalization. Further, the framework presumes that each theoretical building block of the framework both relies upon and supports the others. For example, while transformational leadership calls for leaders to establish strategy, develop human resources, and lead organizational and/or instructional change, it does not specify the methods for engaging in these activities.

Given that educational leaders must deal with the rapidly changing contexts that demand leaders consider moral and equity imperatives beyond the technical necessities of transformative leadership (Shields, 2018), DT may be understood as an appropriate toolset of methods and mindsets that transformative leaders can engage in to act upon the complex challenges of our whitewater world of unfulfilled promises.

Connected to and in support of the other LFL framework elements, the use of imagination has strong links to DT and transformative leadership. With respect to

imagination, for example, the practices of DT push supporting leaders to not only confront what is, but to open space for what could be possible (Dorst, 2007; Kolko, 2011; Steen, 2013). As Nelson and Stolterman (2014) have noted, "design is about bringing things into the world that have not existed before. It is about creating the *not-yet-existing*" (p. 127). From a design perspective, imagination is a reflective skill required to not only to create that which does not yet exist, but also to interpret the demands of the present (Nelson & Stolterman, 2014; Steen, 2013). As the ultimate purpose of DT is to create or generate novel solutions, practitioners must be able to imagine what that something is and the requirements for making it real. Thus, imagination enables human beings to visualize future possibilities, as well as their potential unintended consequences (Boisvert, 1998; Nelson & Stolterman, 2014; Steen, 2013). Elsewhere, transformative leadership has been linked to moral imagination (Jun, 2011), described as an ability to empathize with others, particularly those who have been marginalized (Johnson, 2001). In this way imagination intersects with the foundational DT disposition of empathy and human-centricity, as well as with transformative leadership's emphasis on equity and social justice.

To further show the interplay and connection between the framework's elements, transformative leadership serves to push leaders to use the ideation of imaginative thinking in service of systemic redesign and transformation of the world of unfulfilled promises (Shields, 2018). As a theoretical foundation for the Learning Futures Leadership framework, it plays an important role in grounding and providing a normative agenda for the ends toward which educational leaders might direct their efforts to navigate our whitewater world. As such, transformative leaders need to be critically reflective in attuning their leadership to what has been, what is, and what could be. As

Donnelly and Montouri (2017) note, “Transformative leadership is about creating and embodying the future in the present. To do that, transformative leaders have to remain aware of the of past-present-future triad” (p. 15). In this way, transformative leadership establishes important links to both the empathetic dispositions and inquiry-driven methodology of design thinking, but also to the abductive role of imagination in the LFL framework.

All told, the elements of the LFL framework build upon and reify one another to suggest that educational leaders might utilize imagination as a pragmatic tool of design thinking to reflexively and iteratively lead for equitable, transformative change. As this chapter has attempted to demonstrate through the literature, the components of the LFL framework are situated within the traditions of design thinking, imagination, and transformative leadership. As designed theory, this study posits LFL as an appropriate subject for pragmatic inquiry, in an action research approach. In the following chapter, I will articulate the research design and action research innovation cycle that seeks to instantiate this framework in programming for educational leaders.

Previous Cycles of Action Research

While this study seeks to explore how prototypes of curricular innovation an educational leadership graduate program, previous cycles of practitioner action research were conducted on problems of practice similarly related to leading organizational change through uncertainty by leveraging DT. As the work of the DI team has shifted over time, so, too has the problem of practice I have sought to navigate.

Cycle 0: Supporting Design Strategists Orientation to CDL Work

An initial cycle of action research, conducted in the fall of 2018, consisted of cross-functional staff design teams within MLFTC who utilized design-based approaches to improve wicked problems they had identified with the college culture and/or operations. The purpose of the previous study was to understand how design strategists — college staff members on the DI team — utilized design-based approaches to understand and operationalize their work in initiating and operationalizing designerly thinking in practice as a means to drive innovation capacity and intrapreneurial behavior within and among other college support units and teams.

For the innovation in this cycle, teams comprising MLFTC staff volunteered to participate and chose teams according to the problem of practice they each found most compelling. The convening of teams took place as workshop-style sessions, using the serial process of designerly thinking inquiry and action to identify, research, generate and test solutions, and reflect on their implementations. Throughout the innovation, each cross-staff design team received coaching on the design process from design strategists on the DI team.

While Cycle 0 was not been adopted for continuation in this dissertation, several key meta-findings did emerge for staff on the DI team relating to organizational leadership and innovation. The first key idea that emerged from interviews with design team members was that designerly approaches that support empathy-building were useful for helping others build a frame for organizational challenges they might otherwise take for granted or only see from their own perspective. Through semi-structured interviews, the design strategists cited the need for designerly approaches to encourage people to go

beyond their tacit assumptions and to explore an issue or challenge through a human-centered or empathetic lens.

The second key idea was that design thinking as an organizational innovation method is valuable, but it can also be difficult to lead. The design strategists identified the limitations of being a facilitator and the constraints that can have on one's locus of control or sense of autonomy in making change happen, as well as the difficulties that can arise when introducing the term *design thinking*, which can seem like jargon to those unfamiliar with it. Broadly, they suggested that people do feel a need and a desire to make things better where they work, but that they often have trouble understanding how they can make an impact in a large or complex bureaucracy with limited power, capacity, and time.

Cycle 1: Developing Designerly Insights from Administrative Support Personnel

In the spring of 2019, I launched another cycle of action research related to this study, which entailed the study of a cross-staff design team composed of various administrative support personnel across MLFTC working to improve self-identified problems of practice through a DT process. The innovation in the study was the design and delivery of the DT process, and was facilitated by me and other members of the DI team. This research cycle included 18 total adult participants, and was designed as a multi-strand, concurrent mixed methods action research study, using a post-innovation participant survey for the quantitative measure, and a semi-structured interview with one college staff participant and one DI team project lead for the qualitative measure. The innovation began in late January 2019 and lasted through early April 2019. Qualitative

data collection began in March 2019 with staff interviews, and quantitative data was collected from a post-innovation reflection survey in April 2019.

From analyzing the qualitative data in the context of the administrators' intrapreneurship team, several key themes emerged. Through initial line-by-line coding and then focused coding, four major themes emerged: a) participants' sense of empowerment and ownership of the project; b) an emerging perception of administrators as leaders and not merely contributors or task-masters; c) participants struggling to articulate a clear understanding of intrapreneurship and feeling a lack of trust with the larger organization of the college; and d) feelings of worry and/or caution that the administrators might lose control or agency of this work. These themes were reflected prominently across both interviews, which is interesting because one of the interview subjects was a facilitator and one was a participant.

From analyzing the quantitative data, a few clear response patterns emerged. Primarily, the survey respondents found the cross-organizational teamwork to be an overall positive experience, with 100% of the respondents agreeing or strongly agreeing to that end. Another unanimous response was that the administrators all responded that the experience led them to build positive new relationships within the college, with eight of the 10 respondents strongly agreeing with that notion. The data may have been insufficient to suggest that this was a universally enjoyable experience, but nobody who responded claimed otherwise, and that is useful feedback for the DI team going forward.

Other responses from the qualitative data were less conclusive, and interesting relative to the connection between the innovation and the college's larger efforts to promote intrapreneurship. Perhaps most telling were responses related to how well the

participants indicated that they understood the concept of intrapreneurship. Of the ten respondents, seven indicated that they did not have a clear understanding of what the term means, despite being engaged in an intrapreneurial project. Furthermore, when asked to assess their work through the innovation along the dimensions of intrapreneurship emphasized in both public-facing and internal communications within the college—doing something creative, asking "What if?" to challenge given assumptions related to procedures and services, and risk-taking—respondents provided a great deal of variation in their answers. For example, while half of the respondents agreed that they had done something creative through the project to improve the college and asked, "What if?", only two responded that they had taken a risk during the project.

Each data collection method and dataset provided unique insights about the innovation. However, an integrated view of the data revealed a group of people who saw the value in intrapreneurial ventures within this cross-organizational work, even if they would not have naturally labeled it as intrapreneurial. The cross-organizational team participants also saw value in building relationships with one another, although they seemed to be wary of college leadership's potential role to step in and steer the project. From the perspective of organizing this project, that concern seemed unfounded, as college leadership had no role in shaping these team activities—nor, in my experience to that point, had college leaders seemed particularly interested in the doings of these teams. This led me to believe, based on the qualitative coding data and the specific preferences not to answer survey questions related to MLFTC, that there may have been an underlying or deeper issue with these staff members' perceptions or feelings of organizational trust. A future direction for this action research study might have included

an exploration of organizational trust and the role DT might play in developing organizational trust or building organizational culture.

Chapter 2 Summary

In Chapter 1, I established the problem of practice, positionality as a scholarly practitioner, and research questions to establish the need for the study. In this chapter, I have reviewed literature related to my problem of practice and planned innovation in order to establish the theoretical perspectives guiding this study. I described the foundational pragmatist paradigm that informs my ontological and epistemological orientations, and drew connections to the theoretical foundations for the study. Drawing from the literature on DT, imagination, and transformative leadership, and their implications for educational leadership, I have developed the conceptual framework for a LFL programmatic innovation. I have also described previous cycles of action research, which focused more internally to the college and its efforts to engage staff in intraorganizational problem solving using DT. In Chapter 3, I will describe the alignment of my research design with my theoretical perspectives, the timeline and procedures for the innovation, and articulate the data collection and analysis methods I plan to use to conduct the study.

CHAPTER 3

RESEARCH METHODS

> The process of education is not a natural phenomenon of the kind that has sometimes rewarded scientific investigation. It is not one of the givens in our universe. It is man-made, designed to serve our purposes and meet our needs. It is not governed by any natural laws. It is not in need of research to find out how it works. It is in need of creative invention to make it work better. (Farley, 1982, p. 18)

The purpose of this study is to explore the innovation of the Learning Futures Leadership (LFL) framework through its inclusion in a graduate course on leading change in an educational leadership program, with the goals of better understanding how aspiring school leaders orient themselves toward present and future uncertainty and to explore what mindsets and conceptual understandings they believe they need to lead through uncertainty. To accomplish this, I designed a qualitative, single case-study methodology to describe aspiring educational leaders' perceptions about the future, their perceptions of the LFL, and to articulate my own lessons learned for future iterations of the innovation. The research questions are:

My research questions are:

RQ1. How do aspiring educational leaders contextualize the ways in which uncertainty facing the education system might impact their future leadership?

RQ2. What mindsets and conceptual understandings do aspiring educational leaders believe they need in order to lead during uncertain times?

RQ3. How did the experiences of the EDA 634 course innovation result in the underpinnings for a mindset shift to lead during uncertain times?

This chapter contains an overview of the research design, including the setting and context of the study, the population and sampling procedure, the data collection and analysis methods, as well as timeline and duration of the study. A description of the curricular innovation at the heart of the study research is also included.

Methodology

This research took the form of a single-case, qualitative action research study in a Master of Educational Leadership program. Through this methodology, I collected two primary sources of data and two secondary sources of data, for a total of four qualitative sources of data. The primary sources were students' written assignments and students' video reflection assignments, while the secondary sources were observation field notes from class sessions of the programmatic innovation, as well as semi-structured interviews with participants after the course ended. Data were analyzed and interpreted for emergent patterns, themes, and theory within the data utilizing grounded theory.

Rationale for Case Study Methodology

Case study methodology entails a detailed examination of a single setting or subject for a defined period in its real-world context (Yin, 2018; Mertler, 2017). Yin (2018) defines case studies in two parts:

1) A case study is an empirical method that investigates a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.
2) A case study copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result

> benefits from the prior development of theoretical propositions to guide design, data collection, and analysis, and as another result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion. (p. 15)

The implications of this two-fold definition suggest that case studies are, in a sense, a holistic approach to research design, which includes the logic of the design, as well as the data collection and analysis methods (Yin, 2018).

Case studies are commonly used to study systems within many different disciplines, including educational systems and programs (Plano Clark & Creswell, 2015). Case study methodology is appropriate in studies where main research questions are of a "how" or "why" nature, where the researcher has little control over behavioral events, and the focus of the study is on a contemporary or current phenomenon, rather than an historical one (Yin, 2018). In this sense, case study methodology was appropriate for this study, as it sought to understand how aspiring leaders understand and start to plan for their approach to school leadership in a complex system. Because the research questions for the study articulated a need to deeply understand how aspiring school leaders orient toward the complex realities of leading educational systems, the design of this research study as a case study aligned with its stated inquiry goals. Further, I did not seek to control participants' behavioral events during the study, as their independent thoughts and behaviors were the very thing I hoped to examine. Additionally, this study did occur in the context of contemporary events, notably in which the present moment of our whitewater world was a primary concern. In this way, it was notable how the design of

the research study also met the definitional criteria for being bounded (Plano Clark & Creswell, 2015; Yin, 2018).

Theoretical Alignment and Research Design

The pragmatist paradigm that informed this study serves as an overarching lens for my ontological, epistemological and theoretical perspectives. As discussed in Chapter 2, Table 1 (below) shows the alignment of my theoretical paradigm to my research methods. This paradigm also informs the research design of the study, which took a pragmatic, design-oriented view on the role of inquiry in education, suggesting that inquiry is not just about finding better educational practices to engage in or policies to enact, but that inquiry is instrumental for discovering the values of education itself.

Table 1.

Theoretical Alignment of the Action Research Study

Ontology	Epistemology	Theoretical Perspectives	Methodology	Methods
Transactional realism	Pragmatism	Design Thinking; Imagination and abductive reasoning; Transformative leadership	Action research; Case study	Document analysis; Video analysis; Semi-structured interviews; Observations

The selection of action research as a methodology to systematically study and introduce an innovation into the research design aligned closely with my overarching pragmatist paradigm for educational research. As Biesta and Burbules (2003) noted:

> The main significance of Dewey's pragmatism for educational research lies in the fact that it provides a different account of knowledge and a different understanding of the way in which human beings can acquire knowledge. Dewey's approach is different in that he deals with questions of knowledge and the acquisition of knowledge within the framework of a philosophy of action, in fact, a philosophy that takes action as its most basic category (p. 9).

Thus, the choice of an action research dissertation employing a case study methodology was philosophically aligned with my overarching worldview and my research questions. As action research aims to support a researcher to both take action and create knowledge or theory about that action as it unfolds (Coghlan & Brannick, 2014), it finds a complementary method in the pragmatic, designerly inquiry methodology of this case study.

With respect to case studies, Yin (2006; 2018) has argued that case study research designs do not simply arise from a blank slate. Rather, researchers generate research designs with implicit theoretical orientations about what is happening in the field, as well as toward deciding subjects to study. In this particular case, aspiring school leaders in a Master of Education cohort comprised a logical bounded case to study, given both the researcher's professional positionality and access to the cohort. Thus, the cohort represented an appropriate unit of analysis in which to explore and understand how a futures-oriented innovation might resonate with aspiring school leaders.

Setting and Participants

Setting for the Study

The setting for this case study took place during the autumn semester of the 2020-2021 academic calendar, in a course within a Master of Educational Leadership program cohort at Arizona State University. Due to the ongoing social distancing measures taking place in Arizona due to COVID-19 at the time of this dissertation, the course was delivered in a distance (online) modality. The innovation for the study was conducted, and observational data and semi-structured interviews data were collected, remotely via the Zoom videoconferencing platforms. Student assignment documents were collected via the Canvas course learning management system, and video reflection assignments were collected via the Flipgrid video response platform.

Participants and Sampling

The program cohort, which served as the case for this study, consisted of 34 adult students, all of whom were working in K12 education settings at the time of the study. Participants were seeking an advanced degree, and in most cases, principal licensure, in preparation to assume school leadership roles. The unit of analysis, or case, for this study was the educational leadership program cohort within the college. Thus, a purposive sample of the cohort students program, who were in their second terms of a four-semester, 13-month program, was selected for the study. Purposive sampling procedures are designed to focus on gathering in-depth information and creating an understanding of the experiences of people participating in the study (Ivankova, 2015; Plano Clark & Creswell, 2015; Remler & Van Ryzin, 2011). For this case, the purposive sample of enrolled cohort members represented the primary bounding category. A convenience

sample from within the cohort was chosen for participation in a post-course interview. This sampling procedure was chosen primarily for its practical advantages of participant availability during a particularly busy time for many of the participants (Frey, 2018).

One important note to make regarding the program cohort is that while the participants were separated into two class groups based on the campus in which the courses were scheduled to take place, I have treated both class sections as one cohort to represent the 2020-2021 academic year. Across the innovation planning, course delivery, and data analysis, no substantive differences existed between cohort groups, with respect to their demographic or professional backgrounds, nor did any significant differences exist in their course experiences. Thus, for the purpose of this case study both course sections can be treated as a single case across the program.

Participant Recruitment

Participant recruitment for course observations and assignment data collection and analysis, including written assignments and Flipgrid video submissions, took place on the first night of each class section in October 2020, with an introduction from each class section's instructor. After introducing myself and describing the purpose and goals of my study, as well as participant expectations, I asked students to provide affirmative consent either in the Zoom chat or via a voluntary "quiz" provided in the course Canvas learning management system (LMS) hub. For the data analysis and reporting, participants were assigned pseudonyms to maintain confidentiality and all consent forms and unique identifying information were secured on an encrypted file drive and stored for safekeeping.

Innovation

This section details the context, timeline, and protocols for the prototyped innovation during this action research cycle, utilizing the Futures Leadership framework discussed in Chapter 2. The action plan for this cycle began with development of the EDA 634 innovation with program faculty during the summer 2020 academic term. During the fall 2020 academic term, I recruited participants, delivered the EDA 634 programming innovation, and documented observations and collected written and video assignments. In December 2020, I conducted post-course, semi-structured interviews with participants, began to analyze and synthesize the data for reporting, and created an action plan for future iterative cycles of action research. The analysis and reporting for this cycle continued through March 2021. The timeline for the study, including each step of the action research cycle, is shown in Table 2.

Table 2.

Timeline and Procedures of the Study and Innovation

Timeline	Actions	Procedures
June 2020	Obtained IRB approval	Submitted IRB application and supporting documentation
June to October 2020	Developed the LFL design curriculum for EDA 634 with program faculty	Determined course objectives and learning outcomes; Selected course readings and activities; Designed course assignments
October 2020	Recruited aspiring leader participants for class observations and written and video assignments	Consent letters distributed via Canvas and Zoom
October to	Recorded EDA 634 class	Delivered LFL programming in

December 2020	observations; Served as guest lecturer during Week 3, and as participant observer all other weeks of the course; Collected student written and video response assignments; Recruited aspiring leader participants for post-course interviews	EDA 634 class; Observation field notes collected; Student written assignments collected; Student Flipgrid video responses collected
December 2020	Student interviews conducted	Semi-structured interviews conducted
December 2020 to March 2021	Data analyzed and findings reported	Conducted verbatim transcription of Flipgrid videos and interviews Member checks; Qualitative analysis; Developed themes and assertions; Prepared findings

Designing the LFL Framework into EDA 634

Planning for the innovation began during the summer 2020 semester, during the students' first semester in the cohort. One of the courses students took during the summer term was EDA 578, Critical Issues in Educational Leadership. Through this course, students engaged in team inquiries around what makes a good school, explored issues related to discipline and trauma, and were introduced to Shields's transformative leadership theory. I worked with two program faculty, including one faculty member serving as the instructor for EDA 578, to design the curriculum and instruction for the fall semester delivery of EDA 634 that would extend upon the discussions and student learning from the students' summer experiences in EDA 578. Given the relatively intense nature of the program as a whole and its relatively short, 13-month duration, the

collaboration with program faculty to build linkages between courses made sense from a learning continuity standpoint.

Course Context for EDA 634

Historically within the Master of Education in Educational Leadership program, EDA 634 has been titled "Instructional Leadership," and has been a course which engaged students in "exploring the leadership challenges and opportunities that are inherent in the implementation of any type of innovation or reform that requires school personnel – teachers, administrators, and/or other school staff – to change" (Hermanns, 2019, p. 1). Key course concepts have included principles of change, defining change initiatives, understanding and supporting the affective and behavioral challenges experienced by those expected to implement change, and effective strategies and approaches for educational leadership. In the final two weeks of the course, students historically completed two Culminating Learning Demonstrations (CLDs), which asked them to articulate their imagination of schools as if they could be otherwise, and then to find ways to incorporate that imagining within their existing parameters.

Through conversations with program faculty as part of my role as a staff member in the college and as a member of the program redesign committee, I was invited to participate in a course redesign prototype for the fall 2020 semester section of EDA 634. The goals of this redesign included a desire to expand the leadership mindsets and toolkit for students in the program, including the components of the LFL: imagination, design thinking, and transformative leadership. My contribution to the course's instructional design consisted of scoping and sequencing course outcomes, sourcing and curating learning materials and class content, co-designing lesson plans, and providing feedback

and planning for assessments and performances of understanding. Notably, CLDs were transformed into scenario planning exercises that included LFL elements and were renamed Leadership Team Learning Demonstrations (LTLDs). The course schedule is provided in Appendix B.

Delivering LFL Within EDA 634

The programmatic innovation took place during the fall 2020 semester instance of EDA 634, during which students were also enrolled in two other 3-credit hour courses: EDA 526 (Instructional Supervision), and EDA 584 (Internship). EDA 526 course content focused on the role of educational leaders as supervisors and evaluators of teacher instruction, and EDA 584 focused on practicum hours with mentor leaders assigned to students throughout the program, as mandated for principal licensure by the Arizona Department of Education. The LFL innovation took place in EDA 634, which is a required, seven-week long course in the M.Ed. program from October through December 2020. While I was not the instructor of record, I worked with MLFTC faculty to gain access to the research setting as a guest lecturer and course observer.

For the innovation protocol, the three theoretical components of the LFL—Shields's transformative leadership theory, design thinking, and imagination—were designed into the course curriculum and adapted into a new instructional plan as a way to support student learning outcomes. Alignment between the learning outcomes, LFL framework, and course activities and assignments is shown in Table 3.

Table 3.

Alignment of EDA 634 Course Objectives and Activities with LFL Framework

Student Learning Outcomes	LFL Framework Alignment	Course Activities and Assignments
1. To support aspiring school leaders in the continuous process of questioning, evolving, and changing their mindsets, relative to the purpose of education in today's world; and how, as a transformative leader, to effectively lead change that will address that purpose.	• Transformative leadership • Design thinking • Imagination	• In-class activities: constructive dialogue • Course readings • Assignments: Concept Briefs; Flipgrid reflections
2. To gain a deeper conceptual and applied understanding of types of change; system design/educational redesign; effective tools for redesign; aligning purpose with outcomes and incentives; and the intersection of transformative leadership with educational redesign and equity-focused school change.	• Transformative leadership • Design thinking • Imagination	• In-class activities: constructive dialogue • Course readings • Assignments: Concept Briefs; Flipgrid reflections
3. To demonstrate knowledge and skill in applying the concepts from the course by collaboratively designing and presenting two Leadership Team (LT) Learning Demonstrations.	• Transformative leadership • Design thinking • Imagination	• In-class activities: constructive dialogue • Course readings • Assignments: Concept Briefs; Flipgrid reflections; LT Learning Demonstrations

Across the seven weeks of the course, Weeks 2, 3, and 6 included readings and course activities related to the LFL framework. Prominent readings from Week 2 included a book chapter from Cook (2019) on articulating purpose and engaging in systems thinking for educational redesign in the midst of uncertainty, as well as an article from Hough (2015). Readings for Week 3 included excerpts from Maxine Greene's

(1995) *Releasing the Imagination*, which emphasized the concept of the social imagination, as well as Facer's (2019) essay on imagining futures during "troubled times." Week 3 readings included an article from Loescher, Morris, & Lerner (2019) on the implications and applications of DT in K-12 educational contexts, as well as a chapter from Nash (2019) on leading as designing. Week 6 readings included a chapter from Mehta & Fine (2019) on what reimagining teaching and learning environments to challenge the grammar of schooling look like, as well as a chapter from Shields (2010) on transformative leadership.

Instructionally, during Week 3 I led the classes in two grouped, improv design activities to synthesize and extend the course readings and dialogue. During Week 4 and Week 7, students presented their Leadership Team Learning Demonstrations (LTLDs), which were scenario-based design assignments influenced by the LFL. See Appendix D for the LTLD assignment instructions. Table 4 shows the weekly schedule in relation to the specific LFL framework components.

Table 4.

EDA 634 Weekly Curriculum Plan and Assignment Schedule Related to the LFL

Week	Curricular Emphasis	Assigned Readings Pertaining to the LFL	Required Assignments
Week 1	Leading change in uncertain times		
Week 2	Exploring types of change; System design / fitness of purpose	• Cook (2019) • Hough (2015)	CBs 1 and 2; Flipgrid Discussion 1
Week 3	Reimagining	• Greene (1995)	CBs 3 and 4;

	school and educational redesign	• Facer (2019) • Loescher et al. (2019) • Nash (2019)	Flipgrid Discussion 2
Week 4	Redesigning the teaching and learning environment, post-COVID; Exploring challenges to redesign		LTLD 1
Week 5	Tools for redesign		CB 5; Flipgrid Discussion 3
Week 6	Transformative leadership in the context of redesigning the TLE through equity-focused school change	• Mehta & Fine (2019) • Shields (2010)	CBs 6 and 7; Flipgrid Discussion 4
Week 7	Putting it all together		LTLD 2

Data Collection

Case study research benefits from having multiple sources of evidence (Yin, 2006; Eisner, 1991). The use of multiple methods collectively allow the researcher to triangulate the data, to provide a rich, detailed description of events and their meaning (Yin, 2018, 2006; Remler & Van Ryzin, 2011). Data collection for this study will include the following methods appropriate for case studies: participant interviews, course observations, documents and artifacts, and my research journal. Table 5 displays the research questions driving the study and the alignment of the data collection methods to each question.

Table 5.

Alignment of Data Collection with Research Questions

Research Questions	Data Collection Methods
RQ1: How do aspiring educational leaders contextualize the ways in which uncertainty facing the education system might impact their future leadership?	• Student written assignments • Student Flipgrid video discussions • Class observation field notes • Semi-structured student interviews
RQ2. What mindsets and conceptual understandings do aspiring educational leaders believe they need in order to lead during uncertain times?	• Student written assignments • Student Flipgrid video discussions • Class observation field notes • Semi-structured student interviews
RQ3: How did the experiences of the LFL course innovation within EDA 634 result in the underpinnings for a mindset shift to lead during uncertain times?	• Student written assignments • Student Flipgrid video discussions • Class observation field notes • Semi-structured student interviews

Student Assignment prompts

As a primary data source, I collected participants' written document assignment submissions throughout the course. Yin (2018) notes that in case study research, artifact and document analysis can yield important insights into both the cultural features and technical operations that an innovation might have. For EDA 634, the submissions consisted of two assignment types, Concept Briefs (CBs) and Leadership Team Learning Demonstrations (LTLDs), both of which were submitted to the course Canvas submission portal and graded by faculty.

Concept Briefs. For the purposes of the data analysis and alignment to the research questions, I used only Connect and Critique segments of the CBs. Across the two sections, I analyzed a total of 220 CBs, which were submitted as document files (".docx"; ".pdf"), consisting of 43,383 words. For the purposes of the data analysis, the text from each Connect and Critique segment of each file was compiled into a single document file (".docx") for each of the seven assigned CBs.

Leadership Team Learning Demonstrations. The Leadership Team Learning Demonstrations (LTLDs) represented two applied design challenge assignments and were completed for Week 4 and Week 7 in both course sections. For this, the pervasive disruption of COVID-19 served as a springboard for prompting participants to imagine themselves in formal leadership positions, and asked them to respond to a leadership challenge. As part of the assignment students were randomly selected to small leadership teams of three or four participants, and tasked with making a 10-minute presentation to the rest of the class about what recommendations they would make to their school's governing board about how to rethink teaching and learning environments upon a return to school from COVID-19 hiatus. Round 1 of the assignment was due during Week 4 of the course, and Round 2 of the assignment was due during the final class session in Week 7.

Data from these presentations were captured primarily through recorded field notes and class observations, but the presentation slides files (".pdf"; ".pptx") were also coded as collections of Round 1 and Round 2. Because the slides' prose was generally organized around the visual design of the presentation, I did not conduct a word count for these presentations. The prompt for Round 1 is provided in Appendix D as an example of the format and structure for these assignments.

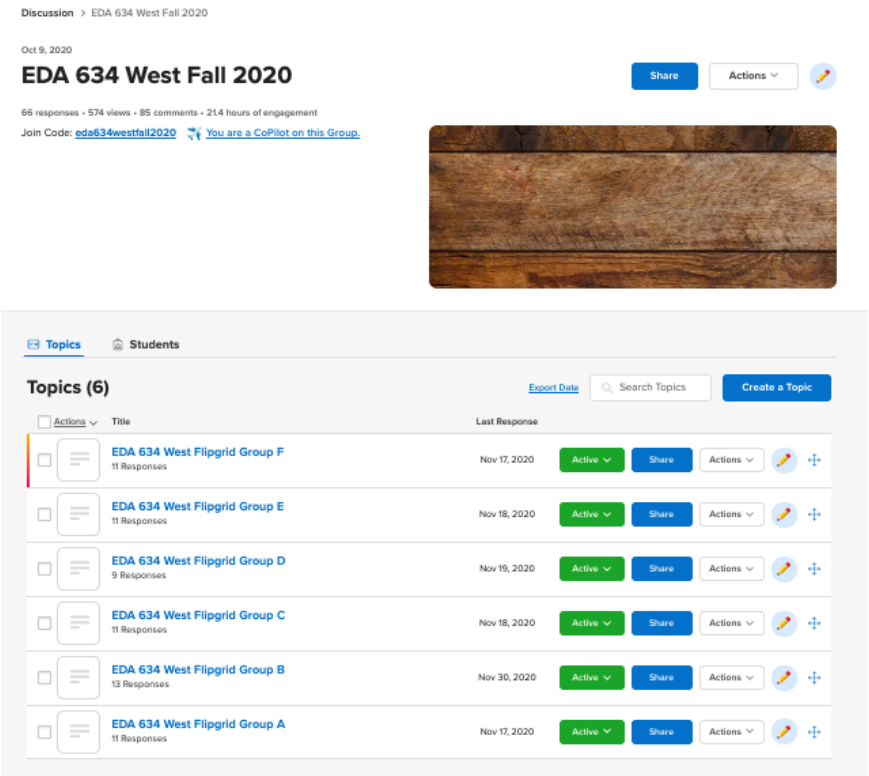
Flipgrid Video Discussions

As a second primary data source, I collected the video recordings and transcripts from participants' Flipgrid discussion submissions and responses. Flipgrid, a media platform that enables audio and video recording and sharing, is a popular platform for creating discussions across educational contexts (Green & Green, 2020). During the

course, students were tasked with submitting four Flipgrid video reflections on concepts introduced in assigned readings, one each during Weeks 2, 3, 5, and 6. Students in each course section were randomly assigned into groups of three, and were asked to post short responses lasting approximately two minutes, to the week's prompt. After posting their initial responses, students were also asked to submit responses to their group members' responses. A screenshot of the Flipgrid platform listing the student groups for the West campus class section is shown in Figure 3.

Figure 3.

Screenshot of the Flipgrid Platform for the West Campus Course Section



Prompts for the Flipgrids typically asked students to extend their thinking and the analysis they completed in their Concept Briefs on the readings, as well as to synthesize learnings across the course. For Flipgrid 2, students were asked to "think about how imagination and design thinking might meld together in iterative and mutually reinforcing ways," and to then create a video reflecting describing their thinking about "how these concepts and mindsets could contribute to leading transformative change in schools." For Flipgrid 4, students were asked to create a video sharing their thinking related to the Connect and Critique section of their CB 7: "As a transformative school leader, what mindsets and subsequent skills would you need to work with your teachers on, and what 'tools' would you rely on to help your school community reach common

understanding and consensus on how best to move forward?" The prompt for Flipgrid 2 is provided in Appendix E as an example of the format and structure for these assignments.

Participants' Flipgrid videos were recorded and stored on the Flipgrid platform and were also available to download as .mp4 files. Flipgrid created auto-generated transcripts, which were saved as text files (".txt") to an encrypted storage drive. Those transcript files were compared to and vetted against the video recordings and edited for accuracy.

Across the West campus course section, there were 66 total video responses, and the Flipgrid dashboard indicated 21.4 hours of engagement. Across the Poly campus course section, there were 60 total videos, and 25.1 hours of engagement. All told, the Flipgrid dashboard statistics indicated that the videos across both sections were viewed more than 1,300 times. For the purposes of the data analysis, only Flipgrids 2-4 were used, as I found the first Flipgrid response to be beyond the relevant scope for this study. The Flipgrid response transcripts analyzed for this study amounted to 34,784 words.

Observations

As another form of secondary data collection, I conducted observations of each weekly class session across both class sections, starting from Week 1 in October 2020 and lasting through Week 7 in December 2020. Data collection for these observations took the form of field notes and sketches written in situ as I observed the class via Zoom (Mertler, 2017; Plano Clark & Creswell, 2015). Field notes can contain both descriptive and reflective observations, which are both useful for qualitative research (Plano Clark & Creswell, 2015). Observations are useful in case study research for recording the natural

happenings in the research setting (Ivankova, 2015; Plano Clark & Creswell, 2015). Yin (2018) notes, “observations can add new dimensions for understanding the actual uses...of a new curriculum and any problems being encountered” (p. 122).

During each week’s class sessions, I attended class via Zoom video conferencing platform. In order to limit my presence as a possible distraction, I kept my video turned off and muted myself. I used the instructional planning documents and class presentation slides as a way to format structured observations for each week’s class session, save for Week 3, where I was the guest instructor. In this way, I was able to capture much of the dialogue of the class verbatim. For the Week 3 class session, in which I led the instruction, I recorded both of the weekly sessions from each campus course section. The native functionality within Zoom generated initial transcript files (“.vtt”), which were then vetted and cleaned by an external vendor and combined. I then treated this combined transcript file as the field note for Week 3’s class. As an exercise in member checking to account for data validity, I shared the field notes files with the corresponding lead faculty for each course section.

To analyze the data for my class observations, I compiled each course section’s observations into a single document file for the corresponding class week. I analyzed seven course observation files in total, with a total word count of 57,774 words.

Semi-Structured Interviews

As another secondary data source, I conducted semi-structured interviews with cohort member participants as a secondary research method to address all three research questions. Interviews are a common data collection method used in case studies, due to the focus of case study on a particular individual or institution (Yin, 2018, 2006;

Brinkmann & Kvale, 2015). For this research study, this method of data collection was particularly relevant, because I was interested in learning more about participants' perceptions about leading through uncertainty, as well as their articulation of the mindsets needed to lead change and their perceptions about the LFL programming. Recent studies employing a case study action research methodology focusing on design thinking (Wetzler, 2013) and transformative leadership (Deits Cutler, 2019) have also utilized semi-structured interviews.

For this study, I used a semi-structured interview protocol. Semi-structured interviews use an interview guide featuring open-ended questions to structure discussion, and often includes probing questions to ask participants to elucidate or expand upon answers to questions (Brinkmann & Kvale, 2015; Remler & Van Ryzin, 2011). The interview guide was designed to ask the aspiring leaders about their orientation toward the future and its demands on their leadership, as well as their thoughts on their approaches to leadership and complex problem-solving. Two examples of interview items are: "What are the looming challenges you anticipate humans needing to confront over the next 30 years?" and "How do you imagine future challenges affecting your leadership?" See Appendix F for the question guide for the semi-structured interviews.

The interviews were conducted after the conclusion of the course, and participants were selected using convenience sampling based on availability. In total, I conducted interviews with 13 students, all of which took place in December 2020. Interviews were conducted via Zoom videoconferencing platform and were recorded to an encrypted cloud storage drive. Zoom's native functionality generated an initial transcript file (".vtt") of each interview, and those initial transcript files were then processed and cleaned for

final transcription by an external vendor. Final interview transcript files were then sent to each participant for member checking. Across the 13 interviews, the word count totaled 48,114 words.

Data Analysis

Through this qualitative action research study, I employed a grounded theory methodology to analyze the data sources. The techniques of Constructivist grounded theory, which I used to analyze the data in this study, have Deweyan/pragmatic roots for pursuing inquiry (Charmaz, 2009; Morgan, 2020). The analyzed data included seven written assignments from each student assigned as part of the course innovation, two group presentations assigned to each student as part of the course innovation, transcripts of three assigned video reflections from each student recorded via the Flipgrid platform, researcher observations of the seven class sessions, and transcripts of 13 semi-structured interviews with student participants.

My analysis methodology adopted a grounded theory approach in which the data were analyzed using iterative rounds of coding, analytic memoing, and thematic analysis. Process coding was initially conducted to identify ideas and concepts from the class observations, student assignment documents and video reflections, and transcripts of participant interviews. Subsequently, those first cycle codes were gathered into larger categories using axial coding. Those larger categories led to theme-related concepts that suggested themes, which emerged from the data. The themes and theme-related components were examined and assertions were developed. A step-by-step display of my qualitative data analysis process is shown in Table 6.

Table 6.

Qualitative Data Analysis Process

Steps	Description
Step 1	Data source text files and initial analytic memos were reviewed.
Step 2	First cycle coding primary data sources was conducted using process coding, followed by process coding of secondary data sources. Initial coding yielded a total of 253 codes using HyperRESEARCH coding software.
Step 3	Analytic memoing and thematic analysis, including the generation of a first cycle word cloud, was conducted.
Step 4	Second cycle focused coding was conducted, wherein, some initial process codes were refined to eliminate redundancies.
Step 5	Second cycle coding was conducted using axial coding, resulting in a cluster of 13 axial codes
Step 6	Analytic memoing and thematic analysis, including conducting a thinking grids exercise, was conducted.
Step 7	Five themes emerged from the 13 axial code categories.
Step 8	Five assertion statements were generated from the emergent themes based on data analysis.

Prior to engaging in the formal coding work on the data, I first read through and reflected on all of the data and wrote analytic memos to generate first impressions. Next, I reviewed the interview transcripts from audio recordings, and engaged in member checks to verify the precision of the transcriptions. Once participants verified the transcriptions for accuracy and resonance (Birt et al., 2016), I immersed myself in the data again and developed an intimacy with it.

First Cycle Coding and Transition Processes

The data analysis process included two cycles of coding, with transition exercises in between coding cycles and the development of themes and subsequent assertions in relation to the research questions. Coding is the process of researchers assigning labels of symbolic meaning to interrogate meanings, detect and sort patterns, and synthesize substantial amounts of qualitative data in order to better understand and discover emergent themes related to their foci (Charmaz, 2014; Miles, Huberman & Saldaña, 2020). Coding serves as a method of discovery which allows researchers to develop an "intimate, interpretive familiarity with every datum" in their study. (Miles, Huberman & Saldaña, 2020, p. 81). For the first coding cycle I engaged in process coding, in which researchers exclusively use gerunds to identify codes in terms of actions or behaviors (Saldaña, 2016). I chose to use process coding because it allows researchers to develop a "larger analytic story" in suggesting emergent links between what happens and how it happens across the data (Charmaz, 2014, p. 124). Through process coding, I sought to author codes that could "explicate how people enact or respond to events, what meanings they hold, and how and why these actions and meanings evolved" (Charmaz, 2014, p. 113).

First cycle coding was conducted across all four data sources for the study, each of which sought to answer the research questions. The two primary data sources, student's CBs and Flipgrid reflections, were coded first. Coding is a *constant comparative method* in which parts of the data are constantly compared with all other parts, so as all four data source types were analyzed, some data emerged as unique codes, while many data points were assigned repeating codes. Results of the initial process

coding of 23 pieces of data yielded 253 unique codes. See Appendix H for a list of the process codes generated, as well as their larger axial codes derived from second cycle coding.

After the first cycle of coding, I engaged in transitional data analysis techniques as a way to make sense of the data, as well as to generate new discoveries, insights, and connections (Saldaña, 2016). One technique I adopted was code landscaping, through which I created a word cloud using Jason Davies's word cloud generator (https://www.jasondavies.com/wordcloud/). This technique allowed me to create a visual "first draft" of my most salient codes, (Saldaña, 2016, p. 223). The word cloud is shown in Figure 4. After studying the word cloud, I authored analytic memos to reflect on the first cycle codes and their emergent possibilities.

Figure 4.

Word Cloud Displaying Results from First Cycle Process Coding

Second Cycle Coding and Transition Processes

As I moved into my second coding analysis cycle, I built upon the codes developed in the first cycle utilizing focused coding, followed by axial coding. With the focused coding method, researchers search for the most frequent or significant codes to develop the most appropriate categories, based on first cycle codes (Charmaz, 2014; Saldaña, 2016). Through focused coding I eliminated redundancies in codes while establishing broad thematic categories, trimming my initial 253 process codes down to 204. Following this round of focused coding, I wrote an analytic memo about the initial categories and eliminated codes.

Next, I employed axial coding as a final second cycle method to develop a hierarchy of lead code categories with assigned subcodes. Axial coding "describes a category's properties and dimensions and explores how the categories and subcategories relate to each other" (Saldaña, 2016, p. 235-236). The table of final participant axial code alignment with supporting process subcodes is displayed in Appendix H.

Following second cycle coding, I authored analytic memos and reflected on the categories. I also engaged in a thinking grids protocol to further analyze the qualitative data and to support the development of my grounded theory. Thinking grids are an analytic technique developed by Lerman (2014) that enable practitioners to sense-make across thematic elements. Through this technique, I created a 2x2 grid with the axial codes comprising the vertical axis, and the three core elements of the LFL framework—transformative leadership, design thinking, and imagination—as the horizontal axis. Through this protocol, I derived further grounding for emergent themes and assertions related to the research questions, which will be discussed in Chapter 5. An image of my

completed thinking grid, created using MURAL whiteboard software, is shown in Appendix G.

The use of thinking grids was appropriate for my positionality as a scholarly practitioner within the Mary Lou Fulton Teachers College, as we were using thinking grids as a programmatic protocol in reflective professional learning sessions based on the LFL framework beyond this study. Thus, this action research study created an emergent opportunity to test this methodology through further contextual inquiry.

Methodological Integrity

Validity

Data validity is a critical necessity when collecting information for qualitative studies (Maxwell, 2013; Plano Clark & Creswell, 2015). Validity in qualitative studies refers to the correctness or credibility of a description, conclusion, explanation or interpretation (Maxwell, 2013). Within the framework of this study, I am concerned less with establishing validity in reference to epistemological correspondence to an objective truth. Rather, I aim to establish a warrant for distinguishing between observations and analyses that are credible from those that are not, Maxwell (2013) cautions against two primary threats to validity in a qualitative research study: researcher bias and reactivity. Researcher bias refers to the subjective selection of data that fit the researcher's existing theory or goals. Researcher bias is a prominent risk in qualitative research precisely because the researcher cannot eliminate their theories, beliefs and perceptual lenses, which inform the logic and rationale for the design of the study itself. Instead, researchers must account for the potential effects that their subjectivity might have on the integrity of the data they collect, and attempt to mitigate it with several validity checks to be

explained shortly. Reactivity refers to the ways in which a researcher can affect the results of a study simply by being present (Ivankova; Maxwell, 2013). While a quantitative study might try to control for that reactivity effect, a qualitative researcher's job, according to Maxwell (2013), is to account for it.

In order to account for and limit the threats to validity in the study, there are a number of procedures and actions researchers can take. First, researchers should gather extensive data that are both detailed and varied enough that they provide a robust understanding of what is happening in the case (Maxwell, 2013; Mertler, 2017). In this way, the four data sources I collected across all seven weeks of the course, as well as the post-course interviews, did provide an extensive corpus from which I derived my findings.

Triangulation is another procedure that researchers use to ensure between a variety of sources may also help reduce the risk of chance associations and of systematic biases that may arise in one particular method (Maxwell, 2013; Remler & Van Ryzin, 2011; Patton, 2015;). By selecting different methods and different participants, among other measures, researchers can reduce the risk of their data lacking credibility (Ivankova, 2015). In this way, the different data sources I collected, including my own observations as a research instrument, the interviews with students, and the evidence from their different assignment formats, supported a triangulation to reduce systematic biases.

A third technique researchers may also engage in to promote data validity is member checking, which entails returning data to participants so they may vet it for accuracy (Birt et al., 2016; Mertler, 2017). In this study, interview transcripts were

returned to participants for verification, and class observations were shared with the faculty from each course section for data validation.

Role of the Researcher

In case study research, the role of the researcher is pivotal (Yin, 2018), as researchers in case studies can influence the setting in a number of ways. My role as a researcher for this study was as a participant, given that the intervention consisted of both programming and situated the qualitative data collection that I conducted.

My positionality within this research informed a great deal of my orientation to my work and to the study itself. As noted in Chapter 1, during this research I served as the director of the Design Initiatives team in the Mary Lou Fulton Teachers College. While I was not a faculty member in the Master of Educational Leadership program, where the study took place, I did serve as a guest instructor for the Week 3 class sessions. As such, while I did not have a formal supervisory or authority role related to the students, I did have an informal authority as a guest instructor. Thus it is possible that reactivity on the part of participants may have occurred (Maxwell, 2013). One strategy to reduce the risk of research reactivity is to practice reflexivity, through which researchers can explore, reveal, and mitigate potential biases (Ivankova, 2015; Mertler, 2017). In this way, I followed each of my class observations with an analytic memo detailing and reflecting on the extent to which my presence or contributions. may have impacted the class proceedings.

Chapter 3 Summary

In this chapter, I have articulated the research design for this qualitative action research case study, including the research methodology and its theoretical alignment

with the problem of practice and research questions stated in Chapter 1, and perspectives guiding the research detailed in Chapter 2. I conducted this qualitative action research case study in order to better understand aspiring leaders' perceptions of the LFL programmatic innovation. Through this study, I collected participant interviews, conducted observations, collected written and video assignment submissions. I triangulated the qualitative methods to improve the reliability of my data and analyzed the data through multiple cycles of coding and transitional techniques to develop grounded theoretical themes and assertions. Chapter 4 will display the findings from the data analysis, as well as the emergent themes. Chapter 5 will discuss the themes and assertions emergent from the data, their connections to the extant literature, and implications for future practice and research.

CHAPTER 4

RESULTS

The purpose of this study was to explore the innovation of the Learning Futures Leadership framework innovation through its inclusion in a graduate course on leading change in an educational leadership program. To study the effectiveness of this innovation, I sought to answer three research questions. My research questions were:

RQ1. How do aspiring educational leaders contextualize the ways in which uncertainty facing the education system might impact their future leadership?

RQ2. What mindsets and conceptual understandings do aspiring educational leaders believe they need in order to lead during uncertain times?

RQ3. To what extent did the experiences of the EDA 634 course innovation result in the underpinnings for a mindset shift to lead during uncertain times?

The results of this qualitative case study report on data collected and analyzed from participants (n = 34) enrolled in a three-credit graduate course in an educational leadership program. The participants comprised class sections from two program cohort groups, with one cohort taking place on the ASU Polytechnic campus (n = 17) and the other on the ASU West campus (n = 17) during the autumn 2020 semester. For the purposes of this analysis, both sections have been combined as one bounded case. Due to the COVID-19 pandemic, both course sections were held remotely via Zoom videoconferencing platform. In-class observations and post-course interviews with selected participants were also conducted remotely via Zoom, while written course assignments were collected via the Canvas course learning management system, and video reflection assignments were collected via Flipgrid video discussion platform. The

analysis process included an examination of findings aligned with my theoretical framework based on design thinking, imagination, and transformative leadership, as a means to develop themes and assertions based on the data, as well to reflect upon and discuss the study's questions in Chapter 5.

Introducing the Analysis

Through this qualitative action research study, the data included seven written assignments from each student assigned as part of the course innovation, two group presentations assigned to each student as part of the course innovation, transcripts of three assigned video reflections from each student recorded via the Flipgrid platform, researcher observations of the seven class sessions, and transcripts of 13 semi-structured interviews with student participants. Interviews lasted approximately 30 minutes for students and they were digitally recorded via the Zoom platform and transcribed by an external vendor. Additionally, Flipgrid reflections were transcribed using the text transcripts built into the platform, which I cleaned and vetted. Written assignments and presentations were coded and analyzed verbatim from file submissions to the course learning management system. Class observations were collected during class sessions by the researcher, with the Week 3 class session recorded and transcribed by an external vendor, as the researcher was leading instruction during the class session.

The data were analyzed using iterative rounds of coding, analytic memoing, and thematic analysis. Process coding was initially conducted to identify ideas and concepts from the class observations, student assignment documents and video reflections, and transcripts of participant interviews. Subsequently, those open codes were gathered into larger categories using axial coding. Those larger categories led to theme-related

concepts that suggested themes, which emerged from the data. The themes and theme-related components were examined and assertions were developed. Table 7 shows the richness of this data set.

Table 7.

Description of Qualitative Data Sources

Data Source	Word Count
Participant Concept Brief Assignments	43,383
Participant Flipgrid Responses	34,784
Participant Interviews	48,114
Class Session Observations	57,774
Total Word Count	184,055

Notes. Additional Artifact Data = EDA 634 course syllabus, EDA 634 course schedule, EDA 634 course assignment documents.

Findings from the Data

Results of the data analysis across the four qualitative source types yielded five primary themes and related assertions, based on 11 axial codes and 193 final process code sub-categories. Findings are described in the following sections, with supporting textual evidence from the amalgamated data sources. Each assertion is described below along with its corresponding, supporting axial codes. Next, themes developed from the analytic processes of coding and memo writing are provided in support of the assertions, with evidence from each supporting qualitative data source. A description of the themes, categories and assertions are displayed in Table 8.

Table 8.

Themes, Categories based on Axial Codes, and Assertions

Themes and categories based on Axial Codes	Assertion
Theme One *Identity development as leaders* 1. Projecting oneself as a transformative leader 2. Leading teachers 3. Exercising leadership	*Participants' identity development as leaders through the course expanded toward identity as transformative leaders.*
Theme Two *Design Thinking as a change leadership approach* 1. Adopting design mindsets 2. Leading as a designer	*Participants recognized that design mindsets and approaches are appropriate for leading systemic change through uncertainty and complexity.*
Theme Three *Imagination as a leadership tool* 1. Questioning the purpose of education 2. Naming things as they are 3. Imagining possible futures and alternatives	*Participants recognized that imagination can be a powerful conceptual tool for leading change, but that it must be grounded in conceptual understanding of the systems they lead and the capacity to name those systems as they are.*
Theme Four *The experience of EDA 634* 1. Transferring learning in EDA 634 to leadership practice 2. Theorizing how to successfully lead change	*Students expressed their learning and development through EDA 634 has transformed their thinking and approach to leading future change.*
Theme Five *The impact of COVID-19 on education.* 1. Navigating COVID-19	*Students expressed the impact of COVID-19, beyond exacerbating the insufficiency of current systems, has created both possibilities and threats for leadership.*

As mentioned, the following section provides richer accounts of each identified theme and assertion statement. Supporting qualitative data are integrated within these descriptions to provide an illustration of each finding.

Theme 1: Identity Development as Leaders

Students' identity development as leaders through the course expanded toward identity as transformative leaders. This theme was composed of three axial categories that led to this assertion: (a) Projecting oneself as a transformative leader, (b) Leading teachers, as well as (c) Exercising leadership. The following section describes each of the supporting categories.

Projecting Oneself as a Transformative Leader. This category of codes reflects how study participants thought about and began to see themselves as transformative leaders, in the context of their preparation to assume leadership positions upon completion of the program. Across the data sources, students shared what they saw as requirements or prerequisites for transformative leadership, and they also began to articulate what their projections of success might look like as transformative leaders. In particular, Concept Brief 6 (CB6) specifically asked students to "write a brief paragraph or two that reflects on the challenges, and opportunities, that you would anticipate in embodying transformative leadership as a new principal." Thus, many of their responses here emerge from this prompt.

After reading through Shields's framework for transformative leadership and distinguishing it from transactional and transformational leadership models, students began to describe what they saw as requirements for transformative leadership. Across the data sources, these articulations seemed to serve as prerequisites for how participants began to see themselves as transformative leaders. Class sessions encouraging critical dialogue and reflection yielded students' perspectives on what dispositions and leadership skills they believed would be required to lead in transformative ways. As Clara noted

during one of the shared reports from a small group discussion, being a transformative leader requires leaders to "have the ability to ask questions, foster relationships and change inequality within a school for the greater good and society" (Class Observation 6). She added that transformative leaders must be "proactive through adaptive thinking and change, rather than technical. [Transformative leaders] Must critique the current reality–not just in schools, but in wider society." Throughout the course and across the data sources, the need to connect what happens within schools to their larger societal contexts also emerged as an important theme and will be discussed later in the chapter.

The notion that transformative leaders should expand their gaze not only to the schools or systems they lead, but also to the wider societal issues that impact school was a resonant theme for other participants across the course innovation. Building upon the same requirements described by Clara, Mary Anne added that transformative leadership must be "grounded in an activist agenda" that includes engaging in critique and possibility thinking, and that it should be informed by social theory and inspired by the work of Paulo Freire (Class Observation 6). Likewise, Holly shared that transformative leadership entails "democratic leadership that addresses inequity and inequality within the school building with the hope of addressing those outside the school building" (Class Observation 6).

Similarly, Darla noted that transformative leaders must address systemic issues through lenses that are "anti-racist, anti-sexist, and anti-homophobic, and which requires multiple diverse perspectives to create learning contexts that support equitable change in society." (Class Observation 6). This quote and the foregoing data suggest that through the course, participants were articulating a need for transformative leaders to recognize

that schools exist within larger systems, where the systemic challenges of inequality–including racism and white supremacy–permeate the design and operations within schools. Throughout class session dialogue, participants also acknowledged and supported these statements non-verbally using emoji reactions and words of support through the Zoom chat platform.

Participants also noted that critical inquiry and reflexivity on the part of leaders is necessary for transformative leadership. As Holly noted, leaders are often well-intentioned to say they want an equitable environment, but that they needed to ask themselves "What does it look like? Is it actually being instantiated?" (Class Observation 6) Here, class discussion revealed a deeper need for transformative leaders to interrogate for evidence of how commitment to values of equity and equality lived in their schools. In a similar line of thought related to the need for inquiry on the part of transformative leaders, Timothy noted that when approaching challenges and complex situations, "a transformational mindset would ask, 'How do I fix this?' A transformative mindset would ask, 'What in the system do I need to critique or expand?'" (Class Observation 6). This demonstrates the reflexive thinking on the part of students who saw the need to expand their role and responsibility and sense of power.

Through written assignment and verbal reflections, students also documented what they saw as being required for transformative leadership, and the larger societal and systemic inequalities were prominent. As Ryan noted, a transformative leader "looks outside of the school, looking at and deconstructing and reconstructing" those systemic challenges in a way that would be "anti-racist, anti-homophobic, anti-sexist and making sure we're progressing not just within the schools, but being more civic-oriented, and for

our democracy as well" (CB 4). This quote suggests that leaders should be actively engaging in connecting issues within their educational spheres to the larger societal challenges.

Along those same lines, Holly offered that a transformative leader should start by learning about the education system's current and historical contexts and developing a "deep understanding of how our educational system came to be and the systems and culture in which it functions" (CB 4). Building upon that, she suggested that leaders should examine the extent to which they "work to either perpetuate oppression or to disrupt it." Building upon that, she suggested that transformative leaders would need to join in community with other stakeholders to assess their current and historical contexts, as well as to "look at our collective values and create a vision based on our values and then really work within those values to move forward and to create a plan together that reflects the collective" (CB 4). This suggests that student reflections on what might be required of them as transformative leaders extend beyond the walls of their school buildings.

Beyond articulating the requirements for transformative leadership, class assignment prompts, including both written and verbal reflection assignments, asked students about what they would do to enact transformative leadership. Across these responses, several sub-themes emerged. One of the actions was to encourage colleagues to hone their sense of purpose for being an educator, as well as to engage in critical reflection on the system and its performance and fit toward the stated equity goals of transformative leadership. As Kimberly noted in a Flipgrid reflection:

> As a transformative school leader, I would encourage teachers to go back to what their values and mindsets are and what their why is. I think teachers need to be reassured and supported and finding their love for teaching, especially because of the many changes from the pandemic. I would encourage teachers to find the parts of teaching that they miss and not worry about adhering to the exact sequencing, but to progress with the students and their needs as the priority (Flipgrid 4).

Here, projecting oneself as a transformative leader entails encouraging others to engage in critical reflection and interrogation their own purpose(s).

Parallel to this instance, Timothy projected a similar call to engage in collective evaluation of the education and the extent to which it meets students' needs. As he noted, "we need to shift and ask the why and to what purpose are we teaching towards. We will need to look at external factors beyond campus if we are truly to examine and evaluate how we can best serve our students and create an equitable learning environment" (Flipgrid 4). This quote suggests that in addition to centering students' needs to interrogate purpose, taking time to critically reflect and evaluate prior to engaging in a change initiative is another important component of enacting transformative leadership.

To that end, Charles adopted a similar approach toward reflecting and questioning the status quo prior to attempting to lead transformative change. As he noted, "I think the first order of business as a transformative school leader is, prior to initiating a change, to listen to the staff on how they view the learning environment at hand" (CB 4). He wrote that he would engage in a listening campaign by conducting interviews and "empathizing with the staff on the struggles and opportunities of the new environment," which would

enable him to "be able to understand the need that teachers and staff have first." This suggests that transformative leaders need to listen across roles – including teachers, students, and support staff – to gauge their sense for current conditions, practices, culture, and climate prior to attempting to lead change.

Marisol expressed that as a transformative leader, one of her first aims would be to work with colleagues to develop "a common understanding and consensus moving forward by being transparent and honest" through collaboration. She expressed the hope that "by working collaboratively, we can create a shared vision and mission and by gaining support of those that I lead. I hope to work towards a better future." (CB 4)

Through these projections of leading transformative leadership, participants also began to visualize and articulate outcomes of their leadership, including what successful leadership might look like. As Joseph noted in a written assignment reflection, "I can picture students and teachers being excited to come to school because we are focusing on specific needs, not necessarily specific facts," and hoping that students will find their voice and teachers will see growth from students who might not have shown growth with the traditional system. (CB 6). This relates to a theme that others also expressed during class dialogue about students finding joy in their learning and school experiences.

Charles expressed hope that as a transformative leader, he could capitalize on the "inherent opportunity of shifting staff and student mindsets to focus more on what a school could be" so that his school "will be able to craft a democratic thriving institution that will flourish long after" he and his colleague leaders leave their posts. (CB 6). Similarly, Kimberly expressed the long-term hope for transformative leadership and

systems change. As she noted, she hoped her own practice as a transformative leader could lead to mindset shifts across her team. She believed this could be:

> An opportunity that may not be successful at first, but over time, the questions of the purpose of education and understanding the inequities that happen at school will resonate with them to understand the need. I think that's where transformative change and leadership begins. To be able to have the hard conversations, understand the depth of what the students need and be able to provide that for students with the end in mind" (CB 6).

Here, discussion of "hard conversations" also expresses a sense that transformative leadership entails a sense of earnestness about the ends and purposes of leadership, as well as the inherent difficulties of leading others.

To summarize this sub-theme, the data demonstrate the ways in which study participants thought about the framework of transformative leadership and the requirements it entailed for aspiring leaders. In addition, the data demonstrates how participants began to see themselves as transformative leaders, in the context of their preparation to assume leadership positions upon completion of the program.

Leading Teachers. This category of codes reflects how participants began to see themselves less through their current positions as teachers, and instead began to reflect and embrace taking on a role of leading teachers and other school staff. While not all participants were teachers in a primary or secondary school classroom at the time of the study, all of them had been classroom teachers at one time. Across the data sources, participants reflected on what it meant to be a teacher, and spoke regularly with a voice of a teacher.

Throughout the innovation of the course, participants noted the importance of being able to exercise leadership that supports teachers, along with the recognition that engaging teachers in any desired innovation or change is critical to the success of that effort. As Clara reflected in a Flipgrid, "supporting teachers is probably one of the biggest ways you're going to get the change that you look for. Our teachers are kind of, you know, in the field, on the ground, per se, with the kids every day, and those are the people that are really going to implement and foster that change" (Flipgrid 3).

Similarly, Elizabeth connected the importance of supporting teachers as they come to terms with proposed changes, and to leverage her own experience as a teacher as a way to develop empathy for leading other teachers. As she noted, "it's so important to consider, as a leader, and to really value your teachers and see them as professionals and trust them and really explicitly address" the concerns that they have. Connecting to her own experience, she added that "we know as teachers, we've either been one of these people, or we've seen people have those thoughts. Like: '[Do you have] any more information about this, or how will this affect me?'" (Flipgrid 3).

Much of the discourse through the written and verbal reflections related to leading teachers in a way that would empower them to innovate freely or without fear of reprisal, and to be willing to adopt new or different practices. Amy expressed a need for leaders to support their staff "to get to a place where teachers are willing to try new approaches and are able to let go of some of their old habits and expectations. We want our teachers to be critical and creative thinkers (just like we want for our students)" (CB 7). Here, Amy not only links the importance of freeing teachers to be free to create and innovate in their practice, but links that creativity to normative hopes for how it might impact students and their education.

Removing fear from teachers who would seek to innovate became a significant focus of participants throughout the course innovation. As Gloria noted, do this she would need to "make sure that my teachers feel empowered to make these changes and as they are empowered, they can then in turn empower the students." Crucially, Gloria also offered that she would need to "take that risk from my teachers so that they can move forward and make some adjustments, and then I'll take the blame if it doesn't work." Extending this, she suggested that empowered students could begin to take on projects that are meaningful to them and go through that journey of learning and then sharing so that they can see themselves as co-designers of their learning, to be teachers, too. This is aligned with Amy's hopes that teacher support would translate into student gains, too.

Further related to the theme of empowering teachers' creativity and sense of freedom, Leon noted that as a leader of teachers he would "work on the amount of creativity that the staff would be allowed to utilize in implementing transformative change" (CB 7). He cited a need to support teachers through professional development

for staff, and through that professional learning he would want to "stress the amount of ownership that all stakeholders would have in this implementation, and how the change will not only benefit our students, but the whole school community and society as well." Further, he posited that "many teachers would love to teach in their own unique methods and using inquiry-based delivery and assessment. I know they would still be worried about standards and test scores, but if they're given freedom to reach these goals while growing as a professional, I feel it would be a win-win situation."

Similarly, Ryan noted the need to support teachers by trusting them to innovate and work to remove any fear they might have during a class session. As he noted in a group conversation example, he had worked in a previous setting where teachers would meet together after school, off-campus where they could be more creative and come up with ideas that they were not given that opportunity to do in the context of daily school activity. Reflecting on that, he noted, "if there's no trust, there'll no change, and there'll be no way" for teachers to feel free to iterate with innovating teaching and learning (Class Observation 2).

Holly also shared that shaping teachers' mindsets and identities is crucial to eliminate some of the fear that teachers might be feeling. She noted that to change as a leader, she would have to push past surface level problems and challenges with educators. "We have to dig deeper, and I really was reflecting on why we don't do that. That's because it really challenges our identities. And we don't want that uncomfort [sic] and we don't want that challenge," she noted (Flipgrid 3). But to challenge or question those assumptions around identity and functioning in the current systems, she noted, can be difficult for teachers. As she noted "there's a lot of fear around that, like "if I'm not a

teacher in this system, the way that I have been working in it and the way that it's been functioning then, who am I as a teacher?' And so I feel like that is kind of a barrier" for leaders seeking to lead change. As such, supporting teachers to question their own identities, to wrestle with change, and providing safe spaces for them to do so will be important as a leader.

Clara also articulated a need to shift teachers' mindsets: "I would work to change the mindset of teacher planning and teamwork. Especially during this time, there is no reason for teachers on a grade level team to work as solo entities. Teachers need to create a positive mindset that views teamwork as beneficial. I would create weekly planning times in order for teams to be able to work together and prepare for these new learning experiences" (CB 7).

As the foregoing section demonstrates, across this data, participants demonstrated that as they develop a transformative outlook toward leadership, they would need to support teachers as a primary function of their jobs. Furthermore, the data reveal a felt need on the part of the participants to support teachers to be empowered to take risks and work without fear of failure and reprisal.

Exercising Leadership. This category of codes reflects how participants articulated their experiences with exercising leadership, and their expectations for leading as transformative leaders. This was particularly salient during the final Concept Brief assignment, where students were asked what steps they would first need to take as transformative leaders. Largely, participants articulated needs to begin by interrogating the present system, build trust with those in their sphere of influence, and to recognize

that they will be at the beginning of a leadership position where bringing about transformative change will necessarily take time.

In a written reflection, Timothy noted that as a transformative school leader, he would need to "reevaluate whether the system that was existing pre-pandemic did indeed serve all of our students. We need to shift and ask the why and to what purpose are we teaching towards" (Concept Brief 7). He suggested that in line with transformative leadership tenets, he planned to "look at external factors beyond campus if we are truly to examine and evaluate how we can best serve our students and create an equitable learning environment." He also envisioned needing to "create a culture on campus that encourages collaboration and most importantly, freedom to 'fail.'"

In a related offering, Charles wrote that a first order of business as a transformative school leader would be, prior to initiating a change, "to listen to the staff on how they view the learning environment at hand. By conducting interviews and empathizing with the staff on the struggles and opportunities of the new environment, I would be able to understand the need that teachers and staff have first." Here, Charles is expressing the need to understand the culture and context through the experiences and voices of the participants in the system, and to get to the heart of transformative leadership. He continued that his next order of business would be:

> "to connect teachers to the ultimate goal of learning and what is best for our students. Connecting them to the why of education will allow them to center on the solutions, opportunity and control that we currently have but don't use or understand. Shifting control and focus of curriculum to be more aligned with student interests and project based would require many

> opportunities for teachers to have professional development, listening sessions regarding the mental shift and opportunity to talk to their colleagues on best practices to implement. Ultimately, by reminding students that we have a system that does not work for all students and we have an opportunity to shift it to something that works, is truly an uplifting concept" (Concept Brief 7).

With this, Charles is expressing how we would look to engage those to join him in critically interrogating the system, and to reflect on what is needed to lead shared, transformative change.

Similarly, Amy noted that taking a moment to critically interrogate the present system and evaluate current practices with respect to the system's purposes would be among her first priorities. As she noted, "I think the first thing I would need to work on is helping teachers shift their mindset away from the curriculum and standardized tests. It is important that we all reflect on the purpose of education, the reason(s) we became educators, and what we see as important moving forward in these current times" (Concept Brief 7).

In addition to critically interrogating the system and reflecting on the extent to which the system is fit for its purpose, participants also emphasized the need to build relationships and trust across their sphere of influence. For example, Gloria noted that establishing a trusting relationship across the organization is a prerequisite leading any other change activity. As she noted, "leaders at the school level or a classroom level cannot simply ask their students or teachers what they think if an authentic relationship has not been developed first" (Concept Brief 4). Crucially, she noted how leaders must

engage both adult and student staff to understand their perspectives and needs, and once those relationships have been established, a sense of trust is likely to elicit more open and honest feedback and vulnerability to provide an opinion.

During one class session, Juan noted that his role now as an educator will be a boon for building relationships with teachers as a future leader. "As a leader, you have to build your relationships with staff. I get hounded a lot (by professors) for thinking like a teacher and not like a leader, but I think thinking like a teacher is a strength because of the success I know I've had with students as a teacher" (Class Observation 6). Relating to the particular moment he and his colleagues were experiencing as teachers, he noted that he thought "teachers would be more resilient during COVID if they had better, more trusting relationships with leadership. A lot of the frustrations I hear stems from a lack of trust w/ leadership or leadership decisions." He also offered that leaders may have to make sacrifices about work that needs done to invest in relationships, noting that this parallels the sacrifices that teachers often must make.

Related to the theme of needing trust, Ryan noted the need to create space to include parents as well as students when leading change efforts:

> "As educators we sometimes forget to take a step back and really bring in students and parent voices in the decision-making process. As school leaders we need to then broaden that approach and search for other voices within our school community to bring in the most ethical change in a very compassionate way. We teach our students that it is ok [sic] to make mistakes and that we learn from our failures. It is time that educational

leaders lead as an example of what true learning looks and feels like" (Concept Brief 4)

Here, Ryan makes a case for transformative change that extends beyond the walls of the school and includes parents as crucial stakeholders for leading change efforts. Further, Ryan here explicitly makes the case that transformative leadership entails a kind of ethical leadership that may be missing when those impacted by the system or proposed changes to it, including parents, are not included.

During the second Leadership Team Learning Demonstration during Week 7, one team noted that building authentic relationships across the system was important for leaders. They noted the need to build authentic relationships that take a student focus extending beyond academic abilities, and to get to know them and who they are (Class 7).

In the exercising of leadership, another prominent concept that emerged was the recognition that exercising leadership requires the patience and understanding that leading change takes time. As Joseph noted in a Flipgrid reflection on leading change, "we need everyone to realize, you know, that it's going to take time. It's not going to happen overnight. So we just need to trust the process and obviously that starts by building that in your community. We also need to be flexible and adjust when things aren't going the way we want it to go. We can't get discouraged about it and just give up. We need to adjust and realize it's OK. Take a step back" (Flipgrid 3).

Similarly, Judy also reflected on the importance of building trusting relationships as a requirement for exercising transformative leadership. As she noted that throughout the course, she came to appreciate that:

> “leading change is a process. It takes time and even after you have created that change, it's important that you know and you learn how to sustain it. Because you can't just let everything fall to pieces afterwards and assume that it's going to stay the same way, and I think that for me that's something that I've seen when one administration leaves a school and another one comes in. Sometimes those things that we worked so hard for to change have kind of unraveled a little bit, and then you see how another person either implements their own, continues to uphold what was existing, or lets everything kind of fall to pieces, just kind of depending on their style and their dedication to the school” (Flipgrid 3).

Here, Judy delves into an issue that was echoed throughout course sessions, which was the challenge of sustainability and ephemeral nature of change, when it is grounded more in the personality traits or behaviors of a single leader, as opposed to being built into the culture of the school and surrounding community.

Similarly, Mary Anne noted that leading transformative change would take time as she began to exercise her leadership. She noted that she saw time as a tool in her toolbelt for leading change, and that having patience would be important as she began her leadership practice. “The other tool that I keep coming back to is time,” she noted. “I think so often we try to think that change can happen so quickly and these changes really can't happen quickly and we need to. People offer people time, time for conversation, time to think, time to reflect. Time to plan. Time to dream but also time to make things happen” (Flipgrid 4).

Across this theme, the data have offered support for the assertion that students' identity development as leaders through the course expanded as transformative leaders. Throughout the course innovation, participants began to more deeply understand transformative leadership theory and develop identities as transformative leaders. Further, they demonstrated a shift from working as teachers to developing their sense for what it will mean to lead teachers, and also to exercise leadership.

Theme 2: Design Thinking as a leadership approach

Based on analysis of the qualitative data, I assert a second theme that students recognized design mindsets and approaches are appropriate for leading systemic change through uncertainty and complexity. This theme was composed of two axial categories that led to this assertion: (a) Adopting design thinking mindsets and (b) Leading as a designer. The following section describes each of the supporting categories.

Adopting Design Thinking Mindsets. This category of codes reflects how participants expressed a perceived value for DT mindsets, as well as how they began to adopt them. Recall from Chapter 2 that DT is often identified as both a methodology and set of mindsets, with mindsets for design thinking often including empathy, comfort with ambiguity, learning from failure, and a desire to create a positive change in the world (Loescher et al., 2019; Diefenthaler et al., 2017; Henriksen et al., 2017). Across the data sources, the most prominent of these mindsets was the need to develop empathy as part of using a DT approach to leadership. As Elizabeth noted in one of the class sessions, leadership requires a huge growth in development of empathy. This is particularly true during these uncertain times, where she noted:

> "You are being forced as a school and teacher leader to recognize and address how others are feeling. You have to explicitly practice development of empathy right now because we may have differing viewpoints as educators, but these are very serious passionate feeling. People are feeling anxious for their safety. 'Let me consider your viewpoint and perspective so you can feel safe and productive in your job. How can we help you all feel safe?'" (Class Observation 2).

As Gloria noted in a post-course interview, empathy "has been the big one that has been, it's been validated and affirmed and encouraged, is the relationship piece with people, people first and really valuing people" (Gloria Interview). As she moved through the course readings and discussions, she noted learning about empathy as more than a sense of being nice or kind, but rather as a critical and necessary component of effective leadership. As she noted, "it's really reinforced how important and how critical that foundation is before you can do anything beyond that."

Similarly, William articulated empathy as a necessary mindset for leading change through uncertainty. In an interview, he shared experiences where a lack of empathy from administrators he has worked with created strained relationships and inefficacy to lead. "There are so many times where I've had certain administration say 'No,'" he noted. "They'll just come out and say, straight up, 'No, I'm not going to listen to what you're saying. That's the bottom line.' At some point, you have to be willing to just listen. I do feel like a lot of people want you to listen and really, truly adapt and have empathy." He noted the importance of empathy playing a role in helping people feel heard, even if they do not have the ultimate power or final decision.

In addition to empathy as listening, Juan noted the need to speak and respond with empathy. During a class session, he cited a need for leaders to avoid what he called "toxic positivity," or displaying the affect that things are fine or downplaying the concerns others surface. As he noted, "when everything sucks, acknowledge the suck. And genuinely encourage people to push through. Don't be negative, per se, but avoid the fake positivity that leads people to feel like their struggles are not understood or appreciated" (Class Observation 6). Again, developing an understanding of how to meet and support people on their terms is a component of building empathetic mindsets that participants spoke to.

The notion of meeting people on their terms also emerged as a reflection for their present situation throughout EDA 634, and not merely as a projected need for future leadership. Citing the current uncertainty and challenges related to the ongoing pandemic, Ryan noted that "having that perspective shift should not just happen from those we serve, but also from us" (Class Observation 2). He built upon this by sharing his sense that his current administrators are having a hard time empathizing with the struggles he and his colleagues are enduring, as those administrators are dealing with wholly unique challenges, too. He called for a reciprocal development of empathy for both parties, and expressed hope for mutual understanding during a challenging time. "If we think about how our leaders have never taught in a pandemic, they should shadow us and start to get in our shoes to see what it's like. They've been there, but they've never been there in this moment."

In addition to empathy, participants frequently cited the need to adopt a DT mindset of leading change iteratively, and learning from failure. For example, Beverly

reflected in a written assignment that educational leaders would do well to embrace an iterative mindset, noting that "a designer experiments, and faces challenges, learns from their mistakes, and gets creative" (Concept Brief 4). This would serve educators who have lots of hurdles in their path, but who also need to be determined to create lasting change.

Similarly, Kimberly praised how designers embrace learning from iterative efforts to solve problems. "I feel like designers are accustomed to failure and the feeling of failure because they know their first attempt at something may not work," she offered (Concept Brief 4). "Their failures are used as a 'yes' to a different opportunity that's meant to be. I think designers are creative, and innovative and leaders should always aspire to have a design thinking mindset to create those solutions and opportunities."

Along those lines, Morgan noted that "leaders as designers fail-up, resurfacing with more resilience and creativity with each challenge faced" (Concept Brief 4). Here, she noted that the persistent effort involved in iteration is not merely a positive character trait, but that a mindset geared toward iteration also allows designers to learn through their efforts, and results in increased capacity and creativity to solve problems. This is particularly important for leaders working through uncertainty, when solutions to past problems are either insufficient or unavailable as a resource from which to draw upon.

At the end of the course innovation, several of the teams' final LTLD assignments included a call to promote a mindset of iteration and increased learning through failure. For example, Holly's team articulated a desire to establish teaching and learning environments where iteration and learning from failure are part of the culture (LTLD2).

In a final reflection on learning throughout the course, Luis offered "I used to think that failure was never the answer, and now I think it's the only way to learn. I used to think that leaders had the answers, and now I think leaders create the opportunities to come to the answers" (Class Observation 7). This aligns with a theme expressed throughout the course, that because schools have been designed to view failure as something to be avoided, whether in terms of failing assignments or even failing to matriculate through a course or credential-bearing program, leaders have often been enculturated to see failure as a negative.

Another DT mindset that emerged through the qualitative data as a prominent need for leadership was developing comfort with ambiguity. In a Flipgrid reflection, for example, Amy noted that DT "requires people to become accustomed to ambiguity. We want our students to question and inquire and be able to think outside the box. As adults, they're going to be solving problems that don't even exist yet" (Flipgrid 2). She noted that leaders could develop their own comfort with ambiguity through all of the uncertainty happening now, and that doing so would create a collective mindset that proliferates throughout the school context. As she noted, "we need to prepare them [students] with the skills to explore an issue, develop a solution using some known strategies and information in a new way. Design thinking is going to help get them there."

Charles noted he believes design thinking approaches to leadership might allow leaders to better confront and deal with complexity and ambiguity. As he imagined adopting a leadership identity, he stated that leaders could consider themselves designers as they could

> "Look at problems and solutions in a more holistic manner that considers people vital to solving the issue. A design thinker delves into an ambiguous issue seeking to fully understand the best pathways to solve it. When a leader takes the approach to identify the complexities of a challenge with candor, the solution may present itself or may be addressed with solutions that were previously not imagined of" (Concept Brief 4).

He even distinguished leaders as designers from those interested in reform, by offering that "design thinker leaders build collaboration and buy in while reformers do not." (Concept Brief 4). Further, in a Flipgrid reflection, he noted that "Having the ability to sit in ambiguity and to really be okay with the unknown is a big key to success for any leader that's out there" (Flipgrid 2). This is worth noting in its connection to the theme of identifying uncertainty in the educational system, where navigating continual reform efforts and change initiatives from leadership can be seen as a difficult imposition to endure, particularly from the vantage point of being a teacher.

In a post-course interview, Kimberly noted how the uncertainty of the present moment created a good opportunity set to develop comfort with ambiguity. As she noted, "I think when we have gray area is when we can actually implement productive change, because we're all already in this uncertain area together. Granted with COVID, it was forced upon us. But I do hope that we take a lot of these new lessons and these new implementations and learn" (Kimberly interview). Overall, she offered that her primary mindset and takeaway was "it's okay to function in the gray. It's okay to be in uncertain times and rumble in that vulnerability."

Another prominent mindset adopted as leader as a designer is to collaboratively design or co-design to include stakeholders in the process. As Monique noted in a written reflection, leaders "have the opportunity to enact change by utilizing all the voices in the room. They can tap into the imagination of not just teachers and staff, but also students and parents as well, and all stakeholders" (Concept Brief 4). Including and gathering a plethora of voices, she noted could serve as a strength for the ideas produced through DT, and that for leaders working to solve challenging problems, this offers promise.

William also noted the need to adopt a collaborative mindset. He wrote that as a leader, he would want to cultivate a culture "where students are able to collaborate with educators and educators are able to collaborate with administrators. Instead of planning and deciding on solutions, I need to listen and ask questions about if this is going to be effective or is this going to benefit all students?" Further, he noted that the DT mindset of collaborative problem-solving was an integral matter of creating meaningful solutions. "As a designer you need to be willing to seek answers and collaborate with the ones that you serve to best design a school that is appropriate and meaningful for them," he wrote (Concept Brief 4).

Beyond its necessity for generating better solutions than simply going it alone, Carmen offered that collaborative mindsets are a requirement for leadership during uncertain times, where no one person has access to all of the necessary information. "I think that it is really important for a leader to be able to acknowledge that they don't have all the information and they don't have all, or maybe not all, of the information and definitely not all the answers" (Carmen Interview). She noted that adopting this mindset might require revisiting the purpose of education and countering the idea that educators

are the sole sources of information for those in their charge – such as principals serving as that source for teachers, and teachers for their students. "I'm not the vessel of all the knowledge that I give to my students. And I'm not, as a leader, the person that has every single answer and I can't possibly come up with every solution," she said. She added that the DT mindset of collaborative problem solving would extend the invitation to create solutions to many different kinds of stakeholders so they can be a part of change processes.

Building upon the need for a collaborative mindset due to the inefficacy of leaders creating and leading changes on their own, Luis noted in his post-course interview that embracing collaboration would allow leaders to take time to get a more holistic view of proposed solutions. "It really stood out to me that leaders should not have the quick solution. That I don't think that a leader's role is to solve everyone's problems" (Luis Interview). Instead, he expressed that "a leader's role is to help people work through their problems and they'll find solutions together, in an equitable fashion."

The notion that a collaborative design mindset supports good leadership was echoed by Mary Anne, who shared in her interview that her best experiences in leadership have come from embracing collaboration. "I have done my best leading when: a) I'm not speaking, someone else is speaking; and b) they totally feel true ownership and pride in what's happened" (Mary Anne Interview). She noted that she saw the importance of those moments as being less about what she was able to accomplish, but more about how she was able to create or facilitate situations where accomplishments could happen. Related specifically to DT and how she embraced this designer's mindset, she noted "I

get a little nervous about the idea of being *the* designer, but in some ways maybe that is being the designer—helping create the place where that can happen for people."

Across this sub-theme, the data demonstrate that throughout the course, participants came to identify the value of and need to adopt design thinking mindsets as they prepared to enter into leadership roles. Further, participants also recognized the need for leaders to distribute and share leadership responsibilities and even power, particularly in relation to collaboration and co-designing with stakeholders.

Leading as a Designer. This category of codes reflects how study participants reflected on the concepts, mindsets, and approaches of design thinking and its applications for leadership. When reflecting on how educational leaders can and should see themselves as designers, several participants noted the need to develop an openness to exploring their contexts and searching deeply and collaboratively for problems and causes, as opposed to individually jumping to plan solutions. To that end, Mary Anne noted that when educational leaders consider themselves to be designers, "they see themselves as searchers (researchers maybe?), and enter problem solving processes with all of the stakeholders in their schools." She added that:

> "In embracing a designer identity, leaders won't miss amazing solutions that can remain hidden among hierarchy, invite stakeholders (teachers, parents, students, other school professionals) to be agents of change, rather than imposing change on them, invite multiple perspectives to a situation, which increases the chance of a successful solution, and offers agency and ownership to the entire school community" (Concept Brief 4).

This sense of approaching challenges as a leader with a searcher identity and collaborative attitude is also reflected in what Meredith shared. She noted that "leaders should think of themselves as designers because they need to connect with everyone on the campus." Further, she offered that leaders who seek to act as designers "cannot ever afford to not search for alternative approaches or lenses, otherwise, the same problems and/or challenges continue to exist." (Concept Brief 4).

Similarly, William noted the need to be a searcher, offering that:

> As a designer, I have to be a "searcher" in how I create the environment for my students and staff. It has to be where students are able to collaborate with educators and educators are able to collaborate with administrators. Instead of planning and deciding on solutions, I need to listen and ask questions about if this is going to be effective or is this going to benefit all students? As a designer you need to be willing to seek answers and collaborate with the ones that you serve to best design a school that is appropriate and meaningful for them (Concept Brief 4).

The theme of collaboratively engaging with others appeared in the reflections of Marisol, who offered that "I absolutely consider myself a designer, but I definitely can't do it alone. It will take the whole admin team, office staff, teachers, etc., to design an effective curriculum, school mission/vision, and to run a school and provide all the necessary services for all students to see success." (Concept Brief 4). Again, the theme of developing a searcher mentality in collaboration with stakeholders appears throughout student reflections on the value of design thinking.

Kimberly reflected on the value of leading as a designer:

> I think designers have a way of finding opportunities and are more process oriented through their designs. I feel like designers are accustomed to failure and the feeling of failure because they know their first attempt at something may not work. Their failures are used as a "yes" to a different opportunity that's meant to be. I think designers are creative and innovative and leaders should always aspire to have a design thinking mindset to create those solutions and opportunities (Concept Brief 4).

In a Flipgrid reflection during the course, Alexa also spoke about the process of leading as designer, and noted how leading change does not always take a linear path, offering "You need to be aware that it's a non-linear path in design thinking, you know? It's not like a straightforward path and then you're there. You might have to go back a couple of steps, go forward, jump through some hoops" (Flipgrid 2). She noted that "you kind of have to have this, like, mindfulness of like the people that are surrounding you to leave this like important change in, like, your school community. Leaders need to be the ones leading the change and accepting feedback and being reflective themselves" (Flipgrid 2).

In addition to approaching the process with an appreciation for non-linearity and ambiguity, participants also noted the value of collaboration as a part of the process. For example, Judy noted that when leading with design thinking, multiple stakeholders should be involved in the process. Reflecting on her experiences with leadership initiating change processes or tools, she cited experiences where "decisions have been made and no one's input has been asked for or considered, and we have something brand

new that we're using and [have] no way to connect to it" (Flipgrid 2). In thinking about design thinking as a remedy to the former approach, she offered that:

> "Design thinking is probably one of the best ways to move forward in administration or in any leadership position. It's taking into account, if you're a teacher: what do your students need? If you're an administrator: what do your students and your teachers need in order to succeed? And really valuing and put their input first before making decisions without them" (Flipgrid 2).

In a post-course interview, Darius also made specific note of the value of collaborating as a designer when leading. As he shared, "what I really appreciated with the design thinking was getting in there with the people who are actually—like, you're making these changes [as a leader]—but the people who are being affected by the changes needs to be the ones who have the ultimate, bigger voice." This inclusion was particularly important as an opportunity to share with others. "Otherwise, you're just telling people what to do or how to change and stuff like that," he noted, suggesting that the ultimate value of collaborative design approaches would provide stakeholders with "the tools to follow their own dreams. You don't want them to follow what you think their dreams should be" (Darius Interview).

Across this theme, students recognized that design mindsets and approaches are appropriate for leading systemic change through uncertainty and complexity. Through the course, the data demonstrate that students expressed an appreciation for design thinking mindsets they believed would support their aspiring leadership practice. Further, many of them expressed an acknowledgement that leadership entails design practices.

Theme 3: Imagination as a Leadership Tool

In addition to developing identities as transformative leaders and valuing DT mindsets for leading change in uncertain times, during the course innovation the participants came to recognize that imagination can be a powerful conceptual tool for leading change, but that it must be grounded in conceptual understandings of the systems they lead and the capacity to name those systems as they are. This theme was composed of three axial categories that led to this assertion: (a) questioning the purpose of education, (b) naming things as they are, as well as (c) imagining possible futures and alternatives. The following section describes each of the supporting categories.

Questioning the Purpose of Education. This category of codes reflects how study participants engaged in ongoing and critical interrogation about the purposes of education and exploring the extent to which existing systems of education are fit to the purpose ascribed to them. In a written reflection assignment, for example, Marisol asked a series of questions that followed participants throughout EDA 634. As she asked, "What is the purpose? Who's responsible for defining the purpose? Why is the purpose necessary to the sustainability of our schools?" (CB 2). Far from simply asking as a rhetorical exercise, students used questions like the second and third question as springboards to explore their own identities as educators within existing systems, and to begin to think about what being responsible for leading those systems might entail.

Related to this, Zack expressed the need "to revisit ideas we've considered truisms, and we need a paradigm shift for how we can reconsider the system as a whole" (Class Observation 2). When pressed by the instructor for how he might go about that, he suggested that leaders "take a look at the purpose of education, and take a look at the

outcomes we want, before we start working at the structure of something that isn't even defined."

Largely, participants noted education's purpose is and should be a matter of continual interrogation and revision, and that the decentralized nature of how education systems in the United States are organized and operated, there has rarely, if ever, been a clear, monolithic articulation of the purpose(s). As a result of this, students reflected, a system emerged that was not wholly determined by educators, but by larger societal forces. As Gloria noted, "because there has not been a clear and collective purpose for education, external agents have been able to impact education in ways that meet their specific desires, some of these desires being accountability, standardization, and equity" (CB 2).

To that end, Alexa sought to articulate school's past purposes and design origins to develop conceptual understanding for the present. As she wrote:

> Schools were designed during the industrial age, the goal wasn't to nurture creativity and develop individuality, but to prepare students for standardized jobs in an industrial economy. We are no longer living in those times and therefore the purpose of education needs to be revisited often and the educational system modified. If we want to make impactful change we need to evolve at every level of our educational system. I believe that it is crucial to understand the purpose of education as educators. I agree that education needs to change as society evolves. I believe that if we focus on equipping our students with skills and prepare

them to be lifelong learners than they will be more likely to be successful (CB 2).

The notion that schools reflect an origin story from the era of industrialization resonated with others, and the consequences of those origins have led to a present moment where the incentives and operations—particularly toward isomorphic designs geared toward a normative, average student. Regarding industrialization, Morgan wrote, "there has been an assumption that schools are responsible for preparing students for the work field. Schools were expected to teach the skills necessary to function as employees of existing jobs for 'average' adults" (Concept Brief 2). This obsession with averages, she noted, took away considerations of individuals. "When standards were introduced it was because a negative picture of education had been painted, and crisis mode ensued to rational reforms," she wrote.

Monique also echoed the legacy of industrialization as a foundation for the purpose of education systems that exist today. As she noted, "for many years the purpose [of formal education] was to develop people that could contribute to society and be part of the industrialized workforce. At times, it shifted to producing intellectual thinkers and people that contribute to the greater good of society" (Concept Brief 2). She added that as measurement became a more important focus of management in private industry, so grew the tendency to design toward the notion of average, noting that very often that such constructed averages aren't reflective of the diverse realities of people. "In education," she noted, "we do this with testing in general, standardized testing, labeling students as gifted, ELL, and needing remedial support. She offered that leaders ought to continually

reflect and think about the why and purposes for school, and then figure out what needed changes might contribute toward that purpose.

In addition to exploring past purposes of education, participants began to articulate what they saw as contemporary and emerging purposes of education. Drawing a connection to the past, Darla offered that "our current educational system is outdated and needs to be revamped. It was created during the industrial era where they prepared students for the workforce. Nowadays we should have a different purpose of education: betterment of society" (Concept Brief 2). This sense that the purpose of education ought not be grounded in its utility to mass educate for efficiency, but rather should account for the social value it creates toward an equitable and just society is reflected in other responses, too.

For example, Holly expressed a hope for a new purpose that seeks to liberate oppressed people. As she wrote, "we are trying to reform a system that contradicts education's innate purpose: to liberate all. There's that adage that says 'knowledge is power,' and if we keep those most oppressed from said knowledge the dominant culture remains in power" (Concept Brief 2). Here, she expresses a purpose that is closely aligned to a transformative leadership perspective, in accounting for the power dynamics at work across society.

Participants also took a view that the purpose of education ought to support a more holistic view of human flourishing and development, beyond simply academic or even vocational preparation. As Amy noted in a written reflection, "we look at the future of education, the future purpose, we need to realize that it's for the whole child. It is not just [a situation where] they show up, they learn their math facts, they go home. The

purpose of education is to educate the whole child. And that comes with their social, emotional wellbeing, plus their academics, plus their physical wellbeing" (Concept Brief 2). She added that the onset of COVID-19 pandemic demonstrated to people that the purpose of education was much broader and that institutions of education provided many more benefits than normative public discourse about education tends to include. As she noted:

> "There are a lot of things that the educational system has served the purpose for that I don't think society realized until this [COVID-19]. So the purpose of social and emotional wellbeing. Everything from social workers to lunch has been a part of the educational system and society didn't ... When we're talking about like deep societal change, society didn't even consider all of that until it just stopped. In March, it just stopped. It was just done. And I think that caused a lot of issues in our society as a whole, because for us, I don't even think it was summer until we started serving lunches again."

During a class session, Ryan also noted how the pandemic created a context where critical reflection about the purpose of education has been up for reconsideration, an emergent theme that will be discussed later in this chapter. As he noted:

> "As an educator, I've been in education since a kindergartner. I've been in some part of the system, perpetrating this system I thought would work, and that not much would have change since then. We think this is how school works. We don't question the teacher, and we just move on. And now with this pandemic, it's really forcing us as educators to start seeing

the shift, and want to not just go back to the status quo and break the system" (Class Observation 2).

As this sub-theme demonstrates, across the data sources participants shared a need for leaders to interrogate and continually revisit the purpose(s) of education, and to engage teachers in the work of analyzing and critiquing their contexts in light of such interrogations. As a final example that demonstrates the overarching sentiment expressed across the data, Leticia reflected in her final Flipgrid video about how leaders need to revisit the purpose of education with their teacher colleagues in order to move forward in the current system. Leaders and teachers, she noted, "need to actually understand how the existing system was formed" (Flipgrid 4). She went on to share that they need to reflect on why they became educators, as well as to examine "their beliefs, their values, the purpose of education and the desires and goals that we have for our students, and where we want to see them in the future." As she noted, if educators can continually engage in this process, "they will make connections and actually see the disconnect between our current system and what we actually want for our students."

Naming Things as They Are. This category of codes reflects how students internalized and adopted the notion of "naming things as they are," as articulated by Maxine Greene in her 1995 book *Releasing the Imagination*. During the course, Greene was assigned as a reading and students were encouraged to reflect on the concept of naming things as they are, and this articulation or naming was introduced as an a priori move in order to open space for participants to imagine how elements or entire designs of educational systems might be otherwise. Throughout the course, this concept resonated with participants as a necessary step for aspiring transformative leaders to be able to lead change through uncertainty.

As students reflected on naming things as they are, many students offered structural critiques for how the educational system has been designed to prioritize and incentivize behaviors by people across roles to emphasize standardization and accountability. As Eunice wrote, she found the educational system to be flawed, "enforcing accountability on schools and teachers through education and certification requirements, standardized testing, and policies that inadequately and inequitably distribute how schools provide benefits/supports to students with low socio-economic status" (Concept Brief 2).

Similarly, Clara found several ways to name things as she saw them to be. The first theme she noted was that "the school system has been designed for efficiency and based on external systems such as industrial design and management" (Concept Brief 2). She noted how she has seen "non-essential" programs cut or not included in public schools, because they are not viewed as an efficient use of funds. She extended this example to the culling of class subjects that fall beyond the bounds of consideration as

core curricular classes, like fine arts and music She also explored how class sizes and spaces were organized primarily as a means of efficiency, rather than by considering what is best for students.

Clara wrote that:

> "Schools have been designed to meet the needs of the 'average' student. They have not been designed with the mindset that children are unique learners. However, there is not an 'average' learner, and schools should be crafting individual learning experiences for every child. Most systems only have additional services for students who are significantly above or below 'average.' Students can qualify for Gifted and Talented services or Special Education services. However, there are not many opportunities for students who do not qualify for these additional supports, but are either above or below average. Typically, they are grouped with the general population and often struggle or become disengaged in school. Also, I have seen this 'average' mentality in the use of standardized testing as well as classroom furniture and design" (Concept Brief 2).

Notably, Carmen discussed the challenges of naming things as they are, particularly for educators working in the midst of these systems. As she shared during a class session, "you've got to see them the way they are in order to say, 'hey, we should think about another way for things to happen'" (Class Observation 3). Reflecting on a breakout conversation she and others had during the class, she offered that the personal nature of the work of educating often creates challenges for how to frame what is happening, because of the complexity and sheer volume of interactions that take place in

a school in a given day. “I mentioned, too, how hard I think sometimes it is as educators for us to see things as they are,” she said. “It's such a personal job. And I think sometimes it's hard to see and name, what's happening either in your own classroom or in your school or whatever it may be.” This is particularly true in a complex social system like schools, others noted, where so much decision-making and applied practice is happening in real time. That the complex, systemic nature of education can be hard to name was a theme that also popped up across class discussions.

Within the need to name things as they are, participants also expressed a need to name things as they are so that they might be subject to change, rather than reified or fixed as intransigent or tacitly accepted as permanent. As Darla reflected in a Flipgrid, “A lot of people, I think, view education and our education system as fixed or finished. We have this structure to our schools and that's the way it is. And that's the way it's going to continue to be” (Flipgrid 2). As she noted, naming things as they are could serve as a tool to “go against what has been seen as normal.” Here, questioning and critiquing what is accepted as normal became critically important for participants, as they acknowledged that it can be arduous to peel back layers of systemic design features that are often taken for granted. As Marisol noted, “one of the things that I feel we take for granted is the fact that for most of us, we are just doing what every instructor, teacher, or influencer we’ve ever had in own lifetime has done. We teach lessons, we ask questions, we hand out worksheets, study guides, and check student knowledge with tests and quizzes. No one questions the system” (Concept Brief 3).

One reason for this seeming acceptance of the given system, Gloria noted in a Flipgrid reflection, is because educational leaders have continued to pursue the given

purposes and narratives for education without reimagining their purposes or need for transformation. As she said:

> Historically, we have envisioned an educational system that prepares our students for the future yet, but we've never envisioned a new and different future for the educational system itself. We keep trying the same thing over and over: more standards, more accountability, despite it not yielding the results we want. As educators, politicians, parents, etc., we need to process through our own grief and loss and be OK with letting go of our old stories of how it's supposed to be or what needs to be fixed. We need to openly listen to those that are creating our future and hear how they want to be, and then faithfully support them by providing the learning and tools they need to successfully contribute to society (Flipgrid 3).

Here, Gloria also touches on the notion that only adults have most often been the only voices to name things as they are, and to determine the pathways forward. But several participants also expressed the need for leaders to not only name things as they see them, but to create spaces for students to name things as they are, and to respond.

Leading with Imagination. This category of codes reflects how students engaged with the course concept of imagination, and reflected on both its value and constraints as a tool for leading change. Most prominently, participants articulated a broadly shared perception that imagination can be valuable for leaders in conceptualizing and visualizing futures that are different from what might be expected or tacitly accepted as likely, based on current conditions. For example, Meredith noted during class that "imagination allows you to see things, how they can be otherwise" (Class Observation 3). Similarly, Darla noted in a Flipgrid reflection:

> "One thing that really resonated with me from the first Concept Brief was this quote from Maxine Greene: 'to tap into imagination is to become able to break with what is supposedly fixed and finished, objectively and independently real. It is to see beyond what the imaginary has called normal or 'common-sensible,' and to carve out new orders in experience' (Greene, 1995, p. 19). So a lot of people, I think, view education and our education system is fixed or finished. We have this way. This structure to our schools and that's the way it is. And that's the way it's going to continue to be. So I think for us to have change, we need to use our imaginations and go against what has been seen as normal and the roadway that we've had" (Flipgrid 2).

Ryan discussed in class what he saw as the connective tissue between naming things as they are as way and engaging in imaginative reasoning that relies not on what is given, but instead upon the abductive logic of what could be possible. Leaders need, he said, to "disrupt what kind of reasoning we're having right now. Given the state of the

world this is the moment to do so, and it can't be done by one person. Abductive reason is the kind of reasoning we'll need going forward" (Class Observation 2). The naming of abductive reasoning is important, as it connects to the literature of both imagination and DT as a logic that employs future uncertainty as a strength.

Similarly, Luis noted leaders to employ an imaginative, abductive reasoning grounded less in what is given, and more toward what could be possible in the future. He shared that when leaders engage in imagination, they may have to work through a patience for "what we may not see as being possible now, but understanding the process to make it possible in the future, using the context and our inference skills of the situations around us to be able to move forward" with imagination (Luis Interview). As he continued, "when it comes to the imaginative capacity that we have, we need to make sure that we are, as leaders, trying to not just accept the realities that we have and not just accept the simple solutions that we have, but that we can imagine something different."

Participants also came to see imagination as a prerequisite for leading toward a different state of affairs. As Arnold stated during one class session, "any change needs imagination. You have to imagine something different" (Class Observation 3). He also noted that the act of imagining in a leadership context can take place across different scales, from smaller implementations to more grand proposals, but that using imagination is fundamentally about proposing a different state of affairs from what presently is the case. As he shared, "sometimes yes, imagination is big and bold and we want all of it, but it's really just imagining something different than what it is right now. And I think it's needed for all change."

Similarly, William shared that imagination, while useful for leading change, is also appropriate during times where uncertainty doesn't create clear paths or directions for where leaders should go. As he reflected during a class discussion, "I think imagination can help us a lot with that of just getting us out of our comfort zone to see where we can create change, because right now everything is up in the air" (Class Observation 3). To this end, he noted that imagination might become a kind of freeing force allowing leaders to become unmoored from the constraints of the current system. Specifically related to practicing leadership in the context of the present moment, considering the complications, he asked, "Why not start fresh and see where we can create some change so that we can help every student?"

Participants also expressed a sense that imagination included the allowance for a kind of utopian thinking, using the language of dreaming, when describing its potential application in their leadership practice. As Monique shared in a post-course interview when reflecting on her orientation toward the value of imagination as an aspiring leader, "what is most exciting is that educational leaders, who have experience with the existing education system, can dream and design a better way" (Monique interview). She noted that leaders she has observed often approach change by taking what is existing and tweaking it, but she shared that she sees imagination as an invitation to be bold in the creation and design of something new.

Similarly, Holly shared that she connected the idea of imagination with dreaming. In her case, she explicitly connected the concept of imagination toward a broader, more transformative view of how it might be employed to reimagine issues of equity and liberation across society. As she shared, "I've seen it referred to as freedom dreaming and

where I kind of see the imagination is within that liberation of all people. And so, kind of, yeah, using imagination to figure out how we want our society to look" (Holly Interview). She added that this idea of imagination as freedom dreaming could also inspire students to learn to critique the present reality and embrace possibility thinking as a habit of mind. She said:

> How can we pass this idea along to children? Like, that things do not have to be the way that they have always been, that we can change things. And I think imagination is a really important thing behind that, and allowing myself the space to have those ideas, I think as a leader, is really powerful because then everyone else can also freedom dream, or figure out, or question the way that I do things, too. Or [ask] 'why do I have my room set up this way?' Or 'why am I teaching this way?' And I really think it starts with that—questioning where we get to that imagination piece of it (Holly Interview).

While participants saw the value in imagination as a valuable component for leading change, it was not without its challenges or potentially difficult implications for leadership. As Leon noted in an interview, carrying out leadership plans or protocols guided by imagination creates risk in departing from current or accepted practices. As he said, engaging in imaginative leadership could have both rewards and risks, because the contexts of schools are never simply imaginary with respect to the consequences of leaders' decision making, or the public accountability of decisions that affect children's lives. "If a district gives a leader that freedom [to implement imaginative practices]," he shared, "then they're getting the green light to experiment, which can be both positive and

negative. Because if it totally tanks, well, then that administrator is going to be on the line for it." He went on to describe the use of imagination as a "Pandora's Box of ideas," because the future effects or outcomes of implementing imaginative practices cannot be predicted.

Perhaps the most prominent criticism or point of ambivalence toward the introduction of imagination as a tool for leadership came from the previous association or connotation of the term "imagination" itself that participants had previously experienced. To this end, several participants shared that imagination occurred to them as a fanciful or unserious term, that it smacked of something inappropriate for the gravity of leading educational systems. As Kimberly noted in her interview, her initial interpretation of imagination as a course concept was, "I think it's a little too 'kumbaya' for me" (Kimberly Interview). She noted that over the course of the semester, she came to interpret imagination differently, saying "I just thought of being bold, and if you want your school to go a certain way, and that goes against the grain a little bit, that's okay." She cited an example of looking at what other schools are doing and asking her administrative team why something like that couldn't be done at her school, and acknowledged that imagination can be grounded in practical reality. Still, she acknowledged the nature of the unknown when imagining still elicited some feelings of discomfort, as though one is heading toward a precipice. "I feel like the imagination part, I think you can extend it so far before…like, if here's the edge of the cliff, I'm going to go to the edge of the cliff, but where am I going to get caught?"

Similarly, Judy expressed an initial reaction to the curricular introduction of imagination with a sense that it lies beyond the domain of adult leadership practice. As she reflected in a Flipgrid video:

> "We often associate—and I know I myself have done it—imagination more with, like, that naive kind of childlike way of thinking. And after looking at the readings, imagination is such a huge component when it comes to leading change and when it comes to innovation and education" (Flipgrid 2).

Like Darla, she identified Maxine Greene's *Releasing the Imagination* reading as a source of influence for changing her perception about imagination. She added that she also has come to see imagination as a necessary for leading change. "If we aren't imagining these redesigned systems and processes, then there wouldn't be change. And there wouldn't be any diversity in our lessons or how we teach, or how we create new things for the unique needs of our students."

Beverly also acknowledged that a common connotation attached to imagination might lead people to regard it as impractical, though she expressed that she has come to see utility for it. She noted in a Flipgrid reflection that the term imagination "doesn't have to be confined to imagination in the way that we think of some Willy Wonka type of thinking. We're not talking completely grand or insane," (Flipgrid 2). She noted that "we're talking about imagination where it's something just outside of the realm of what you're currently thinking, and then it being able to dive deeper into that." This quote demonstrates an emergent understanding that participants developed through the course, where they were able to reframe imagination as a tool for their leadership practice.

Beverly further expressed how imagination "gives you the ability to just think deeply into what you're curious about," which in turn can become a springboard for further inquiry and iterative action.

Others shared a sense of reservation that employing imagination might guide leaders into haphazard speculation or toward passive navel-gazing. For example, Arnold shared an initial sense of reservation toward imagination during a class discussion that "I think imagination is necessary to initiate change, but the imagination needs to be relevant to the change that you want to bring in. You can't just throw cockamamie ideas out there, we have to make this work. It has to be relevant" (Class Observation 3). This quote is telling because while he didn't specify what it would mean to make something work or be relevant, he does seem to adopt a view that new ideas or proposals emerging from imaginative thought have an obligation to adhere to commonly held discourse of results and accountability. Through class discussions related to imagination, this sense was shared by other participants, who expressed some trepidation about appearing out of touch or unserious to other administrators and teacher colleagues, were they to engage in imaginative discourse or practice.

Similarly, Carmen shared that it took her some time during the course to get comfortable with imagination as a leadership tool. As she shared, "I embrace it in the sense that we need to think outside the box, visualize things that are different, and innovate. But the word specifically 'imagination' was really hard for me to think of as a tool because I was thinking it is not very concrete" (Carmen Interview). This quote reflects a sense that there is a distinction between thinking and doing, and that tools for leadership necessarily fall into the doing side of that dichotomy.

In summary, this section highlighted the extent to which participants came to recognize, through the course innovation, how imagination can be a powerful conceptual tool for leading change. Within that, participants expressed a need for imagination to be grounded in conceptual understandings of the systems they lead, and must be accompanied with the capacity to name those systems as they are. In this sense, the data showed how imagination can be a useful tool for enacting leadership, but it must extend beyond mere fancy or common connotation as merely the exercise of wishful thinking.

Theme 4: The Experience of EDA 634

Students expressed that their learning and development through EDA 634 has transformed their thinking and approach to leading future change. This theme was composed of two axial categories that led to this assertion: (a) Transferring learning in EDA 634 to leadership practice, and (b) Theorizing how to successfully lead change. The following section describes each of the supporting categories.

Transferring Learning in EDA 634 to Leadership Practice. This category of codes reflects how study participants reflected on their learning through the course, as well as the prominent takeaways and implications for practice as a result of what they learned. The themes related to what students learned throughout the course entail a similar, summative arc related to the previous themes and assertions, but also include a broad articulation of how their mindsets have shifted toward leading transformative change. For example, Holly noted in an interview that the course contributed toward her being better able to contextualize the purpose and design of current educational systems in light of larger but still connected societal issues. As she shared, she left the course with a "better understanding, like, of the history of racism, understanding more about my

identity, and the ways that I functioned within the system, and then also like tools and resources for pushing against the system" (Holly interview). She continued that through the course dialogue and written reflections, "the most powerful part of it probably, was understanding where my ideas and my values and my thinking around education comes from, and being able to challenge that without a defensiveness behind it."

Further, she noted that while her interests as an aspiring leader have led her toward adopting a transformative orientation, the course provided her with a framework and vocabulary for how to interrogate what currently is when leading such change. As she said, "I think that those critical analysis tools are important. Like really thinking, 'Where's the power? Who has the power? What's functioning behind the scenes? And things like that" (Holly interview). Despite that progress, she recognized how much further the course has pushed her toward embracing transformative leadership. She noted that "when we were talking about adaptive change, I still think we just barely scratched the surface with that identity work around what your identity is."

Gloria also shared that the course helped her interrogate issues related to equity and racial justice, particularly as a needed area of redesign in K12 education. As she shared in the post-course interview, EDA 634:

> "Opened my eyes to equity, and I can honestly say I probably couldn't have defined it very well in the very beginning. Or if I could, it would have been a token definition and not something I deeply understood. And I won't pretend that I deeply understand it [now], but man, my understanding is deeper. And so I feel like right now there's just a really

good opportunity for us to look at equity in classrooms" (Gloria interview).

Related to this, other participants noted that the course atmosphere itself also created a space where they could critically question others and themselves, as it pertained to issues of identity and privilege.

In her post-course interview, Darla explained that the course "definitely changed my mind on a couple of things specifically, starting with mindsets" (Darla Interview). Specifically, she noted how she became open to interrogating and critiquing the system more deeply, as a starting place for thinking about how it might be otherwise. "I would say that it's opened me up to a lot, I guess. I had a very traditional view of administration and leadership, but this course opens me up to how things could look. I definitely think it's more of a hope," she said.

Luis noted, as early as the middle of the course, that he and his classmates were already beginning to express a willingness to change and acknowledge shifts in their learning. As he shared after the improv exercise during the third-class session:

> "I think one thing that stood out to me is that at least for all of us as aspiring leaders, we are willing to change. It's just actually doing that, which I think a lot of times I feel like a lot of us are talking about how we got to get the stakeholders, we've got to get these people in and it's going to be so hard, but yet here we are, a diverse group of people and we all are willing to change based off of a couple of weeks" (Class Observation 3).

As the course concluded, students also shared how their thinking had changed through the course. Largely, these reflections reflected shifts in how they thought about

leadership, with notable shifts in how they came to view leading change. As Juan noted, "I used to think consistency was key, but now I think change and progress are essential" (Class 7 Observation). Similarly, Monique shared that when she began the course, she primarily thought of the principal's role as one that should be primarily focused on managing teams of teachers and "dealing with parents," (Class 7 Observation). However, through the course she began to see each of these constituencies as potential collaborators and co-designers. As she noted, "courageous, vulnerable transformative leadership is paramount. Just like the qualifications for a teacher have changed, so have the qualifications for a courageous school leader."

Another thematic shift for the students was the sense of hope or optimism for how schools might be transformed through strong leadership, particularly in relation to how their effective leadership might empower others. As Mary Anne noted, she shared that the course helped her shift toward a more hopeful vision for what could be through transformative leadership than what she has experienced as a teacher. As she shared, "there have been so many times, after class or during breakouts, where we have all had careers with so little agency. It kills me and makes me sad" (Class Observation 7). However, as a leader she shared that she is "hopeful for the thinking and vision and changing and creating a culture where it isn't the case for those in our buildings [as leaders]."

As a final trend that emerged through the data, several students reported enjoying the content of the class and the affective, felt human-centeredness through the instructional and relational practices of the faculty. Darius noted during the final class about "how much we all enjoyed the class, and the human-centered side of things" from

the instructor. He also noted that this enabled him to engage more deeply with course material, offering that because of that engagement he felt positively "pushed toward a lot of these changes should be possible in all schools" (Class 7 Observation). Likewise, several students offered through post-course interviews that the relational and dialogical approach to the instruction itself was a strong model for leadership. As Carmen noted in her interview, students were pushed to "operate on each other's reasoning" throughout the course, and she noted that that approach encouraged her willingness to both share her thoughts to search for feedback and critique, and to constructively critique others alike (Carmen Interview).

Theorizing How to Successfully Lead Change. This category of codes reflects how students came to articulate their theories and frameworks for leading change through the course. Largely, this entailed students evaluating and reflecting on the leadership framework presented in the class, including those elements designed around the Learning Futures Leadership framework which triangulated transformative leadership, design thinking, and imagination. This included a need to critically interrogate the system to name things as they are, and to begin to imagine a different state of affairs. As Ryan noted in a written reflection, "if I become a new principal at my current school, I will have to start by deconstructing the notion that our schools are the only environments where students are able to learn" (Concept Brief 6). Related to this, he cited an opportunity "to enlighten my staff that our current educational system is not equitable for all students to be successful in life beyond their educational careers." These deconstructions, he noted, would need to take place through collaborative and trusting dialogue, which could also remove the fear his staff might have to embrace "becoming

equitable leaders instead of instructional leaders, becoming student-driven instead of data-driven, and becoming co-learners with our students instead of being teachers."

Similarly, students also theorized that transformative leadership stood to be a leadership approach more authentically rooted in change as an equity imperative. As Holly noted in her interview, "out of all the courses that I took, I definitely will bring that idea of transformative leadership with me. And also, just because that's where I want to be and where I want to go is that transformative leadership role" (Holly interview). She noted that she enjoyed learning to differentiate between transactional, transformational, and transformative leadership approaches because, as she shared, "you can really tell that most leaders aren't here at transformative leadership they're just in to function within, and survive with the system." Here, there is a sense that the course also entailed a kind of commitment or authenticity toward equity-driven leadership through the theory of transformative leadership.

Students also expressed a need to continually interrogate the purposes of education, in light of future possibilities they might imagine. As William noted in his post-course interview,

> "Having this course and taking this course really helped me open my eyes to [asking] 'what is the purpose of education?' That question really resonates with me still. What is it that we're trying to do, not just as educators but as parents, as teachers, as principals, as leaders? What are we trying to do for the future and with these students?" (William interview).

As he summed up his experience, he also included a recognition of the design mindsets that he planned to bring to future leadership situations. As a leader, he noted, “you have to be willing to open up and be vulnerable at times to let them [colleagues] know, I don't know all the answers, but we can for sure figure it out together. I think that's another thing that really is going to stay with me.”

In summary, this section highlighted the ways in which participants expressed how their learning and development through EDA 634 has transformed their thinking and approach to leading future change.

Theme 5: The Impact of COVID-19

Students expressed the impact of COVID-19, beyond exacerbating the insufficiency of current systems, has created both possibilities and threats for their leadership. This theme was composed of a single axial code, *Navigating COVID-19*, which was comprised of nine subsequent initial process code categories. While not originally intended as a focus of this research study, the pandemic’s pervasive, profound disruption continually presented itself throughout this cycle of action research and in the data. Given both participant data and the ongoing contextual uncertainty happening at the time of this writing, it is reasonable to anticipate further impact on systems of education and educational leaders in the years to come. Furthermore, that the course took place entirely remotely via the Zoom videoconferencing platform due to social distancing concerns during the 2020 fall semester speaks to the disruption present throughout the study.

Several supporting codes emerged throughout the data and across data sources, including the extent to which COVID-19 was itself a source of uncertainty the

participants were actively navigating during the 2020-2021 school year. Throughout the 2020 fall semester, for example, schools took varying approaches toward in-person and remote instruction delivery, which could sometimes change on a weekly or even daily basis. This took a significant toll on the participants, as they expressed in a number of ways throughout each class session and in their written and verbal assignments. During one class session, Arnold reported being late to class because of a suspected incident of contagion exposure to an infected student at his school, which forced him and his students and colleagues to stay at school in lockdown which extended beyond the school day (Class Observation 4). Others reported feelings of stress, anxiety, and worry over the health of their colleagues and students. To illustrate this, during Class 2 Darius reported feeling "stress-slash-worry" over his colleagues and their health concerns, along with his growing list of responsibilities added due to covering for absent colleagues (Class 2 Observation).

During a post-course interview, Mary Anne noted that the uncertainty of the pandemic led her to try to avoid thinking about what the future might be like. "I don't know what it's going to be like, she shared" (Mary Anne Interview). "Part of it is I haven't really chosen to think about it a lot because of the nature of life and the best way to sustain right now is to live today and make sure today's successful and move on. So I haven't thought about it too much."

Similarly, Luis reported during the same opening session a feeling of being overwhelmed. As he stated, "I love my job. I do love it, but don't think I could be pulled in any more directions" (Class 2 Observation). As I documented in class observations, many students nodded and provided emoji responses affirming this feeling, and

discussion across class sessions confirmed this sense of being burdened with both increased responsibilities and the emotional toll of the uncertainty induced by the pandemic.

Further, the uncertainty surrounding school operations affected participants in a way that increased their sense of anxiousness. To this end, Alexa reported feeling anxious because her school start date continued to be pushed back, and she was "feeling the pressure of high expectations" (Class 2 Observation). These feelings continued all the way through the course, as each student's individual school status seemed to fluctuate. During the penultimate class session, Kimberly reported feeling "COVID crazy," with lots of family members taking tests for infection and with lots of students in quarantine due to contracting the virus or needing to stay away from school due to potential exposure or contract tracing reasons (Class 6 Observation). Darla reported feeling "burned out a little bit," and "looking forward to the break and the end of the semester." (Class 6 Observation).

And logistically, Shelley reported that she and her team felt a responsibility to be "covering all of our bases, figuring out how to go to the bathroom in situations, and how to cover everything when 6 members of your own department are out with COVID or COVID-related concerns" (Class 6 Observation). These examples illustrate the myriad number of challenges each of these aspiring leaders were confronting in real-time throughout the semester.

Students also expressed the uncertainty the pandemic created for what the future might hold through their written reflections. Clara reflected on how the challenges of COVID-19 were extending beyond the medical crisis to include a "societal divide and

hostility that has occurred as a result of divisive political decisions about public health and safety" (Concept Brief 3). In her summation, she offered that "education has been a casualty of this pandemic. Educational leaders and politicians have acted reactively instead of proactively, largely based on what the public believes." She suggested that while the future outcome of the pandemic was uncertain, public discussions and shared empathy that did not appear present at the time of her reflection would need to emerge in order for the situation to improve.

Similarly, Luis expressed a sense of uncertainty for where the pandemic might lead, particularly with respect to society's future. "We are currently facing a global crisis that we do not have any foreseeable solutions for that impact our global community and individual lives," he noted (Concept Brief 3). He stated that the pandemic was also revealing "systemic inequities that have negatively impacted people's lives that are beyond their immediate control."

Throughout the course, participants also described how the pandemic was impacting their current practices. William wrote, in an assignment reflection that:

> "I feel like with this pandemic and with education and with all the uncertainty, that leaders have to be willing to understand and take to account the human element. I feel like there's so many times where, even now, sometimes, I get bogged down by numbers and stats and I have to take a step back and understand that people are trying to live their lives in this pandemic and understand that there's things that's happening that we can't see. As leaders, we have to understand, going forward, that we can't always see and predict and have this understanding of, '*hey, this is going*

> *to be a perfect scenario. Everyone's going to learn this way, everyone's going to be this way.*' And I feel like, as going forward in education and even out of education in leadership, that we have to be understanding of, these are people" (Concept Brief 3).

William's articulation for the need for empathy is an important theme, which also connects back to earlier development of DT mindsets as being important for leadership during uncertain times.

Participants also expressed how they were approaching their colleagues in human-centered ways, and recognizing the need to provide support. As Kimberly noted in a class session, "You know how you have those superstar teachers? I went to check on one of mine to see how they are. They broke down and shared that this is exhausting" (Class Observation 2).

In an interview, Carmen noted that she has seen that how COVID-19 also put pressure on colleagues to respond to the pandemic as a cultural phenomenon, and as more than a scientific or medical occurrence. "From that lens of my parents," she noted, "they're like, 'We want things to go back the way they were. Because I want my kid back in school'" (Carmen Interview). As a result, she noted that her colleagues had difficulty not only adjusting to their own efficacy for delivering emergency remote instruction, but also to adjust to parents' capabilities—or occasionally, lack thereof— to support students' instruction from home or non-school settings. She noted this created moments of triangulated tension between parents, students, and teachers, where people acting across all three roles had to navigate and adapt to wholly new ways of trying to conduct processes of schooling.

Similar to Carmen, Gloria noted the added stress the pandemic created due to the cultural back-and-forth related to the extent to and manner in which schools ought to be open for in-person learning. As she shared during a class session:

> "If you think back to the end of the (2019-2020) year, teachers were heroes, but there's such anger and backlash now. It's hard to protect students from it, and we're on guard with administration and parents. It's becoming toxic stress. Everyone dealing with COVID has some level of trauma" (Class Observation 2).

In addition to this sense that the pandemic created a feeling of being overwhelmed, Gloria also noted a feeling of being out of control. She continued to share that "the line between what we can control and what we can't control gets blurred, and it becomes overwhelming."

Similarly, Clara noted how the strain of strident and antagonistic public discourse has exacerbated uncertainty across the education system. "School districts started in-person learning due to the pressure of the public, not because it was safe to do," she wrote during an assignment reflection (Concept Brief 2). She added that this also had the effect of creating instability for educators who have subsequently been left to brace themselves for whatever pivots they may need to make due to changing public sentiment.

This public pressure also led many schools to reactively scramble to take the established pedagogical approaches of in-person learning and apply them to emergency remote learning contexts. This created even more uncertainty, as Mary Anne noted in a class discussion:

> COVID is changing everything right now, and I think that we're starting to see that the [remote learning] structures that are put in place are taking that brick and mortar, traditional approach, however we did it before. It's obviously not working for a lot of our kids, and I don't know what the outcome's going to be or what the future's going to look like at all. And I think we're just in the beginning of it. And we are literally just the beginning of it (Class Observation 2).

Alexa also noted how the needed responses also added to the workload for many teaches who already felt overburdened. As she shared, “a lot of the anxiety is the unknown and a lot of change is happening. I know my principal has a leadership team that she asks and leans on, like ‘What policies, etc., do we need?’ But it also becomes another cap for teachers to put on” (Class Observation 1). In turn, she noted, the uncertainty the pandemic created for school leaders and students then spilled over onto students. Overall, the burden of the pandemic pushed everyone in the system to their sense of a full capacity. “Our admins are pushing us to do all of these things, and we’re doing the best we can,” she said.

While COVID largely created a heightened sense of uncertainty and seemed to exacerbate existing challenges to the system, participants also came to articulate how the ongoing pandemic might be an opportunity to seek ways to create and lead transformative change in their contexts. For example, William noted that COVID-19 had “shifted the way we think, interact, and engage with each other. As the pandemic continues, we as humans need to understand and work together to fight and stop the spread of the disease. This means having systems for all to be successful” (Concept Brief

3). This shift in thinking, he noted, has created new opportunities to look at how we solve educational problems, just as we're working at a societal level to curb the pandemic.

Further related to optimism for how the pandemic might inspire positive change, Elizabeth shared during a class session that the challenges of the pandemic could engender an empathetic mindset on the part of educational leaders. "I think all of this requires a huge growth in development of empathy," she said (Class Observation 2). "You are being forced as a school and teacher leader to recognize and address how others are feeling. You have to explicitly practice development of empathy right now," she added. Because leaders must contend with differing viewpoints from stakeholders across the system, she noted that this opportunity reflected a new opportunity for human-centered leadership.

Reflecting on the pandemic as an opportunity to reconsider the purposes of education, Darla noted in an interview that the past months of navigating COVID-19 have made clearer how the system may not be fit for its intended purpose. "I think there are a lot of things that the educational system has served the purpose for that I don't think society realized until this. So [take] the purpose of social and emotional wellbeing. Everything from social workers to lunch has been a part of the educational system and society didn't realize it. When we're talking about deep societal change, society didn't even consider all of that until it just stopped" (Darla Interview). Similarly in class discussions, several participants noted that at the beginning of the pandemic their schools were forced into a triage mode of providing meals and other basic services like diapers and paper goods. As they reflected through class sessions, these early steps to support

students and their families' basic needs revealed an even more fundamental purpose of social wellbeing that schools have historically provided.

Gloria also saw the pandemic as an opportunity to revisit purposes of education. As she reflected in a Flipgrid, "I think it would be important to be able to together with the staff to reimagine learning by first deconstructing and [then] reconstructing what we think the purpose of education is, what our belief is" (Flipgrid 4). She went on to offer that "we need to have the belief that learning the standards are the bare minimum for the big picture of what we want for our students." Her response particularly took to task the popular public discourse about the notion of learning loss for students, or that related to learning standards and likely standardized test score outcomes in the years ahead, the disruption of the pandemic is likely to lead to lower test scores and student achievement. During subsequent class discussions, other participants challenged this notion, too, suggesting that these designed features of the system are no longer fit for the purpose of education, and as such, should be treated with skepticism.

As Kimberly reflected in a post-course interview on how the pandemic has affected her, she noted that the disruption has forced educational leaders to respond with imaginative thinking for innovation solutions. "I think now that COVID has happened, people have had to think outside of the box for solutions. And maybe it doesn't align with what your district is going with, but it aligns with your school and what you have to decide for your school. I think it has caused a lot of schools to think of different systems or different procedures that now are going to stick" (Kimberly Interview). She cited a particular example for how her team developed a new procedure for handling student drop-off and pickup. "Parent pickup was a mess, before COVID, but now that COVID

has happened, the parent pickup system is flawless. And it was all because we had to find a solution that was going to fit the COVID, like social distancing." She discussed how the constraint of social distancing requirements created an opportunity to develop and test a new process and reflected on the idea that the constraint paradoxically became an opportunity.

Thinking about his own experience as an educator, Leon shared that adapting to become an online and remote teacher might build his own dispositions toward resilience in leading adaptive change and developing a desire to lead in transformative ways. As he noted, "there's no right answers right now. Everybody's learning on the fly. We're adjusting on the fly. We've got parents that are pissed off, we've got students that are pissed off, and fellow teachers that are pissed off and frustrated, but we're trying" (Leon Interview). And while he noted the strain of trying to lead and please many different stakeholders, he noted that learning to take steps forward, even when stakeholders are frustrated that they don't get their way, is important for building trust and showing constituents that you are willing to listen.

As Beverly reflected, she shared that the challenges and constraints of the pandemic create an opportunity to lead through DT mindsets and inquiry. As she reflected in a Flipgrid:

> Right now we're being thrown into some of the most difficult conversations and we don't have any way to navigate through it. There's no blueprint for what we're going through, and we're trying to, you know, figure out how to reach all students, keep teachers and administrators happy, and find time to remind them that they are human, too. So as we

> move forward, I hope we become searchers. I hope we continue asking questions and searching for ways to make our educational experience for students more focused on their passion and giving them more opportunities to experiment in their learning" (Flipgrid 2).

Extending how participants came to see opportunities to embrace mindsets toward inquiry and interrogate the purposes of education during COVID-19, Timothy also saw an opportunity to lead transformative change by working to establish a new normal. "So currently with our pandemic situation, we are trying to calibrate a method to return to normal," he said (Flipgrid 2). "However, what was normal might not be best serving our students. So we need to enact transformative change and we need to, perhaps, reconceptualize what education is going to look like."

While participants did sense opportunities for leading systemic, transformative change in light of the disruption of the pandemic, several participants expressed concern about the system reverting to the status quo when infection rates subside and schools fully reopen for in-person learning. As Ryan noted in a class discussion:

> I remember in August, going to my admin team and saying, 'what if we try this? And what if we try that?' But it goes back to what admins said, 'Sorry. Like, no, this is what the district says, this is what they want.' It's this detachment and disillusionment of, here we were in July, ready to change and change the system. And now it's November, and we're just, again, back to what the system has told us. And we're just following a line in a factory (Class Observation 3).

Here, the sense of disappointment stems not only from a sense that the incentives and policies related to the status quo might still be in place, but that the opportunity to be part of ideating and collaborating toward new solutions as a designer has also been lost. Similarly, Arnold expressed concern in class that top-down approaches from his institutional context would create rigidity with existent practices. “I think a lot of the change comes from the top, and I think a lot of educators are going to fall right back into the same rut of doing things that either they're being taught or the way that things have been done” (Class Observation 3).

Juan expressed a similar pessimism about the status quo maintaining itself, simply because so many people are likely to crave normalcy. As he shared in a post-course interview, “I know these are uncertain times, but it's not going to last forever. And in a way, I think it might go back to the previous model, because people just crave normality, we've craved normalcy” (Juan Interview). He compared the present moment to the ebbs and flows of political revolutions, saying “there's always like a wave of change that happens. And then there's always a conservative backlash that was just pushes you right back.”

While some participants shared concerns about a return to the status quo, the data also showed that participants felt a profound sense of grief and loss that the participants felt as a result of the pandemic. As Darius reflected in a written assignment, “a colossal trouble we are facing on a global level at this time is the overbearing feeling of loss. Loss of loved ones, loss of employment, loss of routines, loss of physical interaction, loss of opportunities, and many other types of loss that I am unaware of” (Concept Brief 3). Through course discussions and Flipgrid reflections, participants shared stories of

colleagues who were stricken with the virus, as well as stories of students' families and the challenges facing colleagues whose partners suffered job losses. Overall, the sense of loss and the human toll of the pandemic permeated each class session.

Connected to both the sense of loss and the fear of reversion to the status quo, Holly lamented the lost opportunity in her context of the pandemic for systemic change thus far. As she reflected via Flipgrid,

> When we approached this situation of COVID-19, it was very linear. It was very like trying to stick to the norm. We took traditional school and put it online, but I can't help but think about if we would have used design thinking and really reimagined how school could look. And really reconstructed this purpose behind it, using families' and learners' input, using teachers more. But instead it was more of this technical approach, and it lacked imagination and it lacked searching for real solutions that involved in centering human beings (Flipgrid 2).

This quote demonstrates a lament that participants felt regarding many of their leaders' efforts to maintain or stabilize the status quo through the trials of the pandemic, as opposed to seeing them as an opportunity to interrogate, question, and reimagine new possibilities.

This theme demonstrates the extent to which COVID-19 was a disruptive force throughout the duration of the study, and the ways in which it impacted participants both in their current roles as students and teachers, as well as their perceptions of its impact upon the systems they are preparing to lead.

Chapter 4 Summary

Chapter 4 reported the findings of this qualitative AR case study. More specifically, this chapter demonstrates how five themes and their related assertions derived from the data analysis process, and evidence from the four data sources were provided to support these interpretations. The following chapter provides a discussion of these findings in relation to the research questions and extant literature, as well as the limitations of the study and future directions for research and scholarly practice.

CHAPTER 5

DISCUSSION

The purpose of this study was to explore the innovation of the Learning Futures Leadership (LFL) framework through its inclusion in a graduate course on leading change in an educational leadership program, with the goals of better understanding how aspiring school leaders orient themselves toward present and future uncertainty and to explore what mindsets and conceptual understandings they believe they need to lead through uncertainty. To accomplish this, I designed a qualitative, single case-study methodology to describe aspiring educational leaders' perceptions about the future, their perceptions of the LFL, and to articulate my own lessons learned for future iterations of the innovation. My research questions were:

> ***RQ1***. How do aspiring educational leaders contextualize the ways in which uncertainty and challenges facing the education system might impact their future leadership?
>
> ***RQ2***. What mindsets and conceptual understandings do aspiring educational leaders believe they need in order to lead during uncertain times?
>
> ***RQ3***. How did the experiences of the EDA 634 course innovation result in the underpinnings for a mindset shift to lead during uncertain times?

This chapter begins with a brief summary of the findings from the previous chapter, followed by data-based, triangulated, and member-checked claims in response to each research question. Next, I discuss the results in relation to the existing literature and the limitations of the study. Following this, I discuss the future implications for both my

practice and future research, and conclude with my lessons learned through the course of study.

Summary of the Findings

In responding to each of the research questions, recall that data across the course innovation included student written assignment responses, student video reflection assignment responses, in class observations, and semi-structured interviews. These data were analyzed using the constant comparative methodology of cyclical coding and transitional analysis. During the analysis, five themes emerged from these data sources, as well as five corresponding assertions that illuminate the research questions. In this section, I will discuss the pertinent themes and assertions from the data with respect to their relevance to the research questions.

Research Question 1

The first research question in this study sought to better understand how aspiring educational leaders perceived the ways uncertainty might impact their impending leadership. In response to RQ1, I found that participants anticipated uncertainty impacting their leadership in a number of ways, one of which emerged as a prominent theme and assertion, and in several ways that did not. Based on the data, I assert that *students recognized the ways in which COVID-19, beyond exacerbating the insufficiency of current systems, has created both possibilities and threats for leadership*. That is, participants deeply recognized the present complexities, uncertainties, and quandaries facing both school systems and wider society related to COVID-19. While this study did not initially seek to explore the ways in which COVID-19 was affecting the preparation of aspiring leaders, the emergent theme from the data leads a confident assertion that the

effects of COVID-19, beyond exacerbating the insufficiency of current systems, has created both possibilities and threats for participants' impending leadership.

Across the data, participants shared that the uncertainty the pandemic created challenges to their sense of well-being, efficacy, and overall concern for the ecology of their schools and communities. Students shared difficulties and threats to their leadership related to forced school closures and rapid transitions in and out of remote and digital instruction, constantly shifting guidance and policies, as well as the challenges and stresses of the pandemic in terms of its grave threat to their physical well-being, as well as to their students, colleagues, families, and communities at large. Participants also shared that the gravity and magnitude of the pandemic also obscured or precluded their desire to look into the future to think about what uncertainties might lie ahead. For example, recall what Mary Anne shared in her post-course interview about the future: "I don't know what it's going to be like. Part of it is I haven't really chosen to think about it a lot because of the nature of life and the best way to sustain it right now is to live today and make sure today's successful and move on" (Mary Anne Interview). This sentiment captures what several participants shared during the innovation, which coincided with a prolonged growth in COVID-19 case transmission in Arizona during the autumn of 2020.

Beyond the challenges related to the transactional functions of daily operations, participants also saw COVID-19 as exacerbating and deepening inequities in the educational system, and also as a threat toward transformative change. Several participants shared how they saw the pandemic as a unique driver of uncertainty that could lead toward reification of the status quo in the education system, particularly related to traditional structural elements of education like teaching toward the idea of an

average student, and enacting operational practices based on efficiency and standardization, as opposed to those based on empathy and individualization.

However, participants did see opportunities arising through the disruption of COVID-19 to interrogate and critique the ways in which the practices of the current system do not fit its intended purpose, and indeed to imagine better possibilities. Recall from Chapter 4 that William noted how the disruption of the pandemic had "shifted the way we think, interact, and engage with each other. As the pandemic continues, we as humans need to understand and work together to fight and stop the spread of the disease. This means having systems for all to be successful" (Concept Brief 3).

An initial intent of RQ1 was to explore how the uncertain futures of a whitewater world might affect and shape the way participants prepared to assume educational leadership positions. While COVID-19 emerged as a tremendous source of uncertainty that affected them, findings from the data also revealed that participants contextualized uncertainty in terms of the larger global and societal challenges, as well as through the challenges they saw as in the present education system. Through the data, participants did identify larger societal challenges, both present and anticipated in the future, that are likely to impact education systems and their leadership. Some of these included the ongoing challenges of systemic racism and widespread societal inequity related to systemic racism, global warming, geopolitical instability, and the rapid proliferation of technology. Participants were able to identify many challenges to the current education system as well, such as standardized testing, isomorphic structural elements like fixed course schedules and group students into grade-level cohorts, and standard operational practices like grading and presumed teacher authority. These elements, however, were

largely connected to their interrogation and critique of the system, and thus speak more clearly to RQs 2 and 3.

Research Question 2

The second research question sought to better understand the mindsets and conceptual understandings aspiring educational leaders believed they needed in order to lead during uncertain times. Related to this question, I make two assertions. First, I assert that *participants recognized that design mindsets and approaches are appropriate for leading systemic change through uncertainty and complexity.* Data analysis revealed the ways in which through the course, participants came to see a need to develop several design thinking (DT) mindsets, including empathy, valuing inquiry and approaching problems with a searcher's mentality, taking an iterative stance and learning from failure, tolerating ambiguity, and collaboration. Participants expressed that these mindsets for leadership stood apart from approaches they were often seeing practiced in their contexts during the study, where leaders often led with "command and control" approaches (Wheatley, 1997, p. 21). Many students cited a desire to lead change beyond technical change or in a transactional manner, and instead would need to think and act like designers in their leadership. In this way, the data did validate one facet of the LFL framework as an action research innovation.

A second assertion I make in relation to RQ2 is that *participants recognized that imagination can be a powerful conceptual tool for leading change, but that it must be grounded in conceptual understandings of the systems they lead and the capacity to name those systems as they are.* Through the themes emergent in the data, students cited a need to employ imagination as a tool to lead change, as imagination supports the projection of

future states that are preferable to the present. However, students also found that imagination needed the accompaniment of conceptual understanding of systems thinking, purpose(s) of education, and the capability to interrogate and analyze those systems and purposes. That is, participants found that imagination serves as a useful conceptual tool for leadership when it is contextualized in inquiry and action. In this way, the data also affirmed imagination as a useful component of the LFL innovation.

Research Question 3

The third research question sought to better understand the extent to which the experiences of the EDA 634 course innovation resulted in the underpinnings for participants' development of mindsets to lead during uncertain times. Related to this question, I make two assertions. First, I assert that *participants' identity development as leaders through the course the expanded as transformative leaders.* Throughout the course, the data displayed a shift in thinking from a more transactional view of what it means to be a strong individual leader, and instead moved toward the idea of effective leaders as collaborative, and systems-oriented inquirers. For example, observation field notes from early class sessions recorded participants discussing leading others by "getting buy-in," which speaks figuratively toward a transactional mindset for leading change (Class Observation 1). Over the course of the term, however, participants came to explicitly reject the phrase "buy-in," and instead began to speak in more collaborative and codesign-oriented ways. Across the data, students articulated what they thought were demands and requirements for transformative leadership and began to articulate behaviors and actions they would need to take as transformative leaders.

A second assertion I make related to this research question is *participants expressed their learning and development through EDA 634 has transformed their thinking and approach to leading future change.* Themes emergent from the data suggest that students saw their course learning as valuable and actionable for leading change through future uncertainty, and that the course facilitated their elucidation of how they theorized leading such change. Namely, students embraced the notion of transformative leadership theory as a foundational component of their identity development, and in this way validated the third component of the LFL framework, with respect to its support for aspiring leaders.

Summary of the Findings to the Research Questions

As this section has demonstrated, the findings across the study contributed to answering the research questions through the themes and assertions derived from the participant data. Collectively, this case study has sought to provide a robust picture of a cohort of aspiring educational leaders preparing to assume leadership roles in the midst of unprecedented uncertainty. Through the EDA 634 course innovation informed by the LFL framework, participants began to develop identities as transformative leaders intent on questioning the purposes of the educational system, interrogating and critiquing its fit with its intended purposes, and imagining ways in which it could be otherwise. Further, these aspiring leaders articulated the value for adopting mindsets of designers and seeing ways in which leading as designers might help them lead collaborative change in the midst of uncertainty and complexity more effectively.

Discussion of Results in Relation to the Existing Literature

Chapter 2 introduced the Learning Futures Leadership framework, which was created as the theoretical framework for this educational innovation, and which was based upon transformative leadership (TL), design thinking (DT), and imagination. The creation of this framework arose from earlier cycles of research, from practitioner knowledge and experience through work on the DI team, and in alignment with the educational leadership program's emphasis on transformative leadership throughout its course sequence. The seven-week course innovation of EDA 634 provided the opportunity to learn about how students engaged with and oriented themselves to the framework's components through course readings, discussion, and assignments designed to demonstrate students' performances of understanding. This section discusses the results of the innovation in relation to each of those components.

Transformative Leadership

The LFL innovation in this study sought to establish TL as a foundational leadership theory that aspiring leaders might utilize in order to lead change through uncertainty. Recall that two of the foundational tenets for TL are the mandate for leaders to "effect deep and equitable change" and to focus on "emancipation, democracy, equity, and justice" (Shields, 2018, p. vii). As the results of this study demonstrate, TL did indeed resonate with participants in relation to their desire to effect adaptive and systemic change, as well as in relation to their commitments to equity and justice. As one team shared in their final LTLD, they sought to "imagine the possibilities that exist when we create an educational system rooted in equity, human rights, freedom and justice. We want this to be more than a slogan on a poster; we want it to be a sort of litmus test that

everything is measured against" (LTLD 2). The results also demonstrate and affirm that participants' recognized the need to engage in critical dialogue, be reflective and self-evaluative in their progress toward TL, which is congruent with the existing literature (Liou & Hermanns, 2017; Shields, 2011).

Further recall that Shields (2018) describes TL as an effective leadership approach for navigating VUCA contexts, which emphasizes the need for leaders to establish future visions, interrogate and understand existing knowledge frameworks and systems, and develop agility in taking action. Based on the literature in the field, findings from study complement existing knowledge about TL with respect to how leaders might interrogate and critique current conditions within their context. However, this study may extend what is known about the extent to which acting as a transformative leader can be informed by employing DT and imagination as tools to exercise TL.

Design Thinking

The LFL innovation within EDA 634 focused primarily on DT mindsets than on processes or methods. One of the primary reasons for this was because of DT's "pedagogy problem," namely that learning the processes and methods of design proper may require extended practice and iteration, as well as robust feedback and shared critique in order for practitioners to develop self-efficacy (Schell, 2018). The limitation of the seven-week course timeline, as well as the complementary role DT played as part of the LFL framework made a more robust introduction of DT methods training infeasible. As a result, the emergent themes and assertions related to DT in the innovation spoke mostly to DT mindsets that participants found valuable for leading in educational contexts. These mindsets included empathy, comfort with or tolerance for ambiguity, an

emphasis on approaching problems as an inquirer, and an optimism and willingness to learn through iteration and failure. In this way, the findings are congruent with previous work in the field on DT mindsets being useful for educational leaders (Gallagher & Thordarson, 2018; Loescher et al., 2019; Wyatt et al., 2021). With respect to empathy as s mindset, participants strongly identified with the need to empathize, which is reflective of previous literature (Gallagher & Thordarson, 2018; Henriksen et al., 2017; Loescher et al., 2019). Participants' naming of tolerance for ambiguity and having optimism in the face of challenges as essential mindsets for leading through uncertainty was also strongly connected to the literature (Diefenthaler et al., 2017; Jordan, 2016; Loescher et al., 2019).

Beyond expressing the value of mindsets for leading change, participants also expressed an appreciation for DT as an inquiry-based approach to leadership, rather than one that attempts to generate and direct solutions by authority or positional power alone. In this way, the emergent theme of educational leaders valuing DT as an inquiry-driven approach to tackling complex challenges also reflects literature in the field (Dalsgaard, 2014; Nash, 2011, 2019; Panke, 2019; Wyatt et al., 2021). Specific to educational leadership, results from the study were aligned with previous research on DT as a promising method for helping educators cope with complex challenges (Henriksen et al., 2017; Khalil & Kier, 2021).

However, one way in which these findings might add to the field is with respect to the ways in which DT's emphasis co-design might triangulate with transformative leadership theory to promote equity-laden leadership practices. As Shields (2018) has noted, transformative leadership requires leaders to be self-aware, reflect critically on questions about the system and its effects in relation to its intended purposes, and to take

action to redress wrongs and generate solutions in the midst of VUCA contexts. Results from the study suggest that aspiring leaders identified with the mindsets of DT and its emphasis on collaborative and action-oriented inquiry as a means to exercise transformative leadership. This suggests alignment with the intended design of the LFL framework, in which transformative leadership serves as the foundational leadership paradigm, with DT supporting TL as a toolkit for action.

Imagination

Results from this study indicated that participants came to value imagination as a powerful conceptual tool for leading through uncertainty, particularly in connection with an interrogation of systemic purpose and the naming of things as they are. With respect to the extant literature, participant findings reflect what has been previously known about the perceived value of imagination for leadership (Maxwell, 1999; Paustian, 2017). Results also showed that students connected leadership with having or establishing a vision. Furthermore, several participants cited examples of leadership failures they had experienced or been subjected to as failures of imagination, which is congruent with literature in the field (Glickman, 2006; Weick, 2005).

Results from this study also complement previous research around leaders' concerns or negative connotations toward imagination as being frivolous or limited in its practicality when engaging in imagination (Egan, 1992; Judson, 2019; 2020b). Participants overall expressed a sense of value for imagination, but also expressed some need to see practical results. This is aligned with previous literature comparing imagination to a "rose with thorns," insofar as it may be both admired as an appreciated quality and feared for its potential vulnerability and risk (Judson, 2020b).

Connections Across the LFL Framework

Through the course, participants also built connections between the theoretical elements, suggesting a cohesiveness to the framework. For example, as Meredith noted in a class observation, she and her classmates connected imagination "back to design thinking and how design thinking is a process that allows you to really get to imagination" (Class Observation 3). Building on this, Carmen shared in a Flipgrid reflection that DT "means to look beyond yourself and understand the world from someone else's point of view" (Flipgrid 2). In this way, she noted, empathizing in DT is not only about listening and connecting to others, but to imagine future states of being based on what one gains through empathetic listening and communicating. This speaks to the notion of collaborative design, or co-design, in which imagination serves as a tool for creating something new. As Steen (2013) noted:

> We can understand co-design as a process of joint inquiry and imagination—as 'a reflective activity in which existing tools and materials (both of which may be either tangible or conceptual) are brought together in novel and creative arrangements in order to produce something new.' In such a process, people use 'the power of intelligence to imagine a future which is the projection of the desirable in the present, and to invent the instrumentalities of its realization' (p 24).

Here, co-design triangulates DT with imagination and transformative leadership to collaboratively inquire into current problems in service of generating a future yet to occur.

The suggested linkages between transformative leadership and imagination also address a gap in the literature, particularly related to educational leadership. While previous research has studied the ways in which imagination supports transformational leadership with respect to casting a vision and coaching others (Curtis & Cerni, 2015), there is little prior work exploring imagination as a vehicle for supporting transformative leadership. Based on the findings of this study, participants made an explicit connection between being able to imagine things as though they could be otherwise and engaging in collaborative leadership practices to begin taking action to that effect. Indeed, it was in the interrogation and naming of things, particularly related to systemic inequality and racism, where participants identified transformative leadership as a framework for creating change within and beyond their school contexts.

Finally, the results from the research show promise for how the components of the LFL might work cohesively to support conceptualizing and acting as a leader during uncertain times. Darla synthesized this in a Flipgrid reflection, where she shared that the course innovation components of DT and imagination could create "an ecosystem to make this transformative change happen in schools" involving students, the parents, the community members, the teachers in co-design (Flipgrid 2). "Instead of working from the top down with policy change," she continued, "we'd work from the bottom up with the people who are involved in it and. In order to do that, to see how we can truly have transformative change in school, we need to put that through design thinking, together with imagination from all those groups, to lead to that transformative change." In this way, the results of the LFL innovation framework extend and triangulate the knowledge base for transformative leadership, design thinking, and imagination.

Discussion of the Limitations

This study has several limitations that warrant explanation, which are researcher reactivity, time, and the boundary of the case. Recall from Chapter 3 that Maxwell (2013) identifies researcher bias and reactivity as two primary threats that can limit the validity of a qualitative research study. With respect to data validation and researcher bias, I have taken steps to limit and reduce the extent to which my own biases influenced the findings and discussion in this study. More specifically, I have collected "rich data," through verbatim transcripts of interviews and Flipgrid video reflections, as well as through the full documents from students written assignments (Maxwell, 2013, p. 126). I have also sought respondent validation through member checking and have searched for discrepant evidence and negative cases from the data sources related to the LFL framework. Further, I have triangulated the data across source types, member checked data sources with participants and faculty, and practiced reflexivity in an attempt to mitigate researcher bias. Finally, as a means to promote validity related to researcher bias and reactivity, I engaged in repeated involvement and observation, attending every class session and viewing and closely reading all submitted student assignments.

Researcher Reactivity

However, the possibility of researcher reactivity must be addressed as a limitation for this study as I was an observer for each class session, and also a guest instructor during Week 3 of the course. While I did not hold authority over any of the participants, I was recognized as a co-designer and occasional participant in the course, I may have acted as a conspicuous observer (Given, 2008), and thus created an observer effect. While I reflexively reviewed my own role and practices both through my own observations and

reflections, as well as in discourse with course instructors, my role as an active participant in the course should be noted.

Time

Time must also be acknowledged as a limitation in this study. EDA 634, as a seven-week course, is relatively short in duration and the limitation of time must be a consideration when thinking about the extent to which long-term identity development and behavioral transfer occurred on the part of participants. While the final course session did ask students to explicitly analyze and describe how their thinking and orientation toward leading change through uncertainty changed over the seven weeks, it is possible that a longer innovation, perhaps across multiple courses or the entire program, might yield different results.

Case Boundary

Related to the time limitation above, another limitation of this study is that the case itself bound the study strictly to EDA 634, and did not include observation or data collection and analysis of participants in field settings. In this way, I had a more limited scope with which to make my observations and collect data related to the ways in which course learning might be transferring into participants' practices. Had the study expanded to included in situ observations or artifact analysis from participants' leadership practices in the field, it is possible that a more robust set of findings may have emerged related to the research questions.

Implications for Future Practice

Action research is action oriented and intended to achieve change above all (Dick, 2007). The purpose of this research study was to better understand how aspiring leaders

are contextualizing uncertainty and developing mindsets to lead through uncertainty as they prepare for leadership roles, and to explore how the LFL innovation might support that preparation. As an action researcher, the change I have intended to achieve is to better prepare educational leaders to lead transformative, systemic change. As it relates to the problem of practice, implications for future practice include expanding the LFL innovation to include DT methods as well as mindsets. The findings showed that participants found value in DT and the mindsets that support leading change, but there is also warrant for extending training, practice, and support for aspiring leaders in DT methods and processes. Future practice could return DT training, leveraging action research and inquiry itself as a method for engaging in design. As Loescher et al. (2019) showed, DT can serve not only as a set of leadership mindsets or methods for taking action, but also as a modus operandi for an educational institution as a whole. In this way, DT can permeate the raison d'étre for school itself through inquiry and action at various levels, thus connecting to the Deweyan foundations driving this study.

Another implication for future practice emerging from this study is to more fully operationalize imagination as a conceptual and practical leadership tool. To start, the lack of discourse around imagination as a skill or tool within the field of educational leadership is a concern that future practice could address (Judson, 2020a; 2020b). Based on the LFL framework and this cycle of action research, imagination as a leadership concept resonated with participants, particularly when couched within a set of moves geared toward interrogating purpose and naming things as they are. In this way, future practice related to imagination is likely to more closely align with Greene's (1995) notion of the social imagination, as well as Pendleton-Jullian and Brown's (2018a; 2018b)

notion of the Pragmatic Imagination. Conceptually, future practice could work to clarify what imagination entails within the context of educational leadership, and how it supports leading change beyond a sense of fanciful daydreaming. Leadership tools and inquiry protocols from the field of futures studies, namely scenario planning world-building, offer ways for leaders using imagination in a strategic way (Davis et al., 2020; Gurr & Drysdale, 2020; Leahy et al., 2019; Pendleton-Jullian & Lempert, 2019). The EDA 634 course did engage students in a narrative scenario in which they generated ideas for change, creating opportunities for educational leaders and aspiring leaders to build efficacy with these tools in more depth might be a fruitful area for future action.

Future practice might also consider attending to the emergent data revealing participants expressing their desire to lead change but being unsure how to implement them in practice, or in feeling restrained by upper administration to do so. Related to the previous implications, DT and imagination might serve as conceptual and practical tools for leading change, including in human-centric and collaborative ways that might enable leaders to gain consent and, where needed, approval from positional authorities like school governing boards or senior leadership. However, further inquiry into leading systemic change might be fruitful. Here, exploration of zones of exemption (Cook, 2019), school prototyping (Wyatt et al., 2021) and even continuous improvement efforts (Bryk et al., 2015; Liang et al., 2021) might be areas to explore.

As it relates to my own practice, my positionality toward this study has changed near the end of its publication. As of March 2021, I no longer serve as the director of the DI team as a staff member. However, I do plan to serve as the instructor of record in EDA 634 for the summer 2021 academic term. Thus, my future practice will be grounded

much more closely to the course and to aspiring educational leaders in future cycles of action research. As such, I anticipate working with faculty colleagues to continue to iterate and expand the LFL framework, based on the results of this cycle.

Implications for Future Research

From this cycle of action research, several implications and new questions emerge for future cycles. As an initial implication, a longer-term study of the participants upon their assumption of formal leadership positions in the coming years might be useful to explore the extent to which they enact transformative leadership practices, exhibit design thinking mindsets, and employ imagination as a tool for leadership. Such a study would yield further insights into the elemental components of the Learning Futures Leadership framework. While this cohort group represents a bounded, single-case study, future cycles following participants could expand to multiple cases, where their unique practitioner contexts and subsequent leadership actions could be explored more deeply.

Pertaining to RQ1, futures cycles of action research into aspiring leaders' perceptions of and attitudes toward uncertainty could include more explicit connection to the field of futures studies and methods of futures thinking, as well as learning materials from complexity theory and systems thinking for a curricular innovation based on the LFL framework. While participants in this study encountered a profoundly challenging uncertainty in the form of a disruptive global pandemic which will likely lead to even greater uncertainty, educational leadership research might benefit from the inclusion of world-building and scenario planning exercises, including the introduction of cross-disciplinary methodologies from the field of futures studies.

Pertaining to RQ2, future cycles of action research might also include participants engaging in design and DT in their contexts. While this study emphasized curricular innovations focused on the development of DT mindsets rather than the processes or practices, participants did share that engaging in design processes might help them better learn to approach leadership problems as designers. Recalling Schell's (2018) description of design thinking's "pedagogy problem," future cycles of action research could engage participants in iterative design efforts, with attention to how students are building self-efficacy with DT processes and methods.

Pertaining to RQ3, future cycles of action research may want to explore adding a quantitative instrument to gauge or measure the extent to which students can demonstrate mindset development. While this study sought to explore the extent to which students developed the underpinnings for mindset development, this study could explore this. Recently, several studies have begun to evaluate the development of DT mindsets and their transfer to practice (Dosi et al., 2018; Henriksen et al., 2017; Royalty et al., 2019). Future exploration of how to measure and document change or growth in mindsets and skills through training in DT might be fruitful for implementing DT innovations in educational contexts.

Beyond these implications, this study also raises two new questions that might benefit from future action research. First, how and to what extent might training or a curricular innovation in the LFL framework develop aspiring leaders' sense of self-efficacy to lead change in the face of uncertainty? Beyond the findings of this study, future cycles of research could benefit from an assessment for how prepared participants feel about leading change. Second, how do colleagues and stakeholders of those trained

in the LFL recognize and respond to this type of leadership? By virtue of their leadership training and practice, transformative, imaginative, and design-oriented leaders will likely be collaborative and orient their practice toward co-designing inquiry and solutions. Future studies might benefit from a robust contextual understanding of how such expanded leadership is received and operationalized by those not in positions of formal leadership or authority. A longitudinal research design to further study participants' implementation of the LFL framework in both their thinking and practice might expand knowledge in the field about preparing aspiring leaders to lead change through uncertainty and complexity.

Implications for Future Research in a Post-COVID-19 World

As schools across the United States have tentatively and hopefully begun to reopen in the spring of 2021, questions abound about what the future of educational research might look like in a post-COVID-19 world, to the extent there will be such a world. With respect to this research study, I foresee future implications for how aspiring leaders orient to uncertainty and bring perceptions about uncertainty into educational leadership and administration contexts. Longitudinally, it is worth asking how aspiring leaders in the coming years and decades will mark this time in their own lives as students, and how the experience of the COVID-19 pandemic will shape their views on the purpose and functions of schooling and educational systems. We might also ask in what ways will this pandemic have shaped or conditioned future leaders to think about uncertainty in a whitewater world?

With respect to the LFL framework and future implications stemming from the pandemic, further inquiry into how aspiring leaders can ground their own work in

inquiry, interrogation, and critique of educational systems as a precursor to imagination could be fruitful. Further, extending this inquiry into the purposes of education in order to imagine *what could be* deserves more study. As Mishra (2021) has offered, it is possible that the COVID-19 pandemic will encourage educational researchers to revisit the role schools play in society as well as how they are evaluated. As he noted, "the crisis made clear that schools are more than just spaces where students go to learn. These are spaces for socio-emotional development, of growth of character and identity" (Mishra in Terrill, March 22, 2021, para. 9). This speaks to the Mary Lou Fulton Teachers College's imperatives driving the LFL and Design Initiatives team's work, which is that schools and systems of education serve democratic, economic and equity imperatives. In this way, future inquiry into how COVID-19 served as a catalyst for change across these imperatives will be valuable to the field of educational leadership.

Discussion of Personal Lessons Learned

As I reach the finish line of this doctoral journey, I can affirm that action research is not a tidy process (Cook, 1998; Robertson, 2000). While inquiring into educational leadership in the midst of uncertainty, I, too, have wrestled over the past three years with myriad complexity, ranging from my problems of practice, my positionality, and even with my orientation to action research itself. Indeed, for a preponderance of my time in this program, I questioned the value of action research, and to some extent found myself believing the notions occasionally trafficked in both academic and popular discourse, which suggest that the education doctorate is not a "real" or sufficiently rigorous program study compared to other doctoral programs (Butin, 2010; Epstein, 2020; Labaree, 2004).

It is fitting, perhaps, that I would be engaging in reflexive action research on a topic focused on those aspiring to lead change in the midst uncertainty, particularly given my philosophical foundation of Deweyan pragmatism and theoretical framework based on design thinking, imagination, and transformative leadership. As a matter of course, this program has led me to triangulate and affirm my identity as a pragmatic designer, scholarly practitioner, and, above all, as an action researcher. Recall how Dewey (1908) himself noted that education ought to awaken people to the need to continually test "their ideas and beliefs by putting them into practical application, and of revising their beliefs on the basis of the results of such application" (p. 188). Through this action research study and my work as a design strategist and educator, I affirm the need supposed by Dewey, and recognize that my path forward will be marked by engaging in iterative inquiry, practical application, and reflection.

Beyond this lesson in reflexivity and appreciation for action research, I have come to deeply appreciate the value of communities of practice (Wenger, 1998) and Leader Scholar Communities. This EdD program at Arizona State University has been established as a cohort-based model employing LSCs as a signature pedagogy in order to decrease students' sense of isolation, increase accountability between students, to provide a sounding board where students can share ideas and challenges, and to provide students with sources of academic and emotional support (Buss, 2018; Buss & Allen, 2020). Throughout this journey, I have felt the isolation and difficulty of completing a doctoral program and writing a dissertation. I am not unique or alone in this respect; indeed, most everyone I know who has gone through a similar process has shared the same. However, I would be remiss in this reflection on my own lessons learned if I did not acknowledge

the unique pedagogical and personal benefits I received as a result of this cohort model—including a deep sense of connection and community with my program colleagues and faculty members. In a recent presentation on my cohort experience over the past three years, I expressed my sense of gratitude and appreciation for the relationships and rigorous scholarly community that have enabled me to persist through this program of study (Christianson et al., 2021). Even as I have worked to finish this dissertation and defend it, I have been supported in myriad ways by my program cohort and LSC colleagues and committee members. Going forward as a result of my experiences in this program, I will continue to seek ways to foster and participate in communities of practices, and to engage in collaborative and supportive co-design opportunities where possible.

Conclusion

This action research sought to better understand how aspiring leaders might be better prepared to lead through uncertainty by adopting and utilizing the mindsets and practices of a leadership framework grounded in transformative leadership and which employs design thinking and imagination as tools for leading change. Results demonstrate that there is a warrant for asserting that the elements of the LFL framework support aspiring leaders' mindset development for leading change through uncertainty. This chapter discussed the results of the study in relation to the research questions and existing literature, documented the study's limitations, and explored future directions for scholarly practice and research.

We live in uncertain times and we face a likely even more uncertainty in the possible futures to come. Our systems of education are contextually grounded within this

uncertainty, and indeed as COVID-19 has shown, our hyper-connected and radically contingent whitewater world is now subject to rapid and disruptive change at a moment's notice that have cascading effects for our schools and institutions of education. Furthermore, recalling the VUCA acronym from Chapter 1, the volatility, uncertainty, complexity, and ambiguity we are living through push us toward ways to find solutions that rely on more effective methodologies than pre-planned, linear, and rational solutions (Shields, 2018). Contingency and the need for distributed, systems-oriented solutions are more promising paths.

From this research, I assert there is promise for aspiring educational leaders who approach present and impending uncertainty by developing mindsets that emphasize systemic transformation and equity as foundational purposes, as well as for those who are willing to critically interrogate the purposes of education and name things as they are in order to imagine what could be. Design thinking mindsets open pathways for aspiring leaders to theorize leading change, and to engage in continual inquiry in order to better inform their leadership decisions.

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APPENDIX A

IRB APPROVAL

EXEMPTION GRANTED

Cynthia Giorgis
Division of Educational Leadership and Innovation - West Campus
602/543-6075
Cyndi.Giorgis@asu.edu

Dear Cynthia Giorgis:

On 6/18/2020 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Leadership Futures by Design: A Case Study of Futures-Oriented Innovation in a Principal Preparation Program
Investigator:	Cynthia Giorgis
IRB ID:	STUDY00012027
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	Intervention schedule, Category: Resource list; Interview protocol, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); IRB proposal, Category: IRB Protocol; Recruitment letter, Category: Recruitment Materials;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 on 6/18/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Benjamin Scragg
Benjamin Scragg
Carl Hermanns
Cynthia Giorgis

APPENDIX B

EDA 634 COURSE SCHEDULE

Mary Lou Fulton Teachers College
Arizona State University

EDA 634 - Instructional Leadership
Fall 2020, Session B
Class # 84092 and 73362
Monday, 10/12/2020 - Friday, 12/4/2020

Tentative Course Schedule

ASSIGNMENT DUE DATES: All assignments are due on the days noted below.

- **Concept Briefs (CBs) are due the night before class**
- **Flipgrid assignments: check the Assignment Description for original post and response times**

Please note: Your instructor reserves the right to modify the course schedule according to the needs of the class. Any schedule changes will be communicated to students via email and in the course announcements.

Class	Readings & Videos (to be completed prior to class)	Assignments (to be submitted prior to class)
Class 1 10/13-15/20 Leading change in uncertain times	• Review of EDA 578 CB1 from Module 1: *Reimagining the T&L environment, part 1: The purpose of education*	N/A
Class 2 10/20-22/20 Types of change Is the system fit for its purpose? (system design)	• Heifetz & Linsky (2004). • Additional Perspectives on Adaptive Change • Cook (2019) • Hough (2015) • Mehta (2013)	• CB 1 and 2 • Flipgrid Discussion 1

Class 3 10/27-29/20 Reimagining school and educational redesign	• Greene (1995) • Facer (2019) • Nash (2019) • Loescher, Morris, & Lerner (2019)	• CB 3 and 4 • Flipgrid Discussion 2
Class 4 11/3-5/20 Redesigning the teaching and learning environment (TLE), post COVID – v.1 Challenges to redesign	• There are no new readings or viewings in preparation for Class 4	• LT Learning Demonstration (to be prepared prior to class and presented during class): Redesigning the Teaching and Learning Environment (TLE), post COVID - v.1
Class 5 11/10-12/20 Tools for redesign	• Structure/Culture/Agency review • Principled Innovation – 8 practices • Hall & Hord (2910) – six functions of interventions • Hermanns (2006); Fullan & Pomfret (1977) – Dimensions and determinates of implementation	• CB 5 • Flipgrid Discussion 3
Class 6 11/17-19/20 Transformative leadership in the context of redesigning the TLE	• Shields (2010) • Morrison (2005) • Mehta & Fine (2019)	• CB 6 and 7 • Flipgrid Discussion 4

through equity-focused school change		
	Thanksgiving week	
Class 7 12/1-3/20 Putting it All Together	• There are no new readings or viewings in preparation for Class 7	• Culminating LT Learning Demonstration (to be prepared prior to class and presented in class): Redesigning the TLE, post COVID – v.2

APPENDIX C

EDA 634 ASSIGNMENT PROMPT FOR CONCEPT BRIEF 6

EDA 634 Instructional Leadership
Mary Lou Fulton Teachers College
Arizona State University

Assignment Description: Concept Brief 6

Topic: Transformative leadership in the context of redesigning the Teaching & Learning Environment through equity-focused school change

Purpose. The purpose of the concept briefs is to 1) help you to understand, synthesize, and critique each week's class readings and/or viewings in the context of your own professional experience; 2) provide an organized outline of the conceptual content from the readings.

In this CB, you will

- Concisely define and demonstrate understanding of the main concepts; and
- Connect the concepts to your professional experience and critique them through the lens of that experience.
- Use the **CB 6 Template** to craft your responses.

Directions

Shields (2010) Transformative leadership: Working for equity in diverse contexts

A. Conceptual Understanding. Provide a bulleted list of what you consider the *most* salient concepts from the Shields article, in the context of supporting *equity-focused adaptive change* in a reimagined/redesigned teaching and learning environment (TLE), post COVID.

For the purpose of your CB, focus on identifying the concepts that:

1) resonate with your beliefs and values about what schools can, and should, *be* – how school can equitably support children and adults in their everyday interactions, learning, and general growth and success; and
2) that could support your developing mindset and identity as a transformative leader.

As with previous CBs, there is a lot to consider in this reading. I've inserted directions in the body of the article in **Red** to help guide your attention and focus. As you identify the concepts as suggested in the previous paragraph, also take note of any concepts or ideas that resonate or compliment concepts we have explored previously.

For example, does Foster's argument that leadership "must be critically educative; it can not only look at the conditions in which we live, but it must also decide how to change them" echo any concepts we have examined? Or Weiner's argument that a

fundamental task of a transformative leader is to ask questions about the purposes of schooling?

The template is present to help you organize the concepts under the two categories described above. Because there is quite a bit in this reading to digest, a reasonable strategy might be to just list the salient concepts as you come across them and then cut and paste to arrange them under the most appropriate category. Some may fit into both; if you find yourself debating about that, I'd suggest giving it some thought, but not spending too much energy on it – the category isn't that important. The important thing is to lean deeply into this reading and use it to carefully consider your own beliefs and values, and to come to a deeper understanding of how transformative leadership can interact with, support, and in many ways provide the foundation for leading adaptive change effectively, and in ways that will help us to create the kind of equitable, caring, and inclusive teaching and learning environment that will support *every* student, and adult, to reach their full potential and find success.

B. Connect & Critique. Similar to some of your previous CBs it's likely that you have developed a substantive list of concepts from this reading

To help extend you thinking in one additional direction, write a brief paragraph or two that reflects on the challenges, and opportunities, that you would anticipate in embodying transformative leadership as a new principal.

Use the insights, observations, and understandings that you have developed from your own professional experiences in schools to ground your reflection. Although you might reflect first on the challenges that seem clear to you, be sure to also reflect on the *opportunities* that transformative leadership can provide to create shared visions, mindsets, beliefs and values that can inspire and empower every student, teacher, and administrator to continually reach higher.

***Note**:* There isn't a right or wrong answer for Connect & Critique – we're interested in the quality of your thinking.

**** Keep the CB to about 3 pages***, with 1.5 line spacing, 1-inch margins, and 12 pt. font (the template is preset for this). The purpose of the page limit is to give you practice with synthesizing and reflecting on important information clearly and succinctly, in preparation for communicating it to multiple audiences.
When submitting your CB to your instructor, please title the document: **Your last name - CB 6**

APPENDIX D

EDA 634 ASSIGNMENT PROMPT FOR LTLD, ROUND 1

Learning Demonstration: Redesigning the teaching and learning environment, post COVID – Part 1.

For Class 4, there are no new readings. During this week you will work with your leadership team to craft a focused, concise, and persuasive 10-minute Learning Demonstration that will give you the opportunity to synthesize and present all of your learning from the first three weeks of class.

In the following scenario, the leadership teams from your four schools have been called in to meet with your district's Superintendent. Here's what she said to you...

Scenario

Hi everyone, it's good to see you all.

As you know, we've been convening a "Return to School Task Force" for the past couple of months to get ready for reopening the schools in January, when hopefully our community transmission rates will be low enough for us to return to in-person instruction.

The Task Force has been exploring the various kinds of challenges and changes we'll be facing when we reopen, and they've done a pretty good job with the kinds of technical changes around safety, masks, physical distancing, cleaning procedures, etc., that we'll have to institute district-wide.

But what we haven't really addressed effectively is potential changes to the *teaching and learning* environment.

My main question is, are we going to snap back to the status quo? To the way we've always done things? I've been superintendent here for 8 years, so I know the district pretty well. I know how dedicated and smart and passionate our teachers, staff, and administrators are, and the amazing potential of our students. And yet we haven't really moved the needle on student achievement – or student success more broadly – at least by the measures we've been using to assess it, despite all our hard work.

Why? And what *do* we have to do to move than needle in ways that really will support *every* one of our students, and teachers, to reach their full potential and find success? To create teaching and learning environments that are truly equitable and excellent?

That's why I've call you here today. We need to figure this out, and I've been impressed by the way that the leadership teams from your four schools put together an informal network last year to share what's working and not working at your respective schools and see if you can help each other to figure out more effective approaches.

Part of that networking was engaging in a variety of readings and then having a dialogue about the various concepts. And I appreciate that you shared some of those readings and concepts with me.

So what I need you to do now, is to think together in your leadership teams about how we might rethink our T&L environments. When we return to school in January, we can't simply snap back to the status quo. But if that's not an option, what *should* we do?

What mindsets, and then what approaches and tools, will we need to develop?

When I think back to some of the readings you shared with me, the concept of understanding the kinds of change we may be embarking on is important What kind of change will we be taking on if we ask our teachers and administrators to substantially rethink their pedagogies and approaches? Technical change, adaptive change? If it's adaptive, and I think it is, will we understand it and treat it as such, or will we revert to addressing every change like it's technical?

I think the idea of how our education system was initially designed is also important to consider – how it was organized as a sort of factory model around the "average" student, and how that system design, which we're still pretty much using, is being critiqued as obsolete.

I was also struck by some of the ideas in the Cook reading, particularly about whether the current system is fit for its purpose, what that purpose is, and to what end? The idea of refining purpose and creating "zones of exemption" in or at the margins of our system through a design approach is intriguing.

The Loescher and Nash articles you shared also had me asking whether we can use design thinking to change our approach to teaching and learning by developing a mindset that incorporates a more fluid model of learning – a model that develops and incorporates mindsets around being human-centered, embracing ambiguity, being highly reflexive, and involving visualization of data in a more constructivist approach.

Those ideas could potentially align with our district's commitment to educating the whole child, and I was wondering if they might also extend to how we think about curriculum and assessment, and even how we evaluate our teachers. I loved the quote in Loescher about reshaping mindsets away from "accepting their state of being," and toward "a starting point in a journey of becoming." Which of course reminded me of the Maxine Greene reading, and the critical importance of reimagining – of being able to see things very clearly as they are, but then to "look at them as if they could be otherwise."

I also thought the ideas that Nash presented about having a "searcher mentality" that could help us shift our mindsets in a way that embraced "failing up" and led us to discover that "we truly do have the resources to solve great problems" could be really important.

As you can tell, the readings you shared with me really stimulated a lot of thinking and questions on my part. But you all have been delving into these ideas a lot more deeply than I have.

So now what I need you to do, in your respective leadership teams, is to synthesize all your impressive thinking into a 10-minute presentation that I want each of your teams to present to my executive team next week.

And I want the focus for next week to be on ***mindset*** – not on cost, not on implementation, but rather on the ideas, concepts, mindsets, and approaches that would have to be developed and nurtured to underpin and support a solid, shared understanding

and consensus on how we want to move forward with transforming our teaching and learning environments in a way that truly meets this moment.

Even though you've all been engaging in the same readings, when I look at the breadth and depth of expertise and experience across your teams, I expect that while each presentation will make some similar points, I'm hoping that multiple perspectives will surface that could provide some unique or different perspectives as well. The idea is to get as many good ideas on the floor as possible.

After you give your presentations, I expect the exec team and I to engage in a dialogue with you to explore some of your ideas and proposals in depth – so be ready for lots of questions, but don't feel like you're on the hotseat. You're bringing us your team's best thinking; together, we'll see if we can refine and deepen our collective understanding, and see where it leads us.

Then, after we get solid on mindsets – on the *why* and what – we'll come back together in a few weeks to move to the next step of considering the *how*.

Let me know if you have any questions. We'll look forward to having our thinking informed by your presentations next week!

APPENDIX E

EDA 634 FLIPGRID 2 ASSIGNMENT PROMPT

Flipgrid Assignment 2

General Overview

As a transformative school leader, you will be called upon to communicate in various ways to various stakeholders. Sometimes you will craft written messages for your school's website or to go out to your parents and community; other times you will be asked to prepare written summaries or outlines for district administrators.

Most often, however, you will be in situations where you are communicating verbally with your school community, your district administrators, and sometimes, your school board.

As essential skill for a school leader is to be able to speak clearly, fluently, concisely, and persuasively to multiple constituencies.

Oracy is a term that was coined in the 1960s that encompasses these speaking skills, and it is an approach that we will work on with you throughout this course, and program, so that you become comfortable presenting your ideas and making your arguments verbally, in a clear, logical, focused, and persuasive way.

Although it's somewhat tangential to this course, from a general teaching and learning standpoint you may be interested in watching these two short videos (@ 5 or 6 minutes each) to get a sense of how oracy plays out in a primary school and middle school in England.

- Oracy in the Classroom: Strategies for Effective Talk (6:04)
  - https://www.youtube.com/watch?v=2ADAY9AQm54
- Public Speaking: Oracy Skills for the Real World (5:51)
  - https://www.youtube.com/watch?v=KfrwGZyk-bc

To facilitate your mastery of oracy, there will be a "Flipgrid" assignment in preparation for a number of our classes. It will be something like an oral discussion board, where you will be asked to post a short (generally around 2 minute) video in which you present your thinking about a certain topic that you will subsequently have the opportunity to discuss in class.

To sharpen your oracy skills, don't just wing it. Think carefully about what you want to say (maybe even jot down a few talking points), make your video, and then watch it and put yourself in the place of someone in your audience. If you were listening to this, is what you are saying clear, fluent, concise, and persuasive? If so, post it! If not, take another cut at it until you feel it communicates what you want to say, in the way you want to say it, and then post it.

Each member of your Leadership Team will then post a short response video, to give you quick and focused feed forward about anything you may have missed, or additional perspectives that you might want to consider prior to engaging with the topic in class.

Doing this initial work as a Leadership Team has two goals: to give you practice with oracy; and to sharpen your collective thinking in preparation for class.

Assignment 2

In CB 3, you explored the role and the relationship of imagination to creating possible futures for our educational system. In your C&C you thought about the possibilities and the potential impact for creating "livable futures" and of reimagining how things might be otherwise.

In CB 4, you delved into design thinking as a set of mindsets and methods and as a process of searching, and in your C&C you reflected on how that could look in actual practice, and why transformative leaders can, and should, think of themselves as designers.

For this week's Flipgrid assignment, think about how imagination and design thinking might meld together in iterative and mutually reinforcing ways. Then create a two-minute video that describes your thinking about this, and how these concepts and mindsets could contribute to leading transformative change in schools.

Be sure to post your video by **Saturday at noon**, at the latest, so that your LT colleagues have a chance to respond to your post by **Sunday night**.

The reason for the timeline is so that you have a chance to check your team's feed forward prior to class on Tuesday.

If you have any questions, don't hesitate to contact me (best bet is to send me an email with your question, but then text me to give me a heads up about your email).

APPENDIX F

SEMI-STRUCTURED INTERVIEW GUIDE

Semi-Structured Interview Guide for Participants

1. Please tell me about your current role and why you're pursuing leadership. Can you share any insights on the kind of leader you want to be?

2. This course was about leading change in uncertain times. What do you imagine will be required of educational systems in the face of future uncertainty?

3. What do you believe what will be required of your leadership in the future?

4. Did EDA 634 open up new insights about leadership, or challenge any pre-existing perceptions about leadership? If so, in what ways?

5. Did EDA 634 crystallize or confirm any perceptions or theories you held before the course about leadership? If so, in what ways?

6. Were there any mindsets toward leading, especially in uncertain times, that you've either adopted or that you will want to keep with you as you transition into a formal leadership role, as a result of the course?

7. What role do you think imagination will play in your future leadership?

8. Do you see yourself as a designer? If so, in what ways?

9. What connections, if any, do you see between transformative leadership, design thinking, and imagination?

10. How would you describe your learnings from EDA 634 overall?

APPENDIX G

THINKING GRID PROTOCOL, POST-SECOND CYCLE CODING

Thinking Grid Protocol

Axial Code / LFL Framework	Transformative leadership	Design thinking	Imagination
Adopting leadership mindsets	Adopting an action-oriented mindset toward change is at the heart of TL	Design mindsets of empathy, comfort with ambiguity, collaboration, and iteration are critical	Possibility thinking and a searcher mentality are essential mindsets
Exercising leadership	Exercising transformative leadership should emphasize systemic approaches to change	Leading as a searcher / inquirer, and leading as a designer	Imagination is a useful tool - should be grounded in interrogating purposes, what is, and what could be (Greene)
Imagining possible futures and alternatives	Transformative leadership ins	Design thinking promotes exploration and experimentation which would not be possible without imagination as lesser wrote design thinking requires people to become accustomed to ambiguit	Imagination is a valueable conceptual tool - when combined with interrogation of purpose
Leading as a designer	Thinking also encourages continuous improvement through the practice of empathy to embrace. Design thinking means to look beyond yourself and understand the world from someone else's point of view. Shifting our mindset to include others perspectives and also break from traditional norms of using quantitative data can certainly contribute to transformative changes in schools.	At the heart of the stduy!	Abductive reasoning and inquiry begin not with what is known or given, but with what "could be" - important implications for leadership
Leading teachers	Need to dislodge the grammar of schooling?	DT supports removing the fear of failure / punishment; supports growth mindset	Imagining what trust-based relationships would be like
Naming things as they are	Important to do to be able to lead transformative change - msut be able to interrogate and criticize	Part of the process of inquiry and discovery would lead to this	An important/critical move to imagine future possibilities
Projecting oneself as a transformative leader	Must develop the mindsets and grounding to lead in transformative ways	Being able to engage in systems thinking to empathise across the system is important	Must be able to imagine leading in such a way
Questioning the purpose of education	TL entails a willingness to interrogate the system and its current functionng	Becomes a powerful tool for searching and inquiry	Thinking about the system in relation to what it could be
Theorizing how to lead change	Building a base for theorizing successful change as a TL	Imagining oneself as a leader / designer / searcher	Employing the social imagination to think of something different
Transferring learning in EDA 634 to leadership practice	From this experience, many students are developing the mindsets necessary to lead as TLs	Seeking to become designers / searchers as leaders	Important part of theorizing how to lead change
Transitioning into leadership	As participants move into leadership roles, they are seeking to become TLs	Imagining oneself as a leader / designer / searcher	Finding ways to make this practical / not fanciful
Navigating COVID-19	Opportunity to critique the old normal / reject the status quo; inequalities exacerbated across system	Emphais on iterating our way thorugh; navigating uncertainty	Thinking about what could be on the other side of thie pandemic

APPENDIX H

PARTICIPANT AXIAL CODE ALIGNMENT

Axial Code	Supporting Process Codes
Adopting leadership mindsets	Adopting design mindsets Changing one's own mindset Changing vocabulary Creating a collective mindset Developing comfort with ambiguity Developing empathy Embracing a searcher mentality Explaining needed mindsets Balancing mindsets Expressing beliefs about change Reflecting on leadership mindsets Searching in leadership Taking responsibility Identifying leadership mindsets
Exercising leadership	Articulating challenge of sustaining change Leading ethical change Leading others Leading through uncertainty Leading transformative change Leading with empathy Developing agency in students Developing trusting relationships Embracing a learner's mindset Focusing on systems Gathering feedback from community stakeholders Gathering perspectives from all Leading collaboratively Removing fear of punishment Removing the fear of failure
Imagining possible futures and alternatives	Articulating future purposes of education Articulating the value of imagination Asking “is there a better way to do this?” Asking “what if?” Creating a greater society Creating an equitable system Cultivating imagination Embracing imagination Embracing imagination as a leadership tool Empowering students through imagination Enjoying school and learning more – students Expressing need to reimagine the system Feeling more positive about school - students Imagining a better way Individualizing education pathways for students

	Innovating and creating new ideas
	Needing imagination to lead adaptive change
	Needing to search for alternatives
	Preparing students better for success
	Promoting equitable educational access
	Providing better job opportunities and training
	Recognizing complex challenges require imagination
	Reflecting on imagination
	Seeing imagination as fantasy
Leading as a designer	Being open and reflexive through DT
	Co-designing
	Collaborating in design
	Connecting DT and imagination
	Connecting DT and transformative change
	Considering the failure to embrace design approach
	Consulting with end users
	Creating zones of exemption for transformative change
	Designing a safe and welcoming culture
	Designing for the average student
	Designing school culture
	Dwelling in gray areas of uncertainty
	Embracing a designerly identity
	Empowering teachers with DT
	Expanding frame for decision making
	Implementing DT as a leadership approach
	Iteratively working to solve problems
	Making space for students' voices
	Meeting the needs of stakeholders
	Meeting unique needs
	Noticing and sensing stakeholder needs
	Prioritizing inquiry through DT
	Recalling past experience as designers
	Reflecting and reiterating
	Reflecting on DT
	Reflecting on uncertainty
	Reframing failure
	Seeing benefits of design thinking
	Taking risks with DT
Leading teachers	Working to shift teachers' mindsets
	Changing mindsets of teachers and staff
	Developing a growth mindset in teachers - as a leader
	Getting everyone on the same page
	Honoring the profession
	Leveraging close relationships with teachers
	Needing a growth mindset - teachers

	Negotiating change with teachers Persuading others to act Shifting mindsets Teachers burning out due to constant reform initiatives Finding fault with teachers Teachers being habituated to the status quo Navigating teacher resistance to change Focusing on more important matters instead
Naming things as they are	Articulating a design based on efficiency Being consumed with and by social media Bucking the system Challenging concept of learning loss Challenging current power structures Changing our beliefs about average Contending with a post-truth world Critiquing what is Deconstructing notions of what is Exacerbating socioeconomic inequalities Facing legacy of racism and colonialism Facing systemic racism and bigotry Losing sight of our interconnectedness Normalizing incivility in public discourse Not questioning the current system Perpetuating racism Reifying the current system Rejecting what has always been done Rushing to judgment Social media impacting people Suffering in racist systems Using COVID pivots to critique the system
Navigating COVID-19	Approaching COVID with technical changes Being affected by COVID-19 Empathizing due to COVID COVID exposing inequities in our system Fearing a return to status quo after COVID Feeling of loss due to COVID Leading during COVID Navigating the pandemic Telling a story of COVID's impact
Projecting oneself as a transformative leader	Articulating requirements for transformative leadership Adopting anti-racist teaching practices Categorizing leaders as transactional Categorizing leaders as transformative Creating shared understanding of equity Critiquing the insufficiency of reform efforts

	Describing Transformative Leadership in action Desiring to redesign the system Exploring problems collaboratively with imagination Expressing hopes for transformative leadership Expressing need for future systems innovation Expressing need to reimagine the system Feeling optimistic about transformative change Identifying characteristics of a transformative leader Identifying opportunities to enact TL Offering agency and ownership to the community Projecting oneself as a transformative leader Seeing problems more holistically Understanding context and culture Working to dismantle racism
Theorizing how to successfully lead change	Addressing fear of unknown when leading change Articulating priorities for innovation Building authentic relationships Building trust Building trust through shared voice Engaging in constructive and shared dialogue Identifying the complexities of problems Identifying tools for change Acknowledging the loss in leadership Learning the history of the school / context Learning through failure Listening to stakeholders Needing buy-in in from senior leadership Needing support in leadership Needing to articulate a mission / vision Needing trust from stakeholders to lead change Permitting and promoting innovation and risk-taking Persisting with change efforts Providing examples and models of change Recognizing change takes time Recognizing risk in leading change Reflecting on adaptive vs technical change Seeing leading change as a process Starting with mindset changes in order to lead change Understanding how others are affected Utilizing all voices
Transferring EDA 634 into leadership practice	Being pushed in EDA to think deeply Being Better prepared for success Explaining how EDA 634 has changed identity Implementing 634 concepts Reflecting on value of EDA 634

Transitioning into leadership	Transitioning into new responsibilities Stepping into a leadership role Adapting leadership styles to the context Becoming fearless leaders Creating a shared vision Creating conditions for collaboration Distinguishing between leadership types Exploring dynamics of leadership Exploring needed changes Helping students beyond academic needs Projecting leadership-based teaching experiences Sharing examples of engaging in TL Using imagination as a leader Viewing DT and imagination through pedagogy Wrestling with imagination vs pragmatics Valuing imagination as a leader