Persisting in complex change toward "a trajectory" of principal development: A case of district principal pipeline leadership

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Abstract

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Students in our nation's largest school systems – a majority of whom are students of color from nondominant communities - are unlikely to attend schools with strong, consistent leadership. Those big-city school systems are increasingly adopting principal pipeline initiatives to address the quality and stability of their principal corps. Principal pipeline initiatives (pipelines) aim to align, tailor to a district's needs, and codify how principals are developed throughout their career in a district. Existing research suggests career-long, coherent, and district-led pipeline models hold promise but also that they are challenging to implement, since pipelines demand districts fundamentally shift how they have typically developed principals in disjointed ways. Reports on pipeline implementation and evaluation describe what pipelines can look like and show initial positive impact on principal turnover and student outcomes across several school districts. However, this nascent literature does not yet explore who is leading these change efforts within school systems and how those leaders are putting pipeline initiatives into practice day after day – nor does it conceptualize the process of pipeline implementation. This study draws on Organizational Learning and Organizational Sensemaking Theories to frame pipeline

implementation as persisting in a complex change process towards ambitious equity goals. This embedded qualitative case study used observation-driven methodology to investigate how four intersecting teams of pipeline leaders in one school district maintained attention on improving many aspects of their principal pipeline effort over one year. Findings detail how teams persisted in a process of improvement to different degrees across 19 "cases of improvement," including that leaders did not persist past noticing and naming any issues about pipeline alignment that year. Further, findings depict moves leaders made to support their colleagues to maintain attention on improvement, such as structuring conversations to surface others' lived experiences with an issue and supporting new collective meaning construction. A second set of findings explore conditions that influenced the patterns of persistence in the process of improvement, such as how teams were more likely to persist in improving discrete issues about pipeline programming than interdependent issues about their own teaming. This study contributes to pipeline literature by viewing pipeline implementation as a multifaceted organizational learning process and detailing the daily leadership it takes to persist in such a complex process over time. Findings suggest district pipeline leaders must actively tend to issues that arise at the intersections of pipeline pieces, as well as take a critical eye to the team dynamics and forms of collaboration at work on their pipeline teams.

Dedication

This dissertation's dedication is dual.

First, to the FAST Family – the teachers and staff of Friendship Academy of Science and Technology in Baltimore, pre-2014. We experienced the negative impacts of continual principal turnover firsthand; we and our incredible students deserved better.

Second, to principals. Your job is harder and more important than it's ever been. You deserve the intentional career-long support that isn't common practice. I hope the work of this dissertation, similar research, and other recent efforts to launch principal pipelines can start to build systems that better support your vital work.

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Introduction: Why Principal Pipelines?

Leaders in large school district central offices across the country are designing and implementing new kinds of comprehensive support systems for school principals to strengthen the quality of principal leadership across their districts. While designs of principal pipeline initiatives ("pipelines") vary, with these initiatives district leaders are seeking to improve principals' leadership by improving the support principals in their district receive through coordinated opportunities for learning, growth, and advancement throughout principals' careers.

Principal pipeline initiatives are promising. The pipeline approach reflects research that shows strong principals are crucial to school success (e.g. Grissom, Egalite, & Lindsay, 2021; Louis, Leithwood, Wahlstrom, & Anderson, 2010), particularly in historically under-resourced school systems (e.g. Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Grissom, 2011), and that strategies to improve just one part of the leadership pipeline, such as only in-service development, are limited in their success when coordinated changes are absent in other areas of support (Davis & Darling-Hammond, 2012; Portin et al., 2009). Pipelines are also rooted in research on the importance of leadership supports that foster instructional leadership (e.g. Louis et al., 2010) and that also equip leaders to address the challenges of leading schools in particular socio-historical contexts, such as leading across racial and cultural differences to serve students from nondominant communities, who school systems have historically marginalized (e.g. Gooden, 2012; Khalifa, Gooden, & Davis, 2016). Finally, pipelines are built on research that school district leaders are ideally positioned to provide the kinds of support associated with principal leadership growth (Honig, Copland, Rainey, Lorton, & Newton, 2010; Honig & Rainey, 2015).

However, leading the work of principal pipelines is challenging. Pipeline efforts call on district leaders to coordinate principals' training, hiring, placement in schools, support as new principals, evaluation in their role, and ongoing professional development (Turnbull, Riley, Arcaira, Anderson, & Macfarlane, 2013). Such coordinated work is a significant shift from the relatively limited ways district leaders have traditionally engaged with principals: relying on separate institutions and offices to train and develop principals at different stages in their career. While pipelines hold a promising goal of addressing the disjointed support that has often left principals in their district unclear about and/or under-equipped for their leadership role (Augustine et al., 2009; Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007), initiating and leading such significant changes in business-as-usual across multiple areas and levels of a school district is an unprecedented challenge for district leaders.

Research specifically on principal pipeline initiatives is largely limited to a set of nine reports on a single grant-funded initiative. These reports provide descriptions of how six large districts designed pipeline programs and of challenges they faced in successfully building out key components of the pipeline (Anderson & Turnbull, 2019; L. M. Anderson & Turnbull, 2016; Turnbull, Anderson, Riley, McFarlane, & Aladjem, 2016; Turnbull, Riley, & Macfarlane, 2015b; Turnbull, Riley, Arcaira, et al., 2013; Turnbull, Riley, & Macfarlane, 2013). They also provide findings that pipelines can be relatively low-cost to districts (Kaufman, Gates, Harvey, Wang, & Bennett, 2017), that districts can sustain the efforts over time (L. M. Anderson & Turnbull, 2019), and that pipelines can have positive effects on student achievement and principal retention (Gates, Baird, Master, & Chavez-Herrerias, 2019). However, neither these reports nor peer-reviewed research yet show *how* districts are implementing pipelines—only that they are doing so, what pipelines entail, and that the work can be done. Crucially, we don't yet see *who* is

leading the work in any particular district nor *how* they are navigating the complexity of improving and aligning traditionally separate work. Research on the leadership of other significant central office changes provides some descriptions of the challenging work leaders do when leading change efforts (e.g. Hubbard, Mehan, & Stein, 2006; Supovitz, 2006) but largely does not anchor such studies of leadership theoretically nor focus on daily practice that leading a complex change effort demands.

Thus, while pipeline initiatives are showing increasing promise of cultivating higher-quality principals at scale in the country's biggest districts, a clearer conceptualization of what district leaders do and how they do it day-to-day when leading these promising efforts is important for the field to better support district leaders in implementing this and similar unprecedented work. Understanding leadership demands and implementation dynamics of pipelines matters to the field's understanding of how systemic district change happens. This study of pipeline leadership therefore has broader implications about how particular kinds of central office leadership can bring deep and ongoing change to school systems, as well as about which conditions are likely to enable or hinder such change and change leadership.

Background on the Problem

In designing pipeline initiatives, district leaders are aiming to address a persistent, systemic problem at the heart of multiple reform efforts across the country: leadership quality is inequitably distributed across our nation's schools. In particular, strong, consistent leadership is not common in schools that serve proportionately large numbers of students furthest from justice in our schools - students of color from nondominant communities. Such schools are often but not

always in school systems in and around cities[1] (Doyle & Locke, 2014; Loeb, Kalogrides, & Horng, 2010; Roza, Ceilo, Harvey, & Wishon, 2003; Turnbull, Riley, Arcaira, et al., 2013).

Williams & Bizup (2014) describe *problems* as having two components: a condition and an intolerable consequence allowed by that condition. In this case, the condition is inequitable school leadership. Research has consistently shown over the last two decades that principal leadership is second in importance only to teacher quality among school-related contributors to student outcomes (Branch, Hanushek, & Rivkin, 2012; Grissom et al., 2021; Leithwood, Louis, Anderson, & Wahlstrom, 2004). Yet, despite the known importance of the principalship, most school systems struggle to use quality principal leadership as a lever for system-wide change toward more equitable schooling. Pipelines seek to address two interrelated aspects inequitable school leadership: principal turnover is high, and principal capacity is not consistently developed such that most principals are able to lead in ways that meet the needs of each and every student in their schools. Both aspects have significant "intolerable consequences" for teachers and students (e.g. Louis et al., 2010).

High Principal Turnover

Districts serving tens of thousands of students from communities facing systemic oppression see significant challenges in attracting, supporting, and retaining principals. Before the pandemic, the average principal tenure was four years at a given school, with 35% of principals staying at their school for two years or less (Taie & Goldring, 2017). Principal attrition rates are significantly higher and average tenures are lower at schools serving high percentages

[1] District-run pipeline initiatives are largely found in large- and mid-sized districts with enough schools and students to support a central office department dedicated to leadership growth and development. While large and mid-sized districts aren't exclusively found in cities, districts in and around cities are more likely to grapple with turnover and inconsistent leadership quality, due to the systemic challenges of working in historically and structurally under-resourced schools. Therefore, I am making the particular case for pipelines in large or mid-sized school districts serving high numbers of historically marginalized students from nondominant racial, language, and/or socio-economic communities. See demographics at https://nces.ed.gov/programs/digest/d12/tables/dt12_101.asp.

of students of color and/or students in poverty, compared with such rates in high-income, and/or predominately White schools (e.g. Fuller & Young, 2009; Levin & Bradley, 2019; Yan 2019).

Principal turnover negatively affects teacher trust, satisfaction, retention, and quality (Grissom & Bartanen, 2018a; Mascall & Leithwood, 2010). Low teacher quality is particularly consequential for historically underserved students who attend schools with legacies of high teacher turnover, as the effects compound over time (Béttelle, Kalogrides, & Loeb, 2012; Boyd et al., 2011; Grissom, 2011). Despite the proven negative impact principal turnover has on teacher quality in schools serving our historically minoritized students, research has shown that principals often choose to leave the helms of such schools for positions in better-resourced, Whiter locales like the suburbs - or across town within the same district (e.g. Levin & Bradley, 2019; Loeb et al., 2010).

Principal turnover is not surprising given the significant challenges of any principalship, let alone leading schools in big-city school systems (Cuban, 2001; Dolph, 2016; Marsh & LeFever, 2004; Orr, Byrne-Jimenez, McFarlane, & Brown, 2005; West, Peck, & Reitzug, 2010, Yan, 2019). Such demands include holding the "ultimate responsibility" and bearing accountability for turning around historically low-performing schools (Spillane & Lee, 2014, p. 4); taking over schools with legacies of leadership and/or teacher instability and low staff morale (Béteille, Kalogrides, & Loeb, 2012; Mascall & Leithwood, 2010); taking over schools with federal sanctions or other pressure to improve quickly (Mitani, 2017); leading academic improvement for high numbers of students who live in poverty and/or are from non-dominant language communities (e.g. Portin et al., 2009); serving particularly diverse student bodies (Magee & Slater, 2013); and learning to work across racial and cultural differences to lead for equity (Gooden, 2012; Sperandio & Lapier, 2009; Theoharis & Haddix, 2011; Theoharis &

Scanlan, 2015). Such challenges make the "urban" principalship[2] a difficult role to sustain even for the most-talented leaders, some of whom contribute to turnover by leaving the principalship for promotions to central office positions (Grissom & Bartanen, 2018a).

In addition to systemic social challenges, principals in big-city school systems may face institutional obstacles, such as strained relationships with their central offices and/or perceived lack of influence over their school. Urban central offices have historically been regarded by both principals (e.g. West et al., 2010) and research traditions (Spillane, 1998) as overly bureaucratic or dysfunctional (Chubb & Moe, 1991; Elmore, 1993), or as curbing school-based reform efforts (Hightower, Knapp, Marsh, & McLaughlin, 2002; Honig, 2009a; Payne, 2008). When real or perceived, those reputations can exacerbate the other myriad challenges of being a principal of a challenging school (Orr et al., 2005; West et al., 2010). On the other hand, Yan (2019) found that principals who had more control over their school's budgetary and professional development decisions were less likely to leave their schools.

Underdeveloped Leadership Capacity

Research indicates that leadership stability alone does not ensure positive outcomes for students: leadership matters to school improvement when it is consistent, *high-quality* leadership (e.g. Bryk et al., 2010; Grissom et al., 2021; Leithwood, Harris, & Hopkins, 2008). Large districts in and around cities often fill multiple principal vacancies each year with less-experienced and less-educated leaders than do affluent, suburban districts (Béteille et al., 2012; Darling-Hammond, LaPointe, Meyerson, & Orr, 2007; Fuller & Young, 2009; Levin & Bradley, 2019; Loeb et al., 2010a). Current scholarship suggests that two aspects of principal leadership

[2] "Urban" is often used as coded language for "high percentages of black and brown students," "challenging," "rough," or "unsafe." I aim to show the systemic and structural challenges of working in schools in cities and use this term in that way. See Watson (2018) for commentary on using this term carefully.

are particularly important for high-quality school leadership: instructional leadership and a culturally responsive leadership.

Research and practice communities have come to agree that high-quality principal leadership focuses on instruction (e.g. Heck, Larsen, & Marcoulides, 1990; Louis et al., 2010; Rigby, 2014; Robinson, Lloyd, & Rowe, 2008)—or what is defined and codified in national leadership standards as *instructional leadership* (CCSSO, 2008; NPBEA, 2015). Instructional leadership involves principals spending a majority of their time on activities that support teaching and learning, such as intentionally developing teachers' practice, collaborating with teachers in curriculum and assessment decisions, and analyzing data to make instructional decisions (Blase & Blase, 1999; Grissom, Loeb, & Master, 2013; Marks & Printy, 2003; Marzano, Waters & McNulty, 2005).

Researchers conclude that instructional leadership typically does not have direct impact on student learning (e.g. Bryk et al., 2010; Grissom et al., 2021; Sebastian & Allensworth, 2012; Supovitz, Sirinides, & May, 2010) but is mediated through how principals 1) select, develop, support, support, and empower teachers and instruction, and 2) influence the cultural and organizational conditions of the school (Grissom et al., 2021; Halverson & Clifford, 2013). For example, in a study of high school principal leadership, Sebastian & Allensworth (2012) found that principals' primary influence on classroom instruction and student achievement, as measured by ACT scores, was through how they set the learning climate for a school. Principals' other key influences were similarly indirect: ensuring high-quality professional learning experiences for teachers, ensuring coherence between school programs, and partnering with families. Other more recent scholarship has found that developing teacher and teacher team leadership in particular ways is a key component of instructional leadership (Halverson &

Clifford, 2013; Huggins, Klar, Hammonds, & Buskey, 2016; Neumerski, 2012; Sebastian, Allensworth, & Huang, 2016).

In sum, the instructional leadership research suggests that when principals work in both mediated and direct ways to support high-quality teacher learning and instruction, their leadership positively affects student achievement (e.g. Louis et al., 2010) and other measures of school quality, such as teacher perception (e.g. Blase & Blase, 1999), teacher turnover (e.g. Grissom & Bartanen, 2018b) and school climate (Grissom et al., 2021; Sebastian & Allensworth, 2012).

Crucially, a growing group of scholars has challenged the focus on instructional leadership, arguing that an explicit focus on anti-racism and social justice is paramount to school leadership, especially in schools serving high proportions of racially, linguistically, and/or socioeconomically nondominant students (e.g. Brown, 2004; B. W. Davis, Gooden, & Micheaux, 2015; Khalifa, 2018; Paris, 2012; Theoharis, 2007). This group of scholars has criticized the dominant notions of educational leadership set forth in such widely-adopted leadership standards as the Interstate School Leaders Licensure Consortium (ISLLC) standards, the newer Professional Standards for Educational Leaders (PSEL) and the Educational Leadership Constituent Council (ELCC) standards for their colorblindness. In particular, these scholars criticized that such standards do not state that educational leadership today should center on, let alone even include, practices that address race-, class-, ability-, gender-, and language-based disparities between non-dominant students and their White, middle-class peers (Carpenter & Diem, 2015; B. W. Davis et al., 2015; Galloway & Ishimaru, 2015; see also Ishimaru, Roberts, Davis, Galloway, Gooden & Dantley, 2015) and that center the needs of minoritized communities (Khalifa et al., 2016; Scanlan, Kim, Burns, & Vuilleumier, 2016). This scholarship

suggests explicitly addressing such disparities for students through leadership that centers equity is a crucial addition to the definition of quality principal as instructional leadership: urban school districts need more leaders with a social justice leadership stance and tools to explicitly address issues of race and racism in schools (Gooden, 2012; Khalifa et al., 2016; Khalifa, Khalil, Marsh, & Halloran, 2018; Radd, Generett, Gooden, & Theoharis, 2021; Theoharis, 2007).

What such equitable school leadership looks like in practice is an emergent but growing field over the last decade. Researchers have started to articulate what variously-termed *culturally responsive school leadership* (Khalifa, 2018; Khalifa et al., 2016) or *equitable leadership practice* (Galloway & Ishimaru, 2017) looks like in practice. For example, Khalifa and colleagues (2016, 2018) reviewed existing literature for what is known about such practices; Galloway & Ishimaru (2017) analyzed a group of equity-focused leaders' descriptions of their practice to set forth a framework of practices such leaders may enact. These and other scholars suggest that equity-focused leadership includes: ongoing critical self-reflection to unpack dominant ways of understanding (Gooden & O'Doherty, 2015; Khalifa et al., 2018; Radd et al., 2021); leading teachers to learn and use rigorous, culturally responsive pedagogy for culturally responsive school cultures (e.g. Alim & Paris, 2017; Watson, Hagopian, & Au, 2018); building trusting, honest, and collaborative relationships with families and communities in ways that center non-dominant voices (Galloway & Ishimaru, 2017; Khalifa et al., 2016; Khalifa et al, 2018); and leading in ways that explicitly push back on the racist status quo, such as through school discipline decisions (DeMatthews, Carey, Olivarez, & Moussavi Saeedi, 2017). Scholarship does not yet measure the impact of culturally responsive school leadership on teaching and learning outcomes as does the corresponding research on instructional leadership;

however, calls for leadership that seeks to explicitly disrupt historic inequity are growing (e.g. Galloway & Ishimaru, 2015; Khalifa, 2018; Radd et al., 2021).

With the research on both instructional and culturally responsive leadership, the field has an increasingly clear idea what high quality principal leadership for equitable schools looks like, but equipping schools with leaders who hold such capacity is a challenge. Such a predicament creates *underdeveloped systemic leadership capacity* across most districts. In practice, underdeveloped leadership capacity and high principal turnover intertwine to leave many urban schools with inequitable access to stable, high quality leadership. For example, because leaders with both instructional and culturally responsive leadership skills are hard to come by, demands on lesser-qualified leaders to gain or refine those skills on top of the myriad other demands of the urban principalship, may push them away from their posts and induce more turnover.

The Cost of Inequitable School Leadership

Inequitable school leadership is one of many conditions that allows for what Williams & Bizup (2014) would call the "intolerable consequence" of the unjust status quo in our nation's schools. Current schooling still oppresses students from communities that it has historically marginalized and still serves well those who schools were designed to serve. Such disparity is evidenced by well-documented, persistent, and predictable "gaps" in school experiences and outcomes between White, suburban, English-speaking, middle-class-or-better students and students of color from urban or rural communities who are likely to live much closer to the poverty line and/or speak a language other than English at home (e.g. Darling-Hammond, 2010; Ladson-Billings, 2006; Milner, 2012; Tatum, 2017). For example, predictable disparities in outcomes on standardized test scores along racial lines—what Gloria Ladson-Billings (2006) infamously pushed the education research community to refer to as the "education debt" rather

than the “achievement gap”— persist today as they did when brought to the nation’s attention by “The Coleman Report” in the sixties (Coleman et al., 1966; National Center of Education Statistics, 2017).

To be clear, inequitable school leadership is by no means the only or primary condition that has allowed the maintenance of race-based disparities in U.S. schools since their inception. However, with educational leadership research continuing to show just how much bearing a principal has on what happens in a school (e.g. Grissom et al., 2021; Leithwood et al., 2004), it is unlikely that any status-quo-changes will happen for schools without significant increases in the quality and stability of school leadership (Bryk et al., 2010). For example, findings in existing research suggest the quality and unity of teaching staff, the instructional rigor, the learning climate, the approach to discipline, and the anti-racist agenda of a school are all influenced by school leadership (e.g. Blase & Blase, 1999; Brooks, Jean-marie, Normore, & Hodgins, 2008; Grissom et al., 2021; Khalifa et al., 2016; Louis et al., 2010; Sebastian & Allensworth, 2012; Sebastian, Allensworth, & Stevens, 2014; Theoharis, 2008; Theoharis & Scanlan, 2015). In sum, it is unlikely that big-city districts are likely to start serving the students furthest away from educational justice without a stable and capable leadership force.

The Promise of Pipelines

Principal pipelines use an approach that considers the interrelatedness of principal quality and turnover in ways that can address the complex inequity of leadership in large urban school systems. Instead of focusing on just one element of underdeveloped principal capacity, such as coaching novice principals (e.g. Silver, Lochmiller, Copland, & Tripps, 2009) or reforming recruitment practices (e.g. Koppich & Showalter, 2008), pipelines take a systemic approach, targeting principal training, recruitment, placement, standards, support, supervision, evaluation,

and data in a coordinated way. Pipelines operate on the theory that in aligning quality supports for principals across their careers, districts will address both turnover and capacity – and that districts can and should tailor the support a principal receives to the needs of their specific school system context (Augustine et al., 2009; Turnbull, Riley, Arcaira, et al., 2013).

Specifically, pipelines seek to bring continuity to the support and development a principal receives as they work through their career in a district, or what the initial pipeline literature terms *alignment* (e.g. L. M. Anderson & Turnbull, 2019; Turnbull, Riley, Arcaira, et al., 2013). Instead of relying on multiple institutions to independently support principals at different stages of their career, such as universities providing training, states providing certification, teaching-and-learning offices providing professional development and principal supervision offices providing evaluation, pipelines seek to bring all those aspects of support under the same umbrella in some way. To create such a system of support, or a "pipeline," district leaders must work to align opportunities for principal learning at every career point to the leadership needs of the district (Turnbull, Riley, Arcaira, et al., 2013).

In existing pipeline initiatives, alignment has often meant adopting or creating a set of district-specific leadership standards and then iteratively working to ensure that all principal support, including for example aspiring principal programs, hiring processes, and evaluation, is rooted in those standards (Turnbull et al., 2016). Sometimes working toward alignment meant forming a strategic partnership with a university to more directly influence principal preparation, or creating an in-house principal training academy (Turnbull, Riley, & Macfarlane, 2013). Most pipelines include similar elements that leaders work to coordinate: standards, high-quality preparation programs, strategic hiring and placement processes, aligned evaluation and in-service professional learning, principal supervision, and supportive data systems, in addition to systemic

supports of those features (Gates, Kaufman, Doan, Tuma, & Kim, 2020). However, pipelines look differently across contexts.

Districts engaging in pipeline programs are using their ideal position (Honig & Rainey, 2015; J. A. Marsh et al., 2005) to work to develop leadership capacity and foster stability in the principal workforce by addressing the multiple aspects of principal quality head-on. Yet, pipeline efforts and their goals of alignment are a major undertaking and challenging in particular ways, even with reports that they are "feasible" and "affordable" for most big systems (Gates et al., 2019).

The Challenge of Alignment

As noted, the ultimate policy goal of pipeline initiatives is *alignment* – getting all the parts of the principal support system to work together in ways that realize both principal quality and stability in a school district. When alignment is happening, it is likely that a district would see positive outcomes at the intersections of pipeline parts, for example completers of the district's pre-service programs would frequently be hired as assistant principals after completing the hiring process. Or, content in monthly support groups for novice principals would strategically complement the monthly professional learning that all district principals receive.

What's so challenging about achieving such outcomes? For one, district leaders likely must both establish some new work (such as creating a pre-service leadership development program) while also evolving existing work (such as carrying out existing hiring practices in more strategic ways) when getting a pipeline off the ground (Turnbull, Riley, Arcaira, et al., 2013). In addition to developing both new and existing parts of pipeline work, leaders must get all those parts to work increasingly together. Getting aspects of work with varied origins and histories to work together demands leaders pay attention not only to each part of the pipeline but

also to how those parts intersect and work together as a unified whole. Such work is largely antithetical to how school districts historically operate: school districts have typically tried to make quick wins, not ones that take years (e.g. Tyack & Cuban, 1995); school districts have typically siloed their work, not aligned it (e.g. Honig et al., 2010).

Overview of This Dissertation

Are pipeline efforts with such ambitious goals and significant challenges worth undertaking and studying? Are aligned pipelines actually as promising as they seem for equitable principal quality according to what we know about supporting principals? According to what we know about what it takes to significantly change an organization's work? In this dissertation, I argue that pipelines are worth undertaking and studying given principals' vital role in equitable schooling and that studying the *leadership* of what it takes to build and sustain pipeline initiatives is needed given the current literature landscape. I also argue that the challenging goal of pipeline implementation – alignment of historically separate, siloed work – demands a particular kind of organizational attention that is likely to inform other district-based initiatives with similar promises and challenges as pipelines. In the rest of this introduction, I provide a roadmap for this dissertation and summarize its main findings.

Following this introduction, the first three chapters frame my study of pipeline leadership as a case of persisting in continuous improvement as complex change. In Chapter 1, the Problem Statement, I review three bodies of literature to make a case for this study: I review existing literature on principal learning to make a research-based case for pipeline initiatives as promising; I review the small body of pipeline literature and argue we especially need to know about how leaders lead pipelines day-to-day; and I review literature on other district change to situate my study of pipeline leadership in what we know about the leadership of similar major

district change efforts. Ultimately, I argue that implementing pipeline programs represents a case of complex organizational change that requires district leaders to improve both the pieces of the pipeline and the whole of the initiative.

In Chapter 2 I present a theoretical framework to frame this study, rooted in Organizational Learning Theory and Organizational Sensemaking Theory. My framework casts the challenge of persisting in pipeline implementation as the challenge of sustaining attention on engaging in an improvement process within a complex environment. I use theory to articulate both what it looks like for leaders to engage in a process of improvement and the multiple conditions that mediate their ability to do so. Informed by my framework, Chapter 3 lays out my study design and research methods. To study the leadership of the implementation and improvement of a pipeline initiative, I conducted a year-long embedded case study of a pipeline initiative in one district. The larger case was the pipeline effort in the Department of Leadership in Mountain City Public Schools[3]; I cast each piece of their pipeline effort and the team leading that work as an embedded case. I show how I set up analysis of teams' engagement in the improvement process across the Mountain City Public Schools pipeline effort.

In the next set of chapters, 4 through 6, I present the findings of my study. In Chapter 4, I describe the outcomes of the pipeline effort Mountain City Public Schools (MCPS) the year of my study, namely, the extent to which leaders engaged in the improvement process across the pipeline that year. I show how MCPS leaders engaged in improvement in many cases; I also show how many ideas about improvement still weren't taken up and how the level of engagement in improvement varied significantly in cases that did improve. I further find that

[3] These department and district name are pseudonyms.

leaders paid attention to engaging in improvement with pieces of the pipeline more often and more persistently than they did to improving alignment of the pipeline.

In Chapter 5, I examine how the two major conditions in my framework – opportunities for sensemaking and the nature of the issue – influenced the varied improvement pattern articulated in Chapter 4. I elaborate how opportunities for sensemaking, including the leadership of those opportunities, was a necessary but insufficient condition for teams to persist in improvement. I further find that the nature of the issues teams took up corresponded with the patterns of improvement, with teams persisting in improving discrete issues about programming but seeing attention break down about interdependent issues about their own teamwork. Chapter 6 then briefly explores how the conditions operated in the three cases of pipeline alignment, exploring why leaders did not engage in the improvement process with any issues of alignment the year of my study.

Finally, in Chapter 7, I summarize my findings and discuss the contributions, limitations, and implications of this study. I describe the contributions this work makes to existing scholarship, focusing on how telling a fine-grained story of pipeline implementation fills a void in literature about what it actually takes to persist in such complex change work. I elaborate implications for further research on pipelines, calling for research that studies this depth of pipeline leadership in districts further along in the process of aligning pipeline work as well as for analyses that center the racial and other power dynamics of implementation. I also elaborate implications for practice, urging district leaders to take a critical eye to how they build teams of leaders to enact their pipeline.

Chapter 1: A Case for Studying Principal Pipeline Leadership as Leading Complex Change

In this chapter, I argue that given what we know about supporting principals, research suggests district leaders implementing pipeline programs are on the right track and are worth studying. I first synthesize what existing research shows is important about pre-service, novice, and in-service support for principals and argue that there is specific promise in the coordinated and district-led design of pipelines. In the second portion of this chapter, I examine the small set of research on pipeline initiatives. I argue we still don't know much about how district leaders put pipelines into practice on a day-to-day basis. To shed light on such leadership, I turn to a third body of literature in the final part of this chapter: studies of other district-led initiatives that similarly sought change and coordination over time. I argue that this literature points to casting complex change as an organizational learning process. Doing so can productively show how leadership works within a district's organizational environment to influence how those districts work toward their ambitious pipeline goals of supporting equitable school leadership.

Promising Support for Principals Across their Career

To identify research on what we know about how support is important for principals at different stages of their career, I searched for research that 1) described various principal supports and 2) showed how such supports are important to principal quality. I used multiple search strategies to gather this research: first I used Google Scholar, ERIC, and Academic Search Complete database searches to identify the prominent peer-reviewed studies that fell into the above categories. I used terms such as "principal learning," "principal professional development," "principal hiring," and "new principals." These searches produced 130 hits, which I narrowed to approximately 25 most-fit for my review of how principal supports matter. I

prioritized studies that got past descriptions of supports to interrogate how such supports help principals. After working with these core studies, I expanded my search to include all works by particular scholars I learned to be prominent in this field (i.e., Eleanor Drago-Severson and Margaret Terry Orr) and also included relevant articles cited by my core group of studies that I did not already include. In all, I reviewed 80 studies and books for this review. This research sits in three largely separate subsets of work according to career phase: research describing pre-service principal training, research describing supports for novice principals in their first three years, and research describing in-service principal support for principals past their novice years.

The literature across these subsets significantly varies in terms of how conclusive findings are how particular supports have an impact on leadership practice or lead to what is perceived as higher-quality principal leadership. Such variance has different roots. For example, some of this literature, as that on principal supervisors, is still in relative infancy, only starting with Honig and colleagues in 2010. Methodology is also challenging in the study of leadership: prominent educational leadership scholars have written about the challenges in establishing links between a given support to principal practice empirically, as well as noting the danger in using easily-accessible student outcome data as a measure of leadership practice (Camburn, Goldring, Sebastian, May, & Huff, 2015; Darling-Hammond, Wechsler, Levin, Leung-Gagné, & Toz, 2022; Orr & Orphanos, 2011). Further, many studies rely on surveys of principals about their own practice and experience, from which links between support and changes in practice are impossible to confirm. A final challenge is rooted in research's definitions of quality principal leadership itself. While myriad sets of standards exist that describe in detail what it means to be the dominant notion of an "instructional leader" (e.g., the 2008 ISLLC standards and updated 2015 Professional Standards for Educational Leaders), such standards often do not drill down to

the "how" of such leadership in daily practice, rendering targets of quality leadership broad and difficult to measure for researchers and practitioners alike. As I discussed in the introduction, such standards do not consistently center the culturally responsive, race- and equity-focused practice (e.g. Galloway & Ishimaru, 2015) that is vital to disrupt inequitable schooling.

Given such empirical challenges, the sets of research detailed below are limited in what they can conclude about the impact of principal support on principal practice. Where possible, I favored studies that used evidence of practice via direct observations or theory. Otherwise, I took as a leading indicator the extent to which principals felt like something was supportive to their work and their growth.

Pre-service Preparation Matters

Pre-service preparation is the training aspiring principals receive before they are licensed and hired as administrators, usually through programs at university colleges of education. In the past two decades, prominent scholars through large, foundation-backed, mixed-methods studies have endeavored to identify the components of high-quality pre-service principal preparation programs that are consequential to principal leadership (Darling-Hammond et al., 2007, 2022; Gray, Fry, Bottoms, & O'Neill, 2007; Orr & Barber, 2006; Orr, Young, Crow, Murphy, & Ogawa, 2009). Underpinned by Darling-Hammond and colleagues' (2007) landmark study, these scholars largely agree that "exemplary" preparation programs typically include key elements: a clear focus on a robust model of leadership (which typically means being aligned to instructional leadership standards), coherent curriculum, active and practice-based learning strategies that integrate theory and practice, quality internships, knowledgeable faculty, social and professional support, cohort structures, and standards-based assessments (see also Orr & Orphanos, 2011). Darling-Hammond and colleagues (2007) found that such program elements can be present in a

variety of program models (university-based, district-based, urban, rural, etc.), but that programs that focus on these components are likely to produce higher-quality graduates. For example, they found that as compared to a random national sample of principals with "conventional" preparation experiences, graduates of nine focal exemplary programs felt better prepared to be a principal, felt better about the principalship as a career, and enacted more "effective leadership practices," as defined by Leithwood & Jantzi's (1999, 2000) then-current models. More specifically, graduates from exemplary programs spent statistically-significantly more amount of time than comparison principals on instructional work, such as providing feedback to teachers. As another example, even though graduates of exemplary programs were more likely to work in urban or rural settings with myriad challenges than their peer graduates of conventional programs (as described in the Introduction), they were *less* likely than their peers to feel that the stresses weren't worth it and *more* likely to show commitment to being a principal long-term.

Notably, Darling-Hammond and her colleagues argued in 2007 that while exemplary programs are likely to exhibit the core features above and graduate above-average principals, much remained unknown about the "specific dimensions" of those features (Darling-Hammond et al., 2007, p. 13), the conditions under which they produce the most learning, and more precise understandings of "what graduates can *do* as a result of their training" (p. 33).

Since Darling-Hammond's pioneering study about what high-quality principal preparation programs entail, scholars have continued to show that high-quality preparation has a positive impact on various outcomes that are indicative of high-quality leadership (Dodson, 2014; Hafner, Allison, Jones, & Stewart, 2012; Ni, Rorrer, Pounder, Young, & Korach, 2019; Orr & Orphanos, 2011). For example, Davis & Darling-Hammond (2012) found that graduates of exemplary programs were more likely to take on and stay in the principalship and lead as

instructional leaders than their counterpart graduates of conventional programs without as many core elements. Orr & Orphanos (2011) found that graduates of exemplary programs, as compared to a national sample, were much more likely to engage in high quality leadership practices, which in turn had positive effects on how teachers described climate and school improvement productivity in their schools. Such work begins to show that preparation influences important measures of school leadership such as teacher climate reports. Rigby (2016) has taken a qualitative approach that both corroborates that preparation programs influence principal leadership and starts to get at the "how" of program impact. She found that preparation programs' messaging around instructional leadership influenced how first-year principals approached and understood their own instructional leadership, which in turn influenced what leaders foregrounded in their practice.

Additionally, studies have started to show that some program elements that research has identified as key matter more than others or matter in specific ways. For example, many studies have found particular importance of a high-quality internship (Darling-Hammond et al., 2022). In fact, Orr & Orphanos (2011) found that graduates of programs deemed exemplary did not always engage in effective leadership practices upon graduation. Instead, the only graduates who led high-quality outcomes in their schools completed an exemplary program *and* positively rated their internship experience. Orr found in another study that in a sample of 17 "typical" programs, the only program element associated with graduates' intentions of becoming a principal was internship quality (Orr, 2011). Other studies have illustrated what such quality looks like. For example, Versland (2016) found that the long-term nature of internships for some principals in Montana contributed to their self-efficacy as they moved into the principalship. Other studies have found that the highest quality internships explicitly provide opportunities to apply concepts

from coursework in practice and real opportunities to lead in a school (Lochmiller & Chestnut, 2017; Thessin & Clayton, 2013). These findings about the quality of internship experiences suggest that exemplary programs are not just defined by having exemplary components, but that the features of those components are consequential to graduates' leadership.

A final subset of the pre-service support literature is it is key given the importance of culturally responsive school leadership (CRSL) to creating schools that meet the needs of students schools have historically marginalized (Khalifa et al., 2016): literature on principal preparation programs explicitly focused on social justice or equity. This literature is growing rapidly but has not yet linked preparation programs to CRSL practice. Much of the foundational literature builds frameworks from which to model programs that prepare leaders for social justice (e.g. Brown, 2004; Capper, Theoharis, & Sebastian, 2006; Furman, 2012; Gooden & Dantley, 2012); however, research assessing how such programs impact graduates is also emerging. Some scholars have analyzed how programmatic elements uphold the social justice frameworks (e.g. Trujillo & Cooper, 2014); others have examined how particular programmatic elements have an impact on graduates' identities as equity-focused or antiracist leaders (Brown, 2004; Gooden & O'Doherty, 2015; Honig & Donaldson Walsh, 2018; Honig & Honsa, 2020; Martinez, 2015). For example, Guerra, Nelson, Jacobs, and Yamamura (2013) found that graduates of color and white graduates both felt that activities that helped them unpack their own identities, such as racial autobiographies and classroom conversations in which professors and peers challenged deficit thinking, created desire and motivation to lead for social and racial justice. Khalifa and colleagues (2016) argue that extant research deems changed critical self-consciousness is a key component to CRSL, which implies that such programmatic elements that promote critical

reflection and unpack internalized resistance to race-centered leadership are likely key to leaders' ultimate equity-focused leadership practice.

Despite a relatively clear picture of the components of pre-service preparation programs that are likely to produce instructional and/or culturally responsive leaders, recent research suggests most programs are not putting those components into practice. For example, Davis (2016) synthesized four 2015 reports by major stakeholders in principal preparation (e.g. the University Council of Educational Administration and the American Association of School Administrators), which gauged current attitudes of program completers, districts, and programs themselves about their work. Largely, Davis's synthesis found that stakeholders agree that "many of the 700 or so university-based programs in the United States may be falling short" (p. 5). Her findings drove a $48.5 million initiative by the Wallace Foundation, beginning in 2016, to support seven universities and their partners to fundamentally re-design their programs (E. Wang et al., 2018). Universities in this initiative largely found ways to redesign their programs to align more closely to the quality programs described above, such as through standards alignment, district partnership, and practice-rooted assessments; recent research briefs describe this process as a model for other universities (e.g. Herman et al., 2022).

Novice Principal Support Matters

Principals are typically considered novices during the first three years of their first principalship. During this time, principals undergo socialization into the role in their particular school and district and also have "to confront many issues and difficulties, such as attaining acceptance, learning the organizational culture…establishing ways to overcome the insecurity of inexperience and…[developing] a sense of confidence" (Oplatka, 2012, p. 131; see also Crow,

2006; Spillane, Harris, Jones, & Mertz, 2015). A small body of literature suggests supports that can aid novice principals in their growth as school leaders during these challenging first years.

The literature on new principal support is largely descriptive. Most studies are qualitative case studies that describe various novice principal coaching and mentoring programs and how principals and mentors perceive the supports (e.g. Celoria & Roberson, 2015; Daresh, 2007; Lochmiller, 2013; Magee & Slater, 2013; Silver et al., 2009). For example, in a multi-year evaluation of a university-based novice principal coaching program, Silver and colleagues (2009) described that the program trained coaches in blended coaching to provide support to novices for three years. They found that coaches perceived mentoring as giving back to their profession and that principals viewed the personalized support positively. As another example, a cross-case study of how districts socialize new principals found that new principals in small and mid-sized districts who participated in a statewide, cohort-based training program for novice principals felt a strong sense of camaraderie, community, and support from the program (Bengtson, Zepeda, & Parylo, 2013). However, these studies all rely on self-reports, which limits what they can conclude about whether well-received coaching programs have impacts on novice principal practice. Studies on such impact are null (Silver et al., 2009). Studies do not yet focus on novice principal support for culturally responsive or social justice leadership.

One Working Paper is the exception in this subgroup of literature to the qualitative case study trend. Steinberg & Yang (2020) conducted a quasi-experimental analysis of data from one state on how the completion of a statewide induction program for novice principals impacted principal persistence, teacher effectiveness, and student achievement. They found that completing the program increased novice principal persistence, or the chance that novice

principals remain in their schools, by 19%. They did not find any effect of the induction program on teacher effectiveness or student achievement.

Despite its limitations, this research subset uses findings about the challenges of the novice principalship and principal perception data to make a case for support that attends to the particular needs of new principal as a promising strategy to support principal quality and persistence at this stressful career phase (Anderson, Mascall, Stiegelbauer, & Park, 2012; Young et al., 2005). For example, almost unequivocally in studies of early-career mentoring or coaching programs, both novice principals and their coaches, who typically were non-evaluative and not currently employed as a principal in the district, perceived the personalized coaching relationship as extremely valuable to both emotional and technical aspects of novice principal leadership (e.g. Celoria & Roberson, 2015; Lochmiller, 2013; Magee & Slater, 2013). New principals also found value in support from such structures as learning groups designed specifically for new principals that helped novices normalize and work through stress (Bengtson et al., 2013; Darling-Hammond et al., 2022; Elmore & Burney, 2000). In all cases, the extra support helped novice leaders manage the emotional stress that comes from the new "sense of ultimate responsibility" for a school they take on with the principalship (Spillane & Lee, 2014, p. 4; see also Celoria & Roberson, 2015; Lochmiller, 2013; Oplatka, 2012; Spillane et al., 2015). Initial findings from quantitative studies suggest such support may ultimately help novices stay in their positions through the challenging novice years (Steinberg & Yang, 2019).

In-service Principal Support Matters

Once a leader is no longer a novice, there is a growing consensus in both research and practice communities that continual, practice-focused professional development (PD) for principals is a crucial—if not the most crucial—aspect of leadership development (Augustine et

al., 2009; Browne-Ferrigno, 2007; Darling-Hammond et al., 2022; Drago-Severson, 2016; E. Fink & Resnick, 2001; Honig, 2012). Scholars argue in-service PD is so important because principals can only truly examine, grow, and practice their own leadership once they are fully immersed and settled into their role (Browne-Ferrigno, 2007; Cosner, De Voto, & Andry Rah'man, 2018; Donaldson, 2008; Drago-Severson, 2016; Drago-Severson & Blum-DeStefano, 2012). In-service PD can then provide support for principals' increasingly complex role in real time (Barnes, Camburn, Sanders, & Sebastian, 2010; Drago-Severson, 2012b; Fahey, 2011; Houle, 2006) and within their specific work context (e.g. Browne-Ferrigno, 2007; Dana, Tricarico, & Quinn, 2009; Darling-Hammond et al., 2022; Drago-Severson, 2016).

Scholars have used primarily qualitative case studies rooted in learning theory to describe and recommend in-service PD models that theory suggests are likely to support in-service principal growth (Byrne-Jimenez & Orr, 2007; Cosner et al., 2018; Drago-Severson, 2012a; Drago-Severson & Blum-DeStefano, 2012; Honig, 2012). For example, Zepeda, Parylo, & Bengtson (2014) examined the PD support structures in four school districts through a lens of adult learning theory and found that while the districts were succeeding at providing ongoing and practice-based professional development, the programs lacked a self-directed element, which decreased their likelihood of improving practice. Other scholars in this group have used single case studies to investigate how principals perceive the impact of a particular program (e.g. Browne-Ferrigno, 2007; Dana et al., 2009; Fahey, 2011; E. Fink & Resnick, 2001; Honig & Rainey, 2014; Houle, 2006). For example, Honig & Rainey (2014) used sociocultural learning theory and observation-based methods to examine how principal supervisors led principal learning in one urban district. The principal supervisors led principal communities of practice likely to support principals' growth as measured by deepened engagement in the group meetings

that focused on progressively challenging instructional leadership topics. They found that when principal supervisors led group learning from a teaching stance, including modeling instructional leadership and intentionally grouping principals to build on each other's strengths, principal growth was likely. Similarly, Browne-Ferrigno's (2007) study of a theory-driven principal support structure in one rural district found the district's joint support for all leaders—novice to veteran—led the veteran principals to re-conceptualize and more deeply understand their role.

In addition to qualitative, theory-rooted work, another group of scholars used mixed methods studies to begin to associate particular PD designs with particular outcomes for principals. For example, Drago-Severson and Blum-DeStefano (2012) conducted a longitudinal study of a university-based course on adult learning for current principals. Through examining surveys and interviews of both recent and past cohorts of course-takers through constructive-developmental learning theory, these authors found that principals associated the course with increased self- and interpersonal awareness, which in turn influenced their leadership of others' learning, an aspect of instructional leadership (Drago-Severson & Blum-DeStefano, 2012; see also Drago-Severson, Blum-Destefano, & Asghar, 2013). Further, Jacob and colleagues (2014) used a study that included randomized design to assess the impact of a PD program on not only principal practice and sense of efficacy, but school climate, staff turnover, and student achievement. They found that the Balanced Leadership PD, rooted in Marzano and colleagues' work (Waters, Marzano, & McNulty, 2003), positively influenced principals' sense of efficacy and was associated with principals staying in their positions longer (Jacob, Goddard, Kim, Miller, & Goddard, 2014). Other mixed-methods studies have associated in-service PD with principals' incremental deepened understanding of their practice (e.g. Barnes et al., 2010) and their role (Huff, Preston, & Goldring, 2013), and with increased leadership content knowledge

around particular content areas vital for instructional leadership, such as mathematics (Steele, Johnson, Otten, Herbel-Eisenmann, & Carver, 2015).

While findings from both subsets of the literature on the importance of in-service principal PD are promising, both have limitations in what they can conclude about PD's impact on practice. The case study literature's use of theory makes robust suggestions about PD's potential, but they don't yet include data about principals' changed practice. The mixed-methods studies rely largely on interviews and self-reported surveys to probe impact, focusing on the perceived effectiveness of PD rather than change in principal practice. Thus, research on principal PD has not yet concretely probed PD's impact on practice. Further, like the literature on novice principal support, studies explicitly examining what in-service PD that supports culturally responsive school leadership looks like are just emerging (see Darling-Hammond et al., 2022 for a brief review).

Summary of Principal Support Literature

Existing literature shows that supports for principals at various stages of their career matter to principal quality. Though subsets of this literature vary in how they make cases for how a support matters to principals, my review suggests that particular supports tailored to pre-service, novice, and in-service principal growth influence a leader's instructional, and potentially culturally responsive, leadership abilities.

The Promise of Aligned, District-Led Support

While the different stages of supporting principals have been studied largely separately, I argue that findings across those subsets of literature suggest promise in aspects of district pipeline initiatives. First, findings across the principal support literature show that while most principal supports are currently implemented separately, *aligned* support—meaning supports that

work in conjunction with, rather than isolated from, supports for other stages of the principalship—is promising. Second, findings also imply that *districts have a key role to play* in providing such support for principal quality. I briefly elaborate each of these claims below.

The Promise of Aligned Support

I found evidence throughout the principal support literature that indicates one stage of principal support is ultimately dependent on the others. For example, the ability to engage in effective leadership practices was most pronounced for principals who experienced strong in-service support on the job *in-conjunction with* their particular preparation program (Darling-Hammond et al., 2007, 2022; Rigby, 2016), suggesting that principal preparation programs are more powerful when they don't operate alone. Similarly, Peterson's (2002) review of strong in-service support programs and Davis and Darling-Hammond's (2012) more-recent review of top preparation programs came to parallel conclusions about so-called continuum models: the strongest programs in each set had both pre- and in-service elements. Without one or the other, impact on leadership diminished.

Other findings further suggest that pipeline elements depend on each other by highlighting that when one element of principal support is weak, other supports can become burdened. For instance, Honig and colleagues (2010) found that principal supervisors often spent a disproportionate percentage of their time with new leaders, which had negative ramifications for the individualized support veteran principals received. Such findings suggest that if districts or universities don't provide explicit support for novice principals in addition to support from their principal supervisor, principal supervisors will be limited in their ability to provide support to all of their principals.

The interconnectedness of principal support quality also came clear in this literature with frequent mentions of principal hiring and placement, suggesting that the quality of hiring and placement is related to the quality of pre-service and novice principal supports. For example, findings across the support literature suggest that the effective recruitment and placement of principals depends largely upon a quality candidate pool of certified administrators ready to take on the principalship in a district. For instance, Browne-Ferrigno & Muth (2006) found that 62% of graduates of a well-regarded principal preparation program said they were not ready for the principalship and would likely seek another leadership role first, effectively removing themselves from the principal candidate pool. Most cited needing more "on the job" experiences with higher-quality mentors; the authors therefore argue that strong, full-time internships with highly vetted principal mentors are vital for the creation of a strong candidate pool in a district (Browne-Ferrigno & Muth, 2006). As other examples of findings that suggest the quality of hiring practices and of in-service PD are mutually dependent, Anderson and colleagues (2012) argued that in-service professional learning can be more in-depth when the hiring process successfully places strong candidates in schools, and Loeb and colleagues (2010) found that large, high-poverty districts often fill principal vacancies with primarily novice principals with less-credentialed backgrounds, rendering in-service PD a much larger task.

Such findings about coherent support lend promise to pipeline approaches, which work to align all phases of support for the principalship, including hiring, in a given district such that leaders are supported to become leaders in that context from the start. The theme of alignment in the principal support literature mirrors calls for coordinated support in other leadership and learning literatures. Urban principalship scholars, for example, call for a "system of supports" for principals that spans across their careers (Portin et al., 2009, p. 115 see also Honig & Rainey,

2020; Kimball & Sirotnik, 2000; Knapp, Copland, Honig, Plecki, & Portin, 2010), and support models rooted in cognitive science, such as cognitive coaching, also advocate career-long learning for leaders (Ellison & Hayes, 2006).

The Promise of District-Led Support

The principal support literature also highlights that districts and district leaders have important roles to play in quality principal support. Some of this research points directly to districts' role in providing support at different phases of the principal career. For example, a subset of research points to district involvement in pre-service support through engaging in partnerships with universities (e.g. Browne-Ferrigno, 2011; Browne-Ferrigno & Allen, 2006; Goldring & Sims, 2005; Orr, King, & LaPointe, 2010; Sanzo, Myran, & Clayton, 2011). Funding for and research on district-university partnerships has grown recently (e.g. E. Wang et al., 2018) amidst ongoing critiques of traditional principal preparation programs (e.g. J. Davis, 2016; S. Davis & Leon, 2011; Gooden & Dantley, 2012; Hess & Kelly, 2007; Levine, 2005). While much of the initial literature on district-university partnerships focuses on the university's role in the partnership (e.g. Browne-Ferrigno, 2011; Kochan, 2010) or graduates' perceptions of the programs (Taylor, Pelletier, Trimble, & Ruiz, 2013), some studies find particular ways district leaders can support the partnerships. For example, some suggest dedicating a full-time central office leader to spearhead collaboration over time (Goldring & Sims, 2005; Grogan & Roberson, 2002; Orr et al., 2010). Others found district involvement in co-creating standards or curriculum supported principal quality (Orr, 2012; Orr et al., 2010; E. L. Wang, Gates, & Herman, 2022).

Another subset of the principal support literature highlights the district role in supporting in-service leaders through principal supervision (Casserly, Lewis, Simon, Uzzell, & Palacios, 2013; A. Corcoran et al., 2013; Goldring et al., 2018; Honig, 2012; Honig et al., 2010; Honig &

Rainey, 2014; Honig & Rainey, 2019; Rainey & Honig, 2015). These studies broadly suggest that model principal supervisors (PSs) focus a majority of their time on supporting principals' instructional leadership and often serve both as principals' evaluators and coaches (Bottoms & Fry, 2009; A. Corcoran et al., 2013; Fink & Resnick, 2001; Goldring et al., 2018; Honig, 2012). Honig (2012) found that PSs who view themselves as teachers of principals and not managers were associated with increased supports for principals' growth as instructional leaders, which is corroborated by other studies (Fink & Resnick, 2001; Honig et al., 2010; Jackson, Cobb, Rigby, & Smith, 2018; Zepeda et al., 2014).

Findings across the PS literature suggest that other central office leaders also have important roles to play in helping principal supervisors engage in their work well. For example, many authors point reducing principal supervisor workload via hiring more PSs as a support for supervisors (Casserly et al., 2013; Goldring et al., 2018; Honig et al., 2010). Honig and colleagues (2010; 2019; 2020) have written about more specific supports for principal supervision. In their most-recent study, for example, Honig & Rainey (2019) found that when supervisors of principal supervisors (e.g. Chief Academic Officers, Chiefs of Schools, or Deputy Superintendents) support supervisors to continually lead their own learning around their practice, rather than consult with executive coaches or off-site PD, PSs are likely to grow in their instructional leadership.

In addition to playing important roles in supporting principals at particular phases of their career, findings from across the principal support literature suggest that districts can be the cohering "glue" that holds such supports together. First, as mentioned above, the work of principal recruitment, hiring, and placement is consequential for other aspects of principal support. District leaders often in human resource departments are main actors in this work (e.g.

Elmore & Burney, 1998). Literature specifically on principal recruitment, hiring and placement, sometimes referred to collectively as succession planning, suggests that most districts' hiring and placement strategies are not as systematic as research implies they could be (Bengtson et al., 2013; Hargreaves & Fink, 2006; Loeb et al., 2010; Normore, 2007) but also that district HR leaders can encourage principal quality and facilitate easier transitions into the principalship with particular strategies (Bengtson et al., 2013; Elmore & Burney, 1998, 2000; D. Fink, 2011; Hargreaves & Fink, 2006; Mendels & Mitgang, 2013; Rammer, 2007; Ryan & Gallo, 2011). For example, in their study on how principals manage the first three months of the principalship, Spillane & Lee (2014) found that novice principals who had prior social ties to the school of which they first became principal (i.e., as a former teacher there) had much smoother transitions into their role.

Other literature suggests other roles for district leaders "in between" pieces of principal support. For example, Browne-Ferrigno (2007) and Elmore & Burney (1998; 2000) both found district-led "principal academies" for aspiring principals helped future leaders develop the kinds of leadership a district values before pursuing licensure. Elmore & Burney (2000) also found that the "glue" of principal support can be not a program but a way of thinking and working, taught at all levels of the district by leaders as high-ranking as the superintendent. In New York's District 2, Superintendent Anthony Alvarado constantly "tells [principals] that [their] job is to focus on improving instruction, but that everything and everyone will try to pull them away from that job" (2000, p. 20). Famously, Alvarado also modeled that laser-like focus on improving instruction in everything he did as superintendent.

These findings suggesting the vital role of district leaders in fostering quality principals mirror a final theme across the principal support literature consequential to pipelines. Scholars

are increasingly finding that district-led supports for district and school leader development are more effective than relying on intermediary organizations. For example, researchers at Mathematica recently found that a time- and resource-intensive professional development program for principals, facilitated by a reputable outside leadership organization, implemented across 100 schools in eight districts had no measurable effects on school climate, principal retention, or student achievement (Hermann et al., 2019). Strikingly, the program had negative effects on principal instructional leadership practices. Honig and colleagues (2017, 2019) have also recently found the importance of district-driven, rather than outside support. For example, in their study of six districts aiming to engage in evidence-based improvement around district instructional leadership practices, districts with low levels of coaching from partners ended up engaging more deeply in research-based practices, since leaders within the district began to teach others themselves (Honig, Venkateswaran, & McNeil, 2017).

The Promise of Pipelines

Ultimately, existing research suggests promise in the pipeline model because each phase of support across the principal career is important for principal quality, coherent support among these phases is the most beneficial, and districts and district leaders have important roles to play in such work. What is most promising about pipelines, then, is that the model builds on lessons from multiple areas of research by including all the pieces of support research suggests are vital and by defining districts' role in coordinating such work in aligned ways. Further, since this literature suggests one piece of support depends on the other, I argue that pipelines are not just the presence of all the pieces of a pipeline. Instead, pipelines demand deliberate work around how the pieces depend on each other and that district leaders are ideally positioned to lead both the pieces and the "in-between" work of pipeline implementation.

My review of the principal support literature suggests that though pipelines are complex and challenging for districts to take on, they are worth research attention. I turn next to ask: What do we know about how pipeline implementation is going in districts?

Principal Pipeline Implementation to Date

The literature on district pipeline programs primarily consists of reports commissioned by the Wallace Foundation on their Principal Pipeline Initiative (PPI), a 2011-2016 grant to six large urban school districts with track records of prioritizing school leadership quality. [4] Grantees received extensive financial resources, networking opportunities, and technical assistance as they carried out the four-piece PPI model set forth by the Wallace Foundation: leadership standards tailored to their district, pre-service preparation, strategic hiring and placement models, and growth-oriented evaluation and in-service support practices (Turnbull, Riley, Arcaira, et al., 2013). The Wallace Foundation funded research of the PPI to study and report on implementation and ultimate outcomes. Policy Studies Associates (PSA) published seven implementation reports during and after the initiative (Anderson & Turnbull, 2016, 2019; Anderson, Turnbull, & Arcaira, 2017; Turnbull, Anderson, Riley, McFarlane, & Aladjem, 2016; Turnbull, Riley, & Macfarlane, 2015; Turnbull, Riley, Arcaira, Anderson, & Macfarlane, 2013; Turnbull, Riley, & Macfarlane, 2013). Additionally, PSA commissioned RAND to conduct two evaluative studies on the effort: one analyzing the costs of the PPI in the six districts (Kaufman et al., 2017) and the other analyzing the PPI's impact and effect on school outcomes (Gates et al.,

[4] A small set of other research exists on pipelines (Burrows-McCabe, 2014; Gill, 2012, 2016; Hitt, Tucker, & Young, 2012; Maxwell, 2013; Normore, 2007). However, their findings and limitations mirror those of nine more-recent grant foundation reports and I therefore exclude them directly from the review. For example, Normore's 2007 study is the only journal article, but its findings about one district's "continuum approach" to principal support and succession planning are mostly descriptive, like the reports. The other pieces in this set share Wallace's work with practitioners (e.g. Gill, 2016; Maxwell, 2013) or inform national policymakers (Hitt, Tucker, & Young, 2012).

2019). A final RAND report explored the national prevalence and form of pipelines outside the six PPI districts (Gates et al., 2020).

These reports give detailed descriptions of what principal pipelines looked like across the six districts at different points in the grant initiative. For example, no district implemented the four components of their PPI in quite the same way, but collaborating with universities and revising principal standards over time were present and supported implementation in all cases (Anderson et al., 2017; Turnbull et al., 2016) In addition to describing the particular designs of the various pipeline models, the implementation reports describe broadly what districts did during implementation, such as creating new communication channels with partner universities (Turnbull, Riley, & Macfarlane, 2013), adding performance tasks to interview processes (Turnbull et al., 2016), and creating systems for data management to aid in strategic hiring and placement decisions (Anderson et al., 2017; Gates et al., 2019).

The reports also pinpoint challenges districts faced during implementation. For example, designing professional learning that actually got away from the information-sharing pedagogy (often termed "sit-and-get) so common for in-service principals posed a challenge for districts (Turnbull et al., 2016), as did finding qualified candidates to fill new kinds of principal support positions, such as principal supervisors (Turnbull, Riley, & Macfarlane, 2013) and internship mentors for licensure (Turnbull et al., 2016). As another example, two years after the grant ended, many districts reported that they had far fewer principal vacancies each year as a result of their efforts (Anderson et al., 2019). While this is a positive implication for the impact of pipelines on principal retention, it posed a challenge for districts trying to figure out how to keep growing their pool of potential administrators when they likely would not have immediate positions for them.

Despite challenges, the reports suggest implementing principal pipelines is feasible for districts and that the efforts could have substantial impact on schools. First, the reports use a variety of data to argue that pipelines are "feasible" for most districts to implement. For example, the PSA reports cited that pipeline initiatives remained eight years after inception despite superintendent turnover in nearly every district (Anderson & Turnbull, 2019). Further, the RAND reports found that pipelines were financially available to most districts even without grant funding, costing an average of $42 per student per year—or on average 0.4% of districts' budgets (Kaufman et al., 2017).

In addition to being feasible, findings suggest PPIs may have positive impact on student learning, principal retention, and principal quality. Gates and her colleagues (2019) used a quantitative quasi-experiment to compare schools with new PPI principals to similar schools with new principals in similar districts. They found that students at schools with PPI principals made statistically significantly more growth in both reading (on average 6.22 percentile points) and math (on average 2.87 percentile points) than their peers at schools in non-PPI districts. They also found that the PPI districts had less principal turnover than non-PPI districts: PPI principals were on average 5.8% more likely to say in their schools after two years and 7.8% after three. They further found that schools in PPI districts without a new principal also saw positive gains, suggesting that pipelines positively impact principal quality districtwide. Anderson & Turnbull's (2019) interview- and survey-based study of the state of the pipeline in the six PPI districts at the end of their grant period suggest that district leaders saw an increase in skill of new principals because of the initiative. Respondents also reported increased retention, corroborating Gates and colleagues' (2019) findings above.

These findings lend promise to the PPI approach; however, limitations in both the impact study and the implementation reports leave the field with many questions about what it takes to leverage pipeline initiatives for equitable principal quality. First, the impact study's findings do show districts saw gains in student achievement and principal retention associated with their PPIs, but the presentation of those findings keeps us from understanding the magnitude of impact. For example, highlighting the statistically significant average "PPI effect" in math and reading (2.87 and 6.22 percentage points respectively) across all districts masks the wide variation districts saw. In math especially, one district saw actually statistically significant negative effects (-6.88 percentile points after 3 years), while another saw a statistically significant and positive 9.82 percentile points increase in the same time. Retention findings were similarly varied, with only one district seeing statistically significant positive improvement and two districts seeing either zero or negative effects. Because of district anonymity, the reports do not show which districts saw which gains or losses, clouding whether all of the positive and negative gains were associated with the same districts or if impact varied. Similarly, the study's impact-focused design keeps us from seeing any leadership or other district dynamics that may have contributed to the variation in impact—let alone implementation.[5]

The implementation studies' findings show what pipelines look like and suggest broad activities that support pipeline creation but also keep us from seeing the leadership or contextual factors that shepherded pipeline implementation forward in any district. For example, the reports

[5] Other limitations of the quantitative design are important to note and question the study's findings but are not consequential to my study of pipeline leadership. For example, the findings suggest that PPI principals have a sweeping effect on student achievement within their first two years in a school but cannot explain why or how such leadership mattered. Plus, the report claims that the pipeline, not other factors, contributed to the gains it found, based on the statistical models used for the study. But the discussion of other factors that could have led to the student achievement gains is vague. For example, the authors describe how one district participated in a $100 million dollar teaching grant during the same period as the PPI and how another engaged in major fundraising to support teacher leadership and evaluations systems, but does not explain why those initiatives didn't impact results—or whether the districts with these initiatives saw stronger or weaker gains than others.

found that buy-in from senior leaders in all districts was important, but do not explain what that sponsorship looked like (Turnbull et al., 2016). Additionally, in reporting important trends across the six sites, the PSA reports do not foreground contextual factors of implementation dynamics in any given district that might be consequential to getting pipelines off the ground. Finally, the broad unit of analysis across the case studies is limiting. "Districts" or a specific district (e.g. "Gwinnett County") are the main subjects of sentences across the reports, which renders "the district" a monolithic actor and conceals the work of the individual leaders within—something central office researchers have been warning against for decades (e.g. Spillane, 1998). When reports reference "district leaders," their specific positions aren't typically named. A typical sentence reads, "district leaders were attending to systems…" (Turnbull et al., 2015, p. 70); who are these district leaders and what does their "attending to systems" *look* like and entail?

When considered in conjunction with its substantial findings about what pipelines are and the challenges early-implementer districts faced, the limitations of existing pipeline scholarship are helpful in pointing to what next research must focus on to continue building out the field's understanding of if and how pipelines can be a lever for equitable principal quality and educational equity.[6] First, since the first pipeline research primarily described of implementation, studies exploring the kind of change pipelines demand are needed. For example, findings in the Wallace reports suggest that PPIs are challenging initiatives that take years of intentional work to take root. But how should we understand the kind of change pipeline are, given that pipeline

[6] The evaluation report's discussion of how the pipeline contributes to reversing educational inequity is mixed and confusing. In one section, it claims that the largest achievement gains were seen in schools in the "lowest quartile" of performance while in another it states that the PPI effects were *smaller* in schools serving less White students/more students eligible for free or reduced lunch. These two statements, both which use coded language ("lowest quartile" and "lower proportions of white students") to describe students of color, seem to directly contradict each other, and the authors do not explain the contradiction.

efforts look differently in each district? Second, the pipeline reports give extensive details about what pipelines look like in different settings but do not yet show what leaders did on a daily basis to implement them. A study that takes a deeper dive into the work of leaders carrying out pipelines would build on the knowledge we have about what pipelines entail in ways helpful to other leaders aiming to establish pipeline work.

Initial Research Questions

Given the major questions that remain about *leading* such multifaceted efforts toward equitable principal quality, and given the importance of district leadership suggested in my first literature review, I pose the following research questions for a study of pipeline leadership:

1. What do district leaders do when leading a principal pipeline effort?
2. What constrains and enables leadership of a pipeline effort?

However, because there is so much absent from current pipeline research about the particulars of leadership in implementation and the kind of change that pipeline leaders are leading, I turned to a final body of literature to help frame my study: research that examines similarly complex change efforts in school districts.

Leadership of Central Office Change

I reviewed research on other large-scale change efforts in central offices to uncover how other scholars have studied and conceptualized leadership and change in those efforts. I focused on studies that examine change efforts with characteristics similar to pipelines: changes that demanded alignment across levels or departments in a district, changes that required both creating new initiatives and revamping old ones, and changes with ambitious goals that were likely to take years to take hold. I prioritized when possible studies that contained descriptions of how particular district leaders lead change, as opposed to the literature on pipelines that largely

view “the district” as a monolithic actor engaging in broad roles. In this review, I paid particular attention to how these studies described leadership and how they used theory to frame such leadership and change.

Most of the foundational research on central office change focuses on longitudinal change efforts in large urban school districts—often efforts that sought to “turn around” or “reform” historically and systemically under-resourced big-city school systems during the reform eras of the 90s and early aughts. Such studies, often detailed in books, either focus on one district in-depth (e.g. Bryk et al., 2010; Colvin, 2013; Hess, 2005; Hubbard et al., 2006; O’Day, Bitter, & Gomez, 2011; Supovitz, 2006) or employ cross-case analysis of similar large urban districts (e.g. Cobb, Jackson, Henrick, & Smith, 2018; Cuban & Usdan, 2003; Hightower et al., 2002; Payne, 2008). Many focus on the tenure of a big-city superintendent, such as Alan Bersin’s as Superintendent of San Diego City Schools (Colvin, 2013; Darling-Hammond et al., 2003; Hubbard et al., 2006); however, these studies often include some depictions of other district leaders’ leadership as well. In addition to these books, I included select peer-reviewed studies or reports on district change in this review (e.g. Anderson et al., 2012; Coburn, Toure, & Yamashita, 2009; Honig et al., 2010; Spillane, 1996; Spillane & Thompson, 1997; Sullivan & Shulman, 2005). For example, Spillane’s early work was the first to identify individual district leaders’ leadership actions as consequential to systemic reform and are therein important to this review. Honig and colleagues’ work (2009a; 2010) focuses on models of district leadership rather than on the leadership of change but provides important insight into constraints and enablers of district change and how to conceptualize central office leadership. Finally, I included Elmore and Burney’s (1997a, 1997b, 1998, 2000) unpublished but highly-detailed work on the

inner workings of New York's District #2 in the 1990s, which provides descriptions of a model district's work toward continuous change, including the role of district leaders.

In reviewing this literature, I aimed to understand the state of research on the leadership of complex district-led change efforts. On the whole, this research highlights how major change in general and aligned change in particular is difficult—and how it often doesn't take hold. Findings also focus more on the change efforts themselves rather than the leadership of them. However, some findings about change and leadership, as well as the approaches the scholars take, are useful in suggesting an approach to studying the leadership of complex change, consequential to my study of pipeline leadership.

Complex District Change Is Difficult

Most of the studies in this group of literature highlight how difficult it is to significantly change the way districts and schools do their work; in most cases, the complex reforms in these studies didn't persist (e.g. Corcoran, Furhman, & Belcher, 2001; Cuban & Usdan, 2003; Hess, 1999; Hubbard et al., 2006; Payne, 2008; James P. Spillane, 1996). Some studies highlight one main hurdle to change, illustrating how change efforts were taken up in ways that made outward changes to district organization or programming but did not make the deeper, inward changes to understanding and practice that complex change and alignment demand (Hubbard et al., 2006; Spillane & Thompson, 1997; Tyack & Cuban, 1995). For example, in their study of nine districts taking up new, statewide standards-based reforms, Spillane & Thompson (1997) found that six (67%) of the districts engaged in "rather superficial, topical alignment" with the reform efforts, rather than the "deeper, transformative, substantive realignment intended by reformers" and vital for change to take hold and persist (p. 188).

Some studies further illustrate the challenges of complex changes that demand alignment across levels or offices of the district, like pipelines. For example, in their longitudinal research practice partnership about systemic improvements to mathematics instruction, scholars in the Mathematics and the Institutional Setting of Teaching (MIST) research group found that leaders in different units of district offices had differing visions of the instructional reform, leading them to take up the change with "conflicting agendas" (Cobb et al., 2018, p.194). In a key instance, they found principal supervisors often emphasized holding principals accountable for improving the quality of instruction, measured by increasing test scores, while the curriculum and instruction units often emphasized supporting teachers to learn rigorous instructional practices. Despite those conflicting approaches, both units saw themselves as supporting the goals of the reform. In another example of the challenges of aligned change, Hubbard and colleagues (2006) found that in San Diego's sweeping instructional reforms, it was difficult to get educators at all levels of the district to the same levels of understanding about their role in the Balanced Literacy aspect of the reform. In particular, the centralized professional learning the district provided to teachers was dynamic and supportive of their shifts in instruction, but the further removed from the classroom one got, the less-developed their support for implementation became. Principals for example often left their professional learning clear about the content teachers were to implement but unclear about how they as leaders should go about supporting such change.

Finally, studies in this group often cast change efforts as attached to a single leader, highlighting another challenge of change work in a time when large-district superintendent tenures remain on average between just five and six years (Broad Center, 2018).[7] Many of these

[7] This report by the Broad Center counters the typically-cited Council of Great City Schools (CGCS) report from 2014, which specifies the tenure of their member superintendents at just over 3 years. However, the Broad report looks at *completed* superintendent tenures while the CGCS report looks at the average current time in office of the superintendents it surveyed.

studies portray major change efforts as mainly the work of the superintendent and often attribute their change leadership to their background, political savvy, or inherent characteristics. For example, many accounts attributed aspects of reform success to superintendents' abilities to forge connections with various stakeholders, such as their school boards (e.g. W. L. Boyd & Christman, 2003; Usdan & Cuban, 2003; Useem, 2009), other major districts (Hubbard et al., 2006), and/or scholars at local universities (Cobb et al., 2018; Spillane & Thompson, 1997). In linking change to one leader and their abilities, this scholarship largely suggests that if and when that leader left the district, the reform is considered over or unsuccessful (e.g. Cuban & Usdan, 2003; Hubbard et al., 2006). Multiple studies account the field's foundational example of this in San Diego, when after the school board pushed Alan Bersin out of the superintendency after almost seven years, a string of four superintendents followed over the next five years such that many changes made with Bersin's *Blueprint for Success* were lost (Colvin, 2013; see also Cuban & Usdan, 2003; Darling-Hammond et al., 2003; Hubbard et al., 2006). Other studies note not that reforms end when a leader leaves but that expectations change when leadership changes, such as how accountability for using a particular rigorous curriculum loosened significantly in one of the MIST group's partner districts when the superintendent changed (Cobb et al., 2018).

In focusing on a superintendent's relationships with stakeholders, these studies prioritize political explanations of reform's success (e.g., Boyd & Christman, 2003; Hubbard et al, 2006; Reville & Coggins, 2007; Spillane & Thompson, 1997; Usdan & Cuban, 2003; Useem, 2009). Hubbard and colleagues' (2006) explanation of Bersin's exit was primarily political, highlighting his tensions with the school board and teachers' union. In another example, Cibulka (2003) described in political terms why a funding partnership between Baltimore City Public Schools and the Maryland State Department of Education fell through. He highlighted how the Baltimore

community turned on the superintendent, who supported the partnership; the community refused to support financial alliance with the state given the state's long-standing ignorance of the racial dynamics influencing low achievement in Baltimore City vis-a-vis the rest of the state.

Leadership Practice as Teaching and Learning

While most of this scholarship links the overall success of a change effort to a single leader's political savvy, some less-prominent findings in these studies suggest that particular leadership *practices*, rather than characteristics, are associated with reform efforts that do persist. Importantly, those practices have to do with teaching and learning rather than politics. First, many of these studies use ideas from pedagogy and learning theory to describe the practice of leaders during reform efforts. For example, some studies cast change leaders as learners. Spillane's early studies (Spillane, 1996; Spillane & Thompson, 1997) found that district leaders' openness to learning impacted the change. In one district, a few district leaders deeply engaged in learning about new instructional strategies and became fierce advocates for implementation across the district, which led to rigorous professional learning opportunities for teachers districtwide. In the other district, district leaders were unwilling to learn about new strategies that ran counter to their current beliefs about reading; these leaders implemented the reform minimally, such that only a handful of teachers had access to opportunities to learn how to take up the new strategies. As a more outward example of casting district leaders as learners, Supovitz's (2006) study highlights how Duval County, Florida Superintendent John Fryer had the title "Chief Learner" on his office door.

Studies in this group also described change leadership as teaching. Some studies named that leaders designed, enacted, and/or invested in high-quality professional learning experiences for educators throughout their district (Honig et al., 2010; Hubbard et al., 2006; McLaughlin &

Talbert, 2002; Stein & D'Amico, 2002; Sullivan & Shulman, 2005). For example, Spillane and Thompson (1997) found that change leadership around the districtwide implementation of rigorous science and mathematics standards included not only knowing well the new content and the instructional strategies teachers should use but also knowing how to teach both of these aspects to teachers. Other studies included findings about the kind of pedagogy leaders used to support others' learning and to what end (Elmore & Burney, 1997; Hubbard et al., 2006; Supovitz 2006). For example, the MIST group found that collaborative team time for teachers over time, facilitated by either an expert teacher leader or coach, was most likely to support teachers' uptake of ambitious mathematics instruction (Cobb et al., 2018).

Still other studies focused on how district leaders messaged or framed aspects of reform as teaching (S. E. Anderson et al., 2012; Coburn et al., 2009; Elmore & Burney, 1997a; Hubbard et al., 2006; McLaughlin & Talbert, 2002; Supovitz, 2006; Woulfin, Donaldson, & Gonzales, 2016). A key teaching aspect of consistent messaging across cases was ensuring that all district leaders who provided messages to building leaders were at the same level of understanding about what the reform was and how to message the change (McLaughlin & Talbert, 2002). For example, in San Diego, inconsistent messages around the focus of principal leadership hindered the reform (Hubbard et al., 2006), whereas in Supovitz' (2006) study, district leaders successfully selected and trained teachers and principals throughout the district to teach and carry the messages of reform to their colleagues.

Such findings about leaders' teaching and learning practices strongly imply that leaders and their leadership practice matter to complex change that persists. However, with key exceptions (the four Elmore & Burney unpublished reports of Anthony Alvarado's leadership in New York District #2 in particular), the largely longitudinal format of these studies shows what

leaders do at key junctures of a reform effort, rather than what they do on a daily basis to shepherd a change effort forward. In other words, existing scholarship on district change suggests that leaders who lead change that persists engage in some practices of teaching and learning over time; literature does not yet explore what daily leadership practice looks like—nor does it yet explain how and why such leadership matters.

Implications For This Dissertation: A Frame of Organizational Learning

Crucial to my research about pipelines, findings in the district change literature come from a similar theoretical perspective. I showed above that leadership in these studies is often framed as teaching and learning. Across these studies scholars view also change itself as learning – chiefly exemplified by Hubbard and colleagues' title, *Reform as Learning.* They also illustrate numerous factors that make it challenging for districts to "learn" (see Honig, 2009b for a review). Furthermore, studies in this review draw from several lines of learning theory with various degrees of specificity. For example, a number of scholars used language from organizational theory to describe the work of district reform as a district becoming a "learning organization" (e.g., Anderson et al., 2012; Hubbard et al., 2006; McLaughlin & Talbert, 2002; Supovitz, 2006; Stein & D'Amico, 2002). Others use sociocultural learning theory's ideas, such as Hubbard and colleagues' (2006) use of concepts to analyze the multiple learning situations present across the district during the uptake of Balanced Literacy in the particular context of San Diego.

Using a frame of learning highlights the deep shifts that must take place in an organization for change to happen and goals to be reached; however, this scholarship does not yet use such theory to theorize the *process*, the *leadership*, or the *leadership challenges* of such change. For example, Honig and colleagues (2010; 2012; 2014; 2020) use lines of sociocultural

learning theory to highlight teaching practices that comprise principal supervisors' ideal practice for supporting principal growth, but not to conceptualize the leadership of the systemic, aligned change needed to get there.

Revised Research Questions

The broad and varied use of learning theory to describe aspects of change efforts across this district change literature provides a direction for conceptualizing my study of pipeline leadership: it is likely a useful starting point to frame pipeline leadership *as leading a complex change process that demands ongoing organizational learning*. In the next chapter, I build on the findings in this review and use Organizational Learning Theory and Organizational Sensemaking Theory to build a framework that helps me answer the following revised research questions:

1. What change processes do district leaders engage in over time when improving a principal pipeline initiative? To what end?
2. What do leaders do when leading such a change process?
3. What conditions help and hinder the leadership of a principal pipeline initiative?

Chapter 2: Sustaining Attention on Improvement: A Theoretical Framework of Organizational Learning and Organizational Sensemaking

"Despite the problems, organizations learn" - Levitt & March, 1988, p. 336

To understand how leaders within complex organizations improve their work, I turn to two theories with shared roots: Organizational Learning Theory and Organizational Sensemaking Theory.[8] Organizational Learning Theory, per March and Simon (1958), centers on understanding how organizations manage to learn from experience in complex environments. From Organizational Learning, I conceptualize a process of "engaging in improvement" that articulates what organizational members do when they seek to narrow the gap between their current work and their ambitious goals, such as the equity-driven goals of pipeline efforts. Organizational Sensemaking Theory is focused on the processes groups use to make sense of and clarify their organizational environment. I use Organizational Sensemaking throughout this framework to highlight how organizational improvement is a social process that leaders can shape, influencing their colleagues to think about their work and allocate their attention in ways that support change. Together, these theories are useful for my research questions about pipeline leadership because they elaborate not only what happens when organizations work to improve, but how individuals can lead such improvement.

In this chapter, I first describe the cyclical process of engaging in improvement in a complex environment and argue that it is ultimately a challenge of sustaining attention on changing the status quo. I further argue that successful engagement in improvement can be characterized as progression along a trajectory of persistence through that cycle. In the second

[8] Both theories have origins in the Carnegie School, particularly the interdisciplinary approach to organizational behavior (M Honig, personal communication, February 2, 2016).

part of the chapter, I pinpoint organizational and leadership conditions that influence engagement in the improvement cycle. Finally, I present a set of expanded research questions that reflect these theoretical perspectives toward inquiry into the leadership of principal pipeline initiatives.

The Process of Engaging in Improvement within a Complex Context

Engaging in improvement through a change effort like a pipeline is ultimately a challenge of sustaining attention on changing the status quo and taking action accordingly. Organizational Learning Theorists define *attention* as organizational members focusing any time, energy, or effort on issues in their environment (March & Olsen, 1975; Ocasio, 1997). The challenge of focusing attention on change is that organizations are full of multiple pulls on that attention, such as ongoing action, myriad forms of information and feedback, and established rules for making decisions (Levitt & March, 1988; March, 1999; March & Olsen, 1975, 1976). Organizational Learning pushes back on the idea that individuals are able to clearly interpret information from the environment to inform rational decisions within such complex environments[9] (Cohen, March, & Olsen, 1972; March & Olsen, 1975; Perrow, 1986). Instead, individuals often take actions driven by their interests, their perception of their role, and/or organizational norms that dictate the "appropriate" response to a situation, rather than working to shift the status quo (Argyris, 1977; Argyris & Schön, 1978; Levitt & March, 1988; March, 1999).

Despite the challenges of attending to improvement, Organizational Learning Theory holds that organizations are driven by *ambitious targets* and want to improve their work (Levinthal & March, 1993; Levitt & March, 1988; March, 1991b, 1991a). The process I array

[9] Scholars define organizational complexity in terms of uncertainty and ambiguity. *Uncertainty* is when members currently do not know the probable outcomes or alternatives or a particular event – but could with better information. Organizational *ambiguity* is when they cannot possibly know about outcomes or alternatives: no amount of information will help clarify the organization's opaqueness of intention or history (March, 1999; March & Olsen, 1976; Perrow, 1986).

next describes how leaders within organizations can attend to improving their work towards those targets, within such contexts. I use concepts from Organizational Learning Theory to ground the improvement cycle. However, since Organizational Learning Theory describes a learning process largely without specifying who does it,[10] I turn to Organizational Sensemaking throughout this section to add details about the social and interactive aspects of each stage of the improvement process. Organizational Sensemaking helps specify the leadership of improving pipelines central to my study.

Noticing and Naming

The process of engaging in improvement begins when leaders *notice* a discrepancy between their current situation and their expected state or goals (March & Olsen, 1975). Argyris (1976, 1977) refers to this concept as "error detection," describing how people in organizations pinpoint practices or knowledges that keep them from moving towards their goals. Detecting and "correcting" errors is learning, where organizations either "correct" an error to return to the status quo or take new action towards their goals (Argyris, 1977).[11] This initial step of the process happens when participants not only *notice* the discrepancy, but *name* that it is something worth spending further attention on. Because organizations are full of so much information, there are myriad choices of issues to pay attention to at once (March & Olsen, 1975); it is not an insignificant accomplishment to name the intention of allocating further attention to an issue for improvement.

[10] Much of Organizational Learning Theory was developed using statistical modeling (e.g. Cohen et al., 1972; Cyert & March, 1963; March & Simon, 1958), which helped the field understand major trends in organizational behavior but often left concepts passive, muddying who does what within organizational learning.

[11] Argyris (1976, 1977) describes the difference between two levels of learning – single-loop learning allows organizations to continue its current practices to maintain the status quo; double-loop learning is when organizations are able to question the premises of the status quo and take new action. The latter is the learning that pipelines demand.

Organizational Sensemaking scholars describe this initial step as an explicitly social process, highlighting that *noticing and naming* happens among groups, not individuals. They also describe the first step of the process as "noticing and bracketing" information from the environment as evidence that current practice is not unfolding as expected (Weick, Sutcliffe, & Obstfeld, 2005, p. 411). However, they specify the act of *naming* such noticed information in a team setting as what brings the issue for improvement into a team's collective attention, triggering further attention on sensemaking and improvement (Maitlis & Christenson, 2014; Weick et al., 2005). Weick and colleagues (2005) describe that "problems must be bracketed from an amorphous stream of experience and be labeled as relevant before ongoing action can be focused on them" (p. 415). When a team member notices discrepant information in the environment and uses it to name an issue that needs further attention – such as noticing that many second-year principals are leaving their roles in a district pipeline effort and naming that as an issue important to address to achieve principal pipeline goals – they create a possible case for collective learning and improvement.

Mining Information

Once an issue is collectively noticed and named as something to focus further attention on for improvement, teams progress in the process when they spend attention mining information to figure out what to do to. Theory defines *mining information* broadly: multiple members engaging in some way with information in the environment to clarify the current state, reflect, seek guidance, and/or decide what to do next (e.g. Feldman, 2000; Honig, 2008; March & Simon, 1993; Senge, 1990). Information, also broadly defined, can include but is not limited to: recent individual or group experience carrying out work; past experience; expertise in the form of books, articles, scholars, or colleagues; verbal or written feedback about recent action or

organizational needs; data about outcomes; or others' perspectives (e.g. Cohen et al., 1972; Honig, 2008; March & Olsen, 1975). Mining information includes two related concepts from Organizational Learning Theory – trial and error learning (e.g. Cohen et al., 1972; Levitt & March, 1988) and exploration (March, 1991a) – synthesizing the idea that this stage involves using attention to look inward and/or outward for ideas about what to do to address an issue named for improvement. Trial and error learning describes how people in organizations will always try to make sense of and draw wisdom from their experience (Levinthal & March, 1993). However, due to ambiguity, limited rationality, and other factors of complex organizations, interpreting such experience is not always straightforward and may not lead to decisions that move improvement (Levinthal & March, 1993; Levitt & March, 1988). Exploration suggests that in addition to surfacing and discussing one's own experiences with an issue, at this stage leaders may seek alternatives to the status quo, scanning their environment for ideas or evidence about what to do, often termed *search* (Honig, 2008; Levitt & March, 1988).

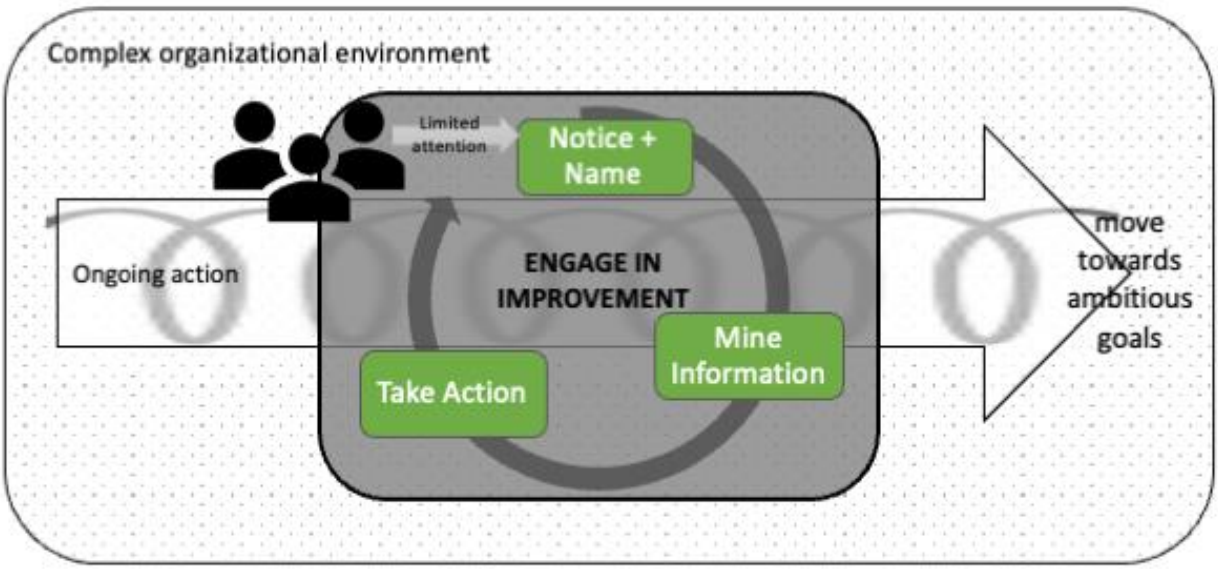
Mining information additionally involves collective *sensemaking.* Sensemaking is a social process of creating shared meaning about the current state of an organization to serve as a "springboard into action" about what's next (Weick et al., 2005, p. 409). Weick and colleagues (2005, p. 409) quote others to further describe the sensemaking process with a metaphor, "'Sensemaking is a way station on the road to a consensually constructed, coordinated system of action' (Taylor and Van Every 2000, p. 275).'" Mining information, then, means groups of people are "talking a situation into existence" (Weick et al., p. 413). By talking through experiences with an issue and/or working together to examine the environment for possible next steps, teams create shared meaning about a "plausible story" for their improvement towards their goals, rooted information about what has been happening (Weick et al., 2005).

Taking Action

The next stage of the process is when teams take action that somehow addresses the issue named for improvement, based on mining information. Organizational Learning theorists call this "incorporation," or when the results of mining information become encoded in the core routines or policies of an organization (Argyris, 1976; Honig, 2008; Levinthal & March, 1993). Some Organizational Learning scholars argue this is the crux of learning, such as how Levitt & March (1988) define organizational learning as "encoding inferences from history into routines that guide behavior" (p. 320). However, an initial action is rarely final, but rather part of a cycle. Honig (2008) synthesizes theory to describe that organziations engage in "retrieval" over time of the information they incorporate, often through an ongoing process of further search and incorporation, "to make sense of whether and how they should reinforce or change" their initial action over time (p. 646).

Figure 1

The Cycle of Engaging in Improvement in Complex Organizational Environments



Similarly, Organizational Sensemaking Scholars describe how sensemaking is a cycle of action and talking (Weick, 1995). After teams create a shared story about what's been happening, "action-taking generates new data and creates opportunities for dialogue, bargaining, negotiation, and persuasion that enriches the sense of what's going on" as organizations improve (Sutcliffe, 2000, as cited in Weick et al., 2005, p. 415-6; see also Stensaker, Falkenberg, & Grønhaug, 2008). Incorporating action, then, leads to new information to potentially notice and name for further improvement. Figure 1 depicts this full process of engaging in improvement towards ambitious goals as a cycle, demanding attention, within a complex environment.

Persisting in The Process of Improvement

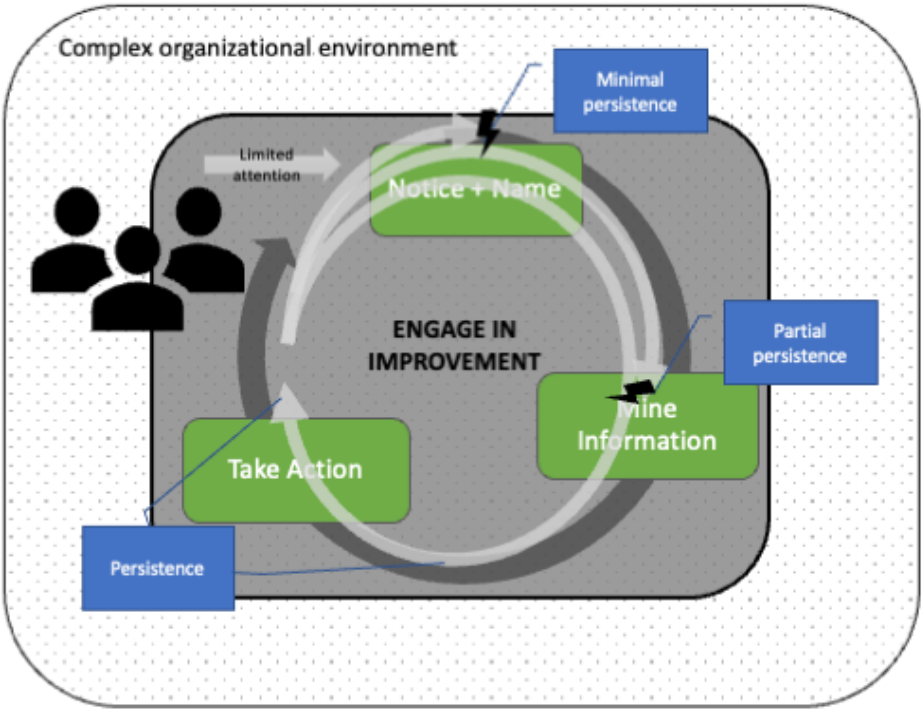
The challenge for leaders aiming to lead improvemnet in their organizations is maintainting attention on the process arrayed above, given the myriad other demands on attention leaders face in complex organizational environments (e.g. March & Olsen 1975). As noted, complex organizational environments and human limitations pose challenges to persisting in learning (e.g., Levinthal & March, 1993). Leaders' attention breaks down when they don't keep going in the process, turning attention to other pressing issues or becoming unable to figure out what to do next due to ambiguous information or other uncertain circumstances (March & Olsen, 1976). This can look like what I term *partial persistence,* when teams notice and name an issue and mine some experience about it but break attention before moving towards any different action. Attention breakdown can also happen if teams notice and name an issue but don't focus any further attention on mining information around it. I term this *minimal persistence.* Figure 2 depicts the patterns of persistence, indicating a bolt where attention breaks down in each pattern.

And while it seems like *persistence* – keeping going in the cycle toward action - would always be the ideal pattern for teams to improve their work, theory makes clear that too much

simultaneous change creates unmanageable instability (Levinthal & March, 1993; Levitt & March, 1988; March, 1991a; March & Olsen, 1975). In a multifaceted change effort like a principal pipeline, it is not ideal for teams to be actively improving everything all at once. Rather, an organization productively engages in learning when leaders persist in improvement in some parts of the organization while maintaining the status quo in others at any given point (Levitt & March, 1988; Lounamaa & March, 1987). March (1991a) describes this outcome as striking a balance between as exploitation - continuation of existing work, and exploration - experimentation with "the available repertoire of action alternatives" (Ocasio, 1997, p. 189).[12]

Figure 2

Patterns of Persistence



[12] When taken to extremes, scholars describe exploration and exploitation in terms of two kinds of "traps." *Success traps* happen when part of an organization engages in improvement and produces desirable outcomes but then stops exploration, trapped in exploitation, leading to sub-optimal work (Argyris & Schön, 1978; Levinthal & March, 1993; Pentland, Feldman, Becker, & Liu, 2012). *Failure traps* happen when exploration becomes the sole focus of work and hinder change by creating a limited ceiling for growth (Levitt & March, 1988; March, 1991a).

Organizational and Leadership Conditions for Persisting in the Process of Improvement

According to Organizational Learning and Organizational Sensemaking Theories, two main conditions influence the extent to which a team persists in the process of improvement: quality opportunities for sensemaking and the nature of the issue. In this section, I use concepts from both theories to define what those conditions are and elaborate on how those conditions operate to constrain and enable groups to persist in improvement.

Quality Opportunities for Sensemaking

I argue above that the process of engaging in improvement is at its core collective sensemaking among teams about issues noticed and named for improvement. However, Organizational Sensemaking Theory suggests that the quality of sensemaking opportunities shapes how sensemaking unfolds in ways consequential to if and how teams progress through the process. Both Organizational Learning and Organizational Sensemaking identify specific social and structural factors that contribute to the quality of the opportunity for sensemaking that I elaborate next: spaces and routines, and agency and sensegiving, respectively.

Spaces and Routines for Sensemaking. Having a *dedicated space for sensemaking* about a particular aspect of an organization's work is crucial to whether teams can engage in improvement. For example, progression through the improvement cycle is more likely to happen in "departmentalized" spaces (Levinthal & March, 1993). Departmentalization happens when organizations set up buffers between units and enact those environments separately, with specific spaces and people to spend attention on just one aspect of an organization. Departmentalization is one manifestation of simplification, which is a main way organizations enable learning in complex environments, creating buffers in space and time to focus attention (Levinthal & March, 1993). Departmentalization can help divert attention from complexity as a way to cope with

ambiguity, supporting learning within those separate environments (Levinthal & March, 1993; Levitt & March, 1988; Lounamaa & March, 1987). However, it can also limit the kind of information team members have access to, such as information in other units outside a departmentalized space (Levinthal & March, 1993). Organizational Sensemaking scholars have studied the facilitators and conditions of sensemaking (e.g. Maitlis & Lawrence, 2007; Rouleau & Balogun, 2011) and also found space to be key. For example, Maitlis & Lawrence (2007) found that regular meetings, ad-hoc meetings, and retreats facilitated sensemaking across three British orchestras.

In addition to dedicated spaces, *routines* within those spaces can support teams to progress through the cycle of improvement. Routines are repetitive, recognizable patterns of action, carried out by multiple actors over time to accomplish an organization's core work (Feldman & Pentland, 2003; March, 1999; March & Simon, 1958). Participants can embed parts of the cycle of improvement into their routines, such as examining feedback after every professional learning event or using a reflective protocol to surface individuals' experience with an issue, both of which support mining information.

Agency and Sensegiving. While space and routines can create structural opportunities for sensemaking and working through the process of improvement, what happens within those structures contributes more to the quality of those opportunities. The people who work within those structures shape how organizational spaces and routines unfold over time in ways that are consequential to how teams are able to persist through the cycle of improvement. (Feldman, 2000; Feldman & Pentland, 2003; Howard-Grenville, 2005). For example, Feldman and Pentland (2003) center individual *agency* – subjectivity, power, and ability to respond to present circumstances – in explaining how organizational routines can be a source of change and

learning in an organization, rather than a source of stasis.[13] Organizational Learning Theory holds that routines often operate as a way for organizations to create predictability and manage the status quo (e.g. Levitt & March, 1988; March & Simon, 1958). However, through their agency, individuals can carry out routines differently than those routines have been carried out in the past, creating opportunity for change and improvement (Feldman, 2000; Howard-Grenville, 2005). While Organizational Learning Theory suggests that individuals can use their agency to change organizational structures and routines[14], that theory doesn't further define the leadership that influences how sensemaking happens or to what end in a space. A concept from Organizational Sensemaking fills this gap, showing how leaders can use their agency to influence how sensemaking happens on their teams, towards particular goals: sensegiving.

Gioia and Chittipeddi (1991) coined *sensegiving* in their study examining sensemaking in the context of a strategic organizational change effort. This approach stood in contrast to much Organizational Sensemaking scholarship that centered on sensemaking in response to unexpected shocks to an organization (e.g. Weick, 1990, 1993, 1995). Gioia and Chittipeddi describe the strategic and intentional sensemaking that happens in a change effort as an iterative cycle of sensemaking and *sensegiving*, or individuals using their agency to influence what others pay attention to and how they understand it. More specifically, if sensemaking is teams' "meaning

[13] Feldman & Pentland (2003) distinguish between the "ostensive" and "performative" aspects of a routine. The officially stated routine, such as meetings agendas, is the ostensive aspect; how individuals carry out the routine, such what they say and do to enact the meeting agendas, is the performative aspect. By performing a routine differently over time, individuals can change the ostensive routine. This idea is rooted in sociology's Structuration Theory, particularly its distinction between structure and agency (Sewell, 1992)..

[14] Organizational Learning Theory typically suggests agency is granted through formal authority or power in an organization via a person's title, record of perceived success, and/or social positioning (Feldman, 2000; Howard-Grenville, 2005; Levinthal & March, 1993). Organizational Learning Theory further recognizes there *are* power differentials between members of an organization (e.g. Feldman, 2000; Howard-Grenville, 2005; March & Olsen, 1975) but does not contextualize those differences socio-historically. A discussion of how structural racism and patriarchy perpetuate men and White people into roles with more power and agency than women and people of color is outside the realm of this framework. Victor Ray recently connected organizational theory and race theory, arguing organizations are racialized (Ray, 2019). The subfield of Organizational Learning Theory remains largely race-neutral and would benefit from such criticality.

construction and reconstruction…[to] develop a meaningful framework for understanding the nature of [an] intended strategic change,*"* then sensegiving is what leaders do to "attempt to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality" (Gioia & Chittipeddi, 1991, p. 442*).*

I argue that the *sensegiving leadership* is a main factor in how teams are able to persist through the improvement process. A line of Organizational Sensemaking scholarship has developed to elaborate sensegiving, including identifying variations and moves individuals make when engaging in sensegiving (e.g. Maitlis, 2005; Maitlis & Lawrence, 2007; Rouleau, 2005; Rouleau & Balogun, 2011). There are two main categories of sensegiving leadership that create opportunities for quality sensemaking.

First, sensegiving involves *directing others' attention to an issue* and *setting up and facilitating conversations about that issue* (Maitlis, 2005). At a basic level, this means ensuring that an issue noticed and named for improvement stays on team agendas and in conversations. Leaders can further structure conversations to help groups interact with each other, discuss options, and/or surface shared or mismatched understandings about the issue (Rouleau & Balogun, 2011). Setting up such sensemaking conversations is part of this sensegiving move (Maitlis, 2005; Rouleau & Balogun, 2011). Rouleau and Balogun (2011) described part of sensegiving as "setting the scene," which goes beyond ensuring the structural time and space for sensemaking. Rather, leaders use contextual knowledge to intentionally poise these conversations, including knowing how to "identify, assemble, and mobilize relevant alliances through formats and forums that enable them to connect with the interests of these others" (Rouleau & Balogun, 2011, p. 973; see also Argote & Miron-Spektor, 2011). Setting the scene might look like inviting new people to a standing meeting, calling an ad-hoc retreat with specific

participants and aims, or connecting one-on-one with individuals in ways that meaningfully engage them in the work of improvement (Maitlis & Lawrence, 2007).

The second move at the heart of sensegiving is *supporting others' meaning construction,* or guiding others to think about their work in new ways within a change effort. This aspect of sensegiving goes beyond ensuring others are paying attention to improvement; here leaders are directly influencing others' "preferred definitions of organizational reality" (Gioia & Chittipeddi, 1991, p. 442) by supporting the creation of new, "intersubjective meaning" about that future state (Maitlis & Christianson, 2014, p. 66; see also Perrow, 1986).[15] Organizational Sensemaking scholars describe multiple moves leaders use to support others' meaning construction. These moves are largely language-driven, as organizational sensemaking happens through talking (Weick et al., 2005; March & Simon as cited in Perrow, 1986). Leaders use "the appropriate words in a specific context" to help others understand a change, drawing on context-specific sociocultural knowledge about their colleagues and the organization (Rouleau & Balogun, 2011, p. 974). Doing so often means using narratives or stories (Maitlis & Lawrence, 2007; Rouleau, 2005), symbols or evocative imagery (Gioia & Chittipeddi, 1991), or metaphors (Rouleau & Balogun, 2011). For example, Gioia & Chittipeddi (1991) described how a new university president used the evocative imagery of becoming a "Top-10 Public University" to frame his speeches, memos, and meetings about that "preferred definition of organizational reality" at a campus, which gave university staff opportunities make sense of the strategic change in guided

[15] A corollary concept from Organizational Learning theory suggests how crucial this aspect of sensegiving is. March & Simon describe "setting the premise" of decisions (as cited in Perrow, 1986) as a tool for change. Creating shared premises or intersubjective understanding is not easy but potentially transformative. Levitt and March (1988, p. 324) cite many others when they argue that shifting mental models is a "powerful" way to support organizational change: **"**[The] structure of meaning is normally suppressed as a conscious concern, but learning occurs within it. As a result, some of the more powerful phenomena in organizational change surround the transformation of givens, the redefinition of events, alternatives, and concepts through consciousness raising, culture building, double-loop learning, or paradigm shifts (Argyris & Schön 1978, Brown 1978, Beyer 1981)."

ways. Organizational Learning further suggests the use of tools to support construction of shared meaning, such as frameworks, standards, goals, or plans. When used consistently over time, tools can function as cognitive anchors or symbolic constructions that help create meaning, shared visions of change, and/or schemas for improvement (e.g. Argyris & Schön, 1978; Feldman & March, 1981; Gioia & Chittipeddi, 1991; Levitt & March, 1988; March, 1991a)

Sensegivers can enact these moves – directing others' attention and supporting others' meaning construction – in a variety of settings and about a variety of things. I argue in this framework that sensegiving is most likely to support change when directly about an issue noticed and named for improvement. In a pipeline effort, that issue might be about a piece of the pipeline or an issue of alignment across pieces. A very small subset of Organizational Learning Theory describes how leaders can support alignment when they *coordinate* learning across multiple departments. Lounamaa and March (1987) tested how learning in two organizational departments affected each other. They found a coordinator paying attention to both departments' learning helped each team understand how to heed the other's work. Consistent with this framework, coordinating leadership is sensegiving, as it supports meaning construction for aligning traditionally separate work in an organization.

Finally, while ideas from Organizational Learning suggest that those with hierarchically higher positions are more likely to exercise agency to lead change, the Organizational Sensemaking scholarship rooting this section suggests that both leaders and team members in a context engage in both sensemaking and sensegiving (Gioia & Chittipeddi, 1991; Maitlis, 2005; Maitlis & Lawrence, 2007). Maitlis's (2005; 2007) scholarship in particular distinguishes how motivations for sensegiving may differ based on positionality; important here is that it is not only those who lead a team that can direct attention or influence meaning construction. Gioia &

Chittipeddi make clear that strategic sensemaking is "cycles...of understanding and influence" (1991, p. 443) among all members of a team as they negotiate collective meaning.

Nature of Issues

The other major condition influencing how teams engage in improvement concerns the nature of the issues leaders notice and name for improvement. Organizational Learning and Organizational Sensemaking Theories suggest there are two aspects of this condition: level of *interdependence* and what I call the *core concern.*

First, Organizational Learning Theory suggests that the *level of interdependence* of an issue named for improvement acts as a condition for persisting in improvement. For example, Levinthal & March describe the "decomposition of problems" as another form of organizational simplification that organizations use to cope with ambiguity and support learning (1993, p. 99). Organizations decompose problems when they treat complex, interdependent problems as separable. Often, this looks like buffering interactions to address parts of the problem separately or to only address part of a problem. For example, in a district where novice principal turnover is a complex problem, decomposing that problem might look like focusing only on creating partnerships with a university preparation program to address new principal readiness but not addressing other parts of the problem, such as the quality of novice principal mentoring, placement, and work conditions. As with departmentalization, decomposing problems averts attention from complexity but enables learning around a discrete issue. Teams taking up issues that are decomposed and simplified, rather than interdependent, may be more able to mine information about and maintain attention towards action improving it.

In addition to level of interdependence, issues named for improvement that are about particular matters may be more or less likely to support persistence in improvement. I call this

the *core concern.* For example, theorists from both Organizational Learning and Organizational Sensemaking have found that individuals bring their own preferences to bear on what they attend to in their work (e.g., Feldman, 2000; Howard-Grenville, 2005) and are more likely to engage in sensemaking around issues they have meaningful connections to (Maitlis, 2005; Maitlis & Lawrence, 2007). For example, Maitlis and Lawrence (2007) found that stakeholders were motivated to take responsibility for sensegiving when they felt an issue was important to their work but didn't perceive that someone was taking the lead on addressing it. Related, both theories describe how organizations spend much attention creating shared accounts of their own history as a way of stabilizing the organization (Levitt & March, 1988; Weick et al., 2005). Issues that are particularly threatening to or consistent with organizational narratives or past successes may be more readily taken up for improvement to preserve organizational identity, for example (Levinthal & March, 1993).

Figure 3

Conditions Impacting Engagement in Improvement

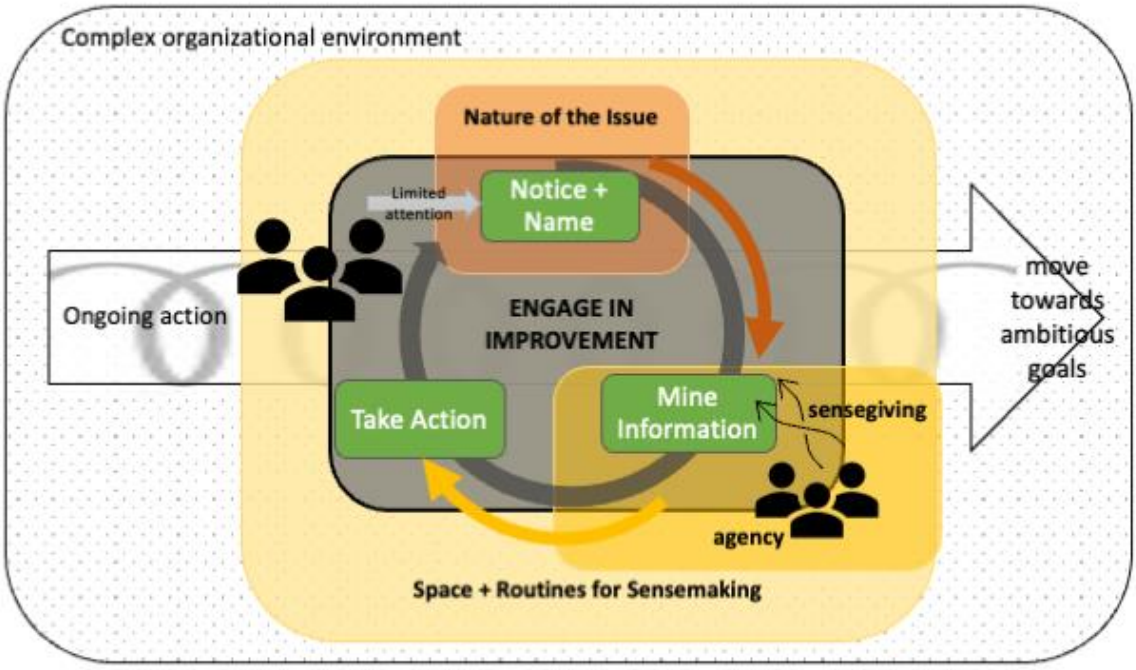


Figure 3 shows the complete framework, including how the two conditions influence improvement. The transparent boxes represent where the conditions intersect with the process. The yellow boxes represent the opportunities for sensemaking condition. The bigger box represents the structural opportunity for sensemaking by bounding the process of improvement into a dedicated space within the broader environment; the smaller yellow box shows how sensegiving leadership influences primarily how teams mine information during the process, likely influencing whether they move forward toward action. The orange box overlaps with the notice and name stage of the process, as the level of interdependence and core concern likely influence if and whether teams persist to mine information and beyond.

Summary: Leading and Persisting in Improvement in Complex Organizations

In this framework I've shown how Organizational Learning Theory and Organizational Sensemaking Theory suggest people within complex organizational environments can engage in an improvement process that keeps them persisting towards their ambitious goals. Persisting in improvement means sustaining attention on figuring out what to do about issues named as discrepant between current practice and those ambitious goals; it means multiple leaders across teams leading others in reflection and discussion that sustains collective attention on change and creates new shared understandings about a particular "preferred redefinition" of the status quo; it means taking action accordingly. Aspects of organizations and humans interact to create conditions that often frustrate change; however, leaders can support teams to persist in the process of improving by creating opportunities for sensemaking around manageable issues.

Implications for This Dissertation

Prior studies of principal pipeline initiatives do not conceptualize the kind of change or leadership that implementing pipelines demands, nor do they describe the challenges of the

organizational terrain in which pipeline efforts happen. Rather, studies of pipelines for example focus on describing program and implementation details, such as detailing what the four components of principal pipelines looked like across six districts at different points in time (e.g. L. M. Anderson & Turnbull, 2019; Turnbull et al., 2016). Other studies take an economic frame to place value on pipeline efforts to speak to the interests of districts (Gates et al., 2019; Kaufman et al., 2017). In short, existing pipeline literature doesn't articulate what daily work may to lead to the ultimate equity goals of pipelines, nor why.

To address these gaps, I take direction from other studies of complex change efforts in school districts to frame my study of pipelines with a robust theoretical framework rooted in Organizational Learning Theory and Organizational Sensemaking Theory. I argue that implementing a pipeline effort can productively be viewed as *leading others to sustain attention on improvement* within and across the parts of the effort, amidst complex conditions. I ask the following, revised research questions considering the framework set forth in this chapter:

1. How and to what extent do district leaders persist in improvement across a principal pipeline initiative?
2. What conditions mediate patterns of persistence? In particular, how do the opportunities for sensemaking and the nature of issues constrain and enable pipeline teams to persist in improvement in some instances but not others?

Chapter 3: Research Design and Methods

This dissertation is based on the idea that leading systemic change efforts like principal pipeline initiatives is promising but extremely challenging, given the complex environments and other demands on educational leaders' attention articulated in my conceptual framework. I argued in the last chapter that district leaders persist in engaging in improvement when they sustain attention on issues they notice and name about how their current work within a pipeline effort is inconsistent with their ambitious goals. Accordingly, I conducted an embedded qualitative case study to examine how teams of leaders engaged in the process of improvement over time across a principal pipeline initiative in one district. In this chapter, I explain my rationale for a qualitative case study methodology, outline my sampling criteria for my research site and participants, and explain my methods for data collection and analysis. I conclude with a discussion of the benefits and limitations of and this study design and how my social and positionality impacted my choices.

Rationale for Study Design

This study examined a complex change process by investigating leaders' daily work, over time, within a particular context. Qualitative research provided apt methods for developing a deep understanding of both leaders' work and the specific context over time (Glense, 2011; Merriam & Tisdell, 2015). Specifically, this study aimed to generate potentially generalizable theories about how school district leaders lead and persist in improvement towards ambitious goals in complex environments. In particular, this study's focus on the leadership of multi-faceted policies, like principal pipeline initiatives, is unique - policies that likely contain multiple strands or cases of improvement at once, in this case about systemic principal quality.

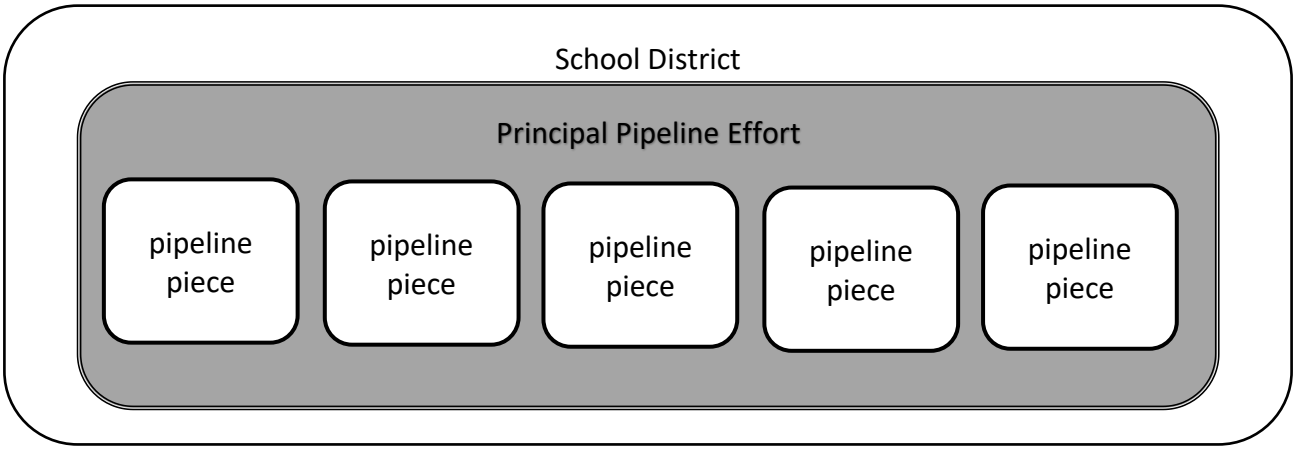
This study pursued knowledge about the leadership of complex change by examining the case of a principal pipeline initiative in one school district. Previous research on pipelines has focused on cross-case themes in implementation (e.g. Turnbull et al., 2016; Turnbull, Riley, Arcaira, et al., 2013) and pipeline impact (Gates et al., 2019). My study, guided by my framework's focus on team-level, rather than organization-wide practices (Argyris & Schön, 1978; Feldman & Pentland, 2003; Gioia & Chittipeddi, 1991), examines the daily organizational and leadership practices that support pipeline implementation in a single organizational context. Embedding my study in a single organizational context allowed me to narrow my focus to the fine-grained practices of implementing a change effort and shine light on how varying settings within one organization influence such practice and change. In this study, the school district represents the organizational environment and the principal pipeline represents a case of a multifaceted change effort taking place in that broader "real life context" (Yin, 2006). In addition to the pipeline as a whole, each "piece" of the pipeline initiative represents an aspect of the change effort that leaders carry out and improve over time.

To study the multiple dimensions of change within one pipeline initiative, then, I used an embedded case study design (Scholz & Tietje, 2002; Yin, 2018). My framework suggests that engaging in improvement is a process that takes place within many aspects of a change effort (e.g., Levinthal & March, 1993; Lounamaa & March, 1987). Therefore, I identified each implemented piece of the pipeline effort as a site of potential improvement, embedded within the broader case of the principal pipeline effort as a whole, which also is a site of improvement over time (see Figure 4). In taking into consideration both the parts and the whole, this embedded design allowed me to examine change on both levels. It also allowed me to examine the conditions my framework suggests support any case of improvement, such as sensegiving

leadership and the nature of the issues engaged with, in relation to each other, illuminating similarities and differences between what supported improvement in different aspects of the same change effort in the same district context.

Figure 4

Embedded Cases Within a Single District Case Study



Unit of Analysis

The primary unit of analysis of this study is *cases named for improvement.* The process of improvement set forth in my framework names the first step of improvement as when leaders *notice* information in their environment that suggests a discrepancy between current and desired practice and *name* that issue in a collective space to bring it to a group's attention. I counted a *case named for improvement* if one or more leaders named an issue in a collective space at least three times. This decision rule distinguished cases named for improvement from one-off observations or ideas that leaders may have named; the three times was a barometer for an issue holding at least initial attention. My analysis pinpointed the times when leaders first *named* an issue in collective spaces and then "followed" each issue through the process of improvement until if or when leaders incorporated action or leaders' attention broke down. I also examined the

conditions surrounding each case, both in each piece of the pipeline and in the effort as a whole. Doing so illuminated dynamics of the full initiative, or what Yin (2018) calls the "larger unit of analysis" or the "original case" (p. 53), vital to synthesis of an embedded case study.

Sampling cases named for improvement required me to gather and connect data from multiple spaces of the pipeline initiative over time. My framework pinpoints that engaging in improvement is a group process (Argyris & Schön, 1978; Weick et al., 2005), so I focused my data collection on spaces where groups came together to plan for and carry out the principal pipeline and were likely to notice and name issues about current their practice, such as recurring meetings. Issues were often noticed, taken up, and acted on (or not) in the same space over time; however, sometimes the process happened across many spaces and levels of the pipeline. To capture how concerns and decisions about pipeline practice were carried through the process of improvement, I gathered data consistently and frequently over a span of a full calendar year, including the entire 2017-2018 school year.

Site Sampling

To study the leadership and improvement of a principal pipeline initiative, I selected a school district that met a set of sampling criteria that suggested the site would provide a case of a such change. Table 1 summarizes my selection criteria. First, I chose a district that already had major pieces of a pipeline initiative in place,[16] since my framework focuses on persisting in improvement once action is already underway toward ambitious goals. Second, I chose a site that had been working on the pipeline effort for at least five years, similarly so that it was likely I would see the kinds of ongoing action and leadership it takes to sustain, improve, and align,

[16] At the time of site selection, the Wallace Foundation set forth four main domains of a pipeline: leadership standards, pre-service learning, leader hiring and placement, and in-service support and evaluation. As a result of their PPI, they have added Principal Supervision, Leader Tracking Systems, and Systemic Support as three additional domains.

rather than design and establish, a pipeline. Further, I sampled for likeliness that leaders would be focused on both improving and aligning those pipeline pieces, based largely on how leaders spoke about their work in initial interviews. Third, I chose a district large enough to have multiple leaders dedicated to leadership development both to indicate dedication to the pipeline effort and to provide clear participants for my study. The primary indicator of this criterion is the existence of a "leadership department" in some form, consisting of a team focused on developing leaders. Additionally, I used district size as an initial marker, considering "midsize to large" districts with at least 25,000 students that would likely have leadership departments.[17] Fourth, since I am interested pipelines as district initiatives that hold promise for addressing inequitable school leadership, I chose a district with an adopted racial equity policy or department and/or stated goals of racial equity, aiming to eliminate racialized disparities among student populations. I also sought a district with pipeline leaders who spoke of leadership quality as a lever for educational equity.

Since principal pipelines are not yet the norm across school districts, using these selection criteria is what Patton (2015) calls "intensity sampling," as studying any district implementing a pipeline initiative provides an information-rich case of the kinds of complex change and change leadership such an initiative demands. However, within all districts attempting pipelines, I chose to use "typical sampling" for this study in order to uncover what average districts – those without grant funding or those not recognized as model pipelines – do to implement such ambitious change focused on leadership quality (Palinkas et al., 2015). In choosing a "typical" site, I aim

[17] The National Center for Education Statistics does not have a strict classification for "large," "midsize," or "small" districts and instead classifies districts in relation to their locale size rather than enrollment. However, the 100 largest school districts in the U.S. have at least 44,000 students, and the top two enrollment size bands reported are typically "100,000+" and "25,000-99,999." For the purposes of this study, I consider any district in a large city's metropolitan area with enrollment around 25,000 as a "large or midsize urban district."

that lessons gleaned from this study are more likely to be generalizable to other districts trying to do such challenging work on their own.

Table 1

Site Selection Criteria

Criterion	Indicator(s)
1. Had a pipeline effort	Had major pieces of pipeline established (i.e., leadership standards; pre-service, novice, and veteran supports; strategic hiring)
2. Pipeline effort likely to be continually improving and aligning	Had been working on pipeline effort for over five years; spoke of working on improvement and alignment
3. Had set of leaders dedicated to pipeline work	District was at least mid-sized (>25,000 students); district had "department of leadership"
4. District had stated commitments to racial equity	District had stated goals and/or policies and/or a department focused on racial equity; pipeline leaders spoke of leadership development as lever for equity

Mountain City Public Schools

Mountain City Public Schools[18] is a mid-size school district, serving approximately 50,000 students in approximately 100 schools. Mountain City Public Schools (MCPS) is located in a major metropolitan area on the West Coast of the United States. The district serves a racially, socioeconomically, and linguistically diverse population. At the time of my study, 15% of students in the district identified as Asian, 15% identified as Black, 10% identified as Latinx, 10% identified as two or more races, 1% identified as Native American or Native Hawaiian, and

[18] Mountain City Public Schools, as well as all other names and titles of people and programs are pseudonyms. I use these pseudonyms throughout this dissertation to protect district and leader anonymity.

45% identified as White.[19] Approximately 35% of students were federally identified as "low income," approximately 15% were identified as English Language Learners, and students in the district spoke about 150 different languages at home. Like an increasing number of districts along the West Coast, Mountain City Public Schools had a board-adopted Racial Equity Policy and official district-wide goals focused on ending the persistent "gaps" in performance and opportunity between White students and students of color – gaps that in this district exist both within schools and between schools across the district's historically segregated neighborhoods.

Mountain City Public Schools met all my other search criteria as well, making it an ideal setting to study pipeline leadership. I learned in exploratory interviews prior to site selection that leaders in the district had been working on the principal pipeline since 2011, six years prior to the start of my study. They had established to various degrees all the major pieces of a principal pipeline initiative, including district-led support across a principal's entire career, and district-tailored principal standards. They also had gradually created a Department of Leadership, hiring more people dedicated the pipeline over time. In an exploratory interview, the head of the department described that such continued "department building" was a goal for the 2017-2018 school year and planned to hold regular full department meetings focused on aligning their work.

The Principal Pipeline Initiative: Mountain City Leads

Mountain City Public Schools had five major elements of administrator support in place: pre-service programming for assistant principals (APs) and administrative interns, administrator hiring and placement, novice principal support, monthly all-leader support, and principal supervision. They collectively called their pipeline effort "Mountain City Leads." Within each

[19] These percentages are rounded to the nearest 5% and do not add up to 100% to further maintain site anonymity.

pipeline piece, there were typically more than one program or component. Table 2 summarizes the principal pipeline effort in Mountain City.

Table 2

Mountain City Leads Components in 2017-2018

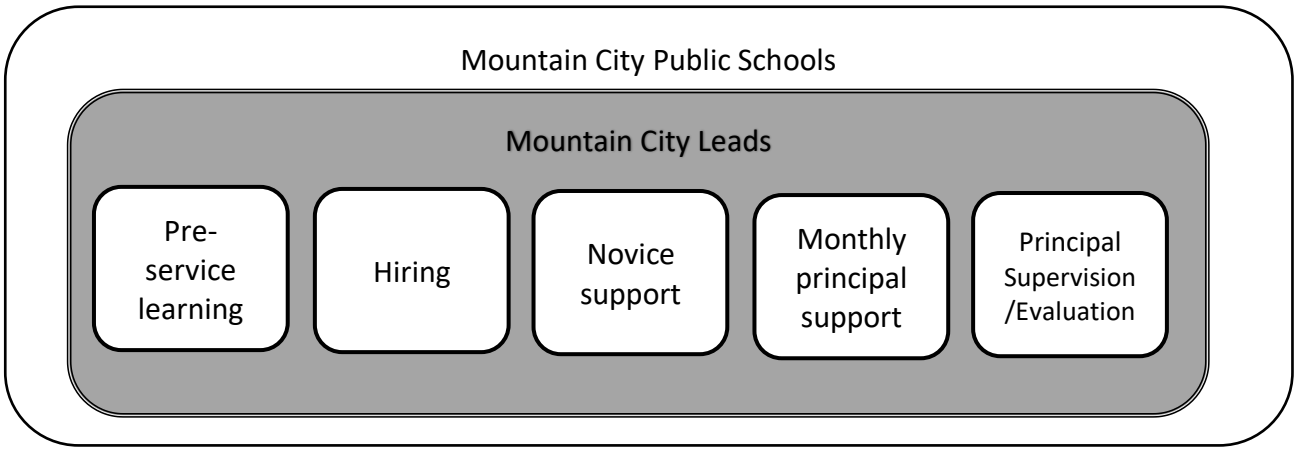
Pre-Service Support	Administrator Hiring + Placement	Novice Principal Support	Monthly All-Leader Support	Principal Supervision
Monthly **Intern Institute** for principal interns in MCPS completing their preparation programs Bi-weekly **Assistant Principals' Advancement Program** (APAP) for APs aiming to move to the principalship soon Monthly **all-AP Learning Days** (APLDs)**,** mirroring the monthly support principals receive	Principal Hiring: o Paper **screening** o Short **interviews** into "pool" o **Community hiring teams** at schools interview, decide on top candidates o **Task-based interviews** and/or **site visits** to see leader practice AP hiring: o Paper **screening** o **Interviews** and **selection** at school sites	Monthly **Novice Principals' Academy** meetings for principals in years 1-3 of the principalship **1-1 coaching** support to all principals in the Novice Principals' Academy *Novice Principals also received the supports at right.*	Monthly, day-long **Principal Learning Days** (PLDs), professional learning for all district principals **Mountain City Summer Summits,** extensions of PLDs that happened for five days during the summer	Principal supervisors led **Principal Learning Communities** (PLCs) of 4-6 principals that met 1-2 times/month Principal supervisors provide **1-1 support to principals** on more of a case-by-case basis. Principal supervisors conduct **formal evaluations** of principals

As noted, the pipeline in MCPS had started six years prior to my study when John, the current Chief of Leadership and head of the Department of Leadership, was hired out of his principalship to serve as a grant-funded coach for principals on improvement plans. Through his experience in that role, he began to experiment with what it could look like to keep principals from being on improvement plans in the first place by supporting principals more intentionally in

their first years on the job. In doing so, he began working on what became the Novice Principal Support programming. Between 2011 and 2017, John and others worked to establish or re-vamp all programming and practices in Table 2. For the sake of this study, each piece of the pipeline, with its history in relation to yet distinct from the other pieces, provided a potential embedded case where continuous improvement might take place, in addition to the ongoing improvement and alignment of Mountain City Leads as a whole. See Figure 5 for a depiction of the embedded cases in my study.

Figure 5

Embedded Cases in the MCPS Pipeline



Participant Sampling

I sampled participants based on their participation in leading the pipeline. I sought participants who planning for and carrying out the activities described in Table 2 as part of their main work. My study included nine main participants, as shown in Table 3, and several peripheral participants. Each main participant was involved in at least two of the teams or groups that worked together to implement Mountain City Leads.

Table 3

Main Participants: Department of Leadership

Name	Role	Background and demographics	Teams		
John	Chief of Leadership	White, male. Third year in role. Had spent entire career in Mountain City as student, teacher, principal, Novice Principal Coach, then Chief of Leadership. Had a doctorate.	Principal Supervisor Team		Principal Learning Day (PLD) Team
Liz	Principal Supervisor	White, female. Sixth year in role. Had spent entire career in Mountain City as secondary teacher, principal, principal supervisor. Parent of MCPS students.			
Nicole	Principal Supervisor	Black, female. Fifth year in role. Had spent nearly entire career in MCPS as student, secondary teacher, principal, and principal supervisor, with some years as an AP in nearby district. In doctoral program.			
Grant	Principal Supervisor	Asian, male. Fifth year in role. Had spent entire career in MCPS as an elementary teacher, principal, and principal supervisor. In doctoral program.			
David	Principal Supervisor	White, male. Fifth year in role. Had spent entire career in MCPS as a secondary teacher, teacher leader, principal, and principal supervisor. Parent of MCPS students.			
Esther	Principal Supervisor	Asian, female. Second year in role. Had spent most of career in nearby district as an elementary teacher and AP and four years in MCPS as a principal. In doctoral program.			
Marí	Novice Principal Coach	Latina. Second year in role. Had spent career in both MCPS and nearby district as an elementary teacher and AP and as a secondary principal. Parent of MCPS students. Had a doctorate.	Pre-Service Team	Novice Coach Team	
Barbara	Novice Principal Coach	White, female. Third year in role. Had spent most of career as teacher and principal in a different state. Was elementary principal for four years in MCPS before this role.			
Peter	Program Director	White, male. Fourth year in role, first year full time. Had spent career teaching in K-12, in education research, and as a university professor. Parent of MCPS students. Had a doctorate.			

Main Participants

The main participants in my study were the district leaders whose job description was to carry one or more aspects of work detailed in Table 2. Since it wasn't clear at the outset of the study who led such work within the pipeline, I used snowball sampling (Patton, 2015), asking the Chief of Leadership about whose work I would observe if studying the full pipeline. Table 3 shows the nine leaders who became the main participants in this study. These leaders, along with their four senior administrative assistants, comprised the Department of Leadership.

The Department of Leadership was largely split up into four overlapping teams. The Principal Supervisor Team focused on principal supervision, evaluation, and hiring; the Pre-Service Team focused on pre-service programming for rising principals; the Novice Coach Team focused on individual and group programming for principals in their first three years on the job; and the PLD Team focused on monthly all-principal "Principal Learning Days" (PLDs). The Principal Supervisor team included John and five Principal Supervisors (Supervisors): Liz, Nicole, Grant, David, and Esther. The Pre-Service Team included Peter, Marí, and Barbara, who also comprised the APLD Team, alongside several Assistant Principals. Just Marí and Barbara made up the Novice Coach Team. All nine leaders were members of the Principal Learning Day Team (PLD Team), a large team made up of the Department of Leadership, principals, and other central office leaders who designed and carried out the Monthly PLD sessions.

Other Participants

In addition to the nine Department of Leadership leaders, several other individuals were peripheral participants in my study. There were approximately a dozen principals and assistant principals, a half-dozen other central office leaders, and four senior administrative assistants who were involved with leading the pipeline. For example, there were seven principals and about six

central office leaders on the PLD Team, and there were five assistant principals on the APLD Team. While I wasn't examining their leadership in the same close ways as those whose main work it was to lead the pipeline, these other participants often engaged in leadership during meetings, conversations, and events about the pipeline. Where something these leaders said or did is part of data I use in this dissertation, I refer to these leaders as their title (e.g., "Principal").

Event Sampling

To study the leadership and improvement of the MCPS principal pipeline, I sampled multiple events across the pipeline carried out by my main participants. As noted above, I prioritized events where teams discussed and planned for how they would carry out the main work of the pipeline listed in Table 2. Most of these events where what I called *planning events.* Planning events typically were meetings that took place at regular intervals: weekly, bi-weekly, or monthly. I attended as many of each meeting as possible so that I would likely see how conversations, ideas, and decisions about improvement carried through a group's attention from meeting to meeting. Table 4 shows the planning events I regularly attended.

Table 4

Planning Events within Each Pipeline Piece

Pre-Service Support	Administrator Hiring + Placement	Novice Principal Support	Monthly All-Leader Support	Principal Supervision
Pre-service Team meetings, weekly or bi-weekly APLD planning meetings, monthly	Principal Supervisor Team meetings, twice weekly	Novice Coach meetings, weekly*	PLD Team meetings, bi-weekly PLD sub-committee meetings, as needed	Principal Supervisor Team meetings, twice weekly

*Note: Novice Principal Coach meetings never got off the ground during my study because one coach, Mari, transitioned jobs early in the year. For the rest of the year, the other coach, Barbara, planned alone.

In addition to the planning events that comprised most of my data, I also sampled multiple aspects of the leadership support in action within each pipeline piece. These *pipeline events* were instances of the programming listed in Table 2. For example, I sampled eight Principal Learning Days and two Assistant Principal Learning Days, four Assistant Principal Academy and Intern Institute sessions, one Principal Learning Community, five Summer Summit days, and two hiring events. These events primarily provided data about the context and content of Mountain City Leads vital to my understanding of the "real life context" of MCPS (Yin, 2006). These events also provided data about leaders carrying an idea about improvement into action and/or allowed me to have shared experience with the participants on which they would reflect in a planning meeting.

Data Collection

To study how leaders attended to cases of improvement across the pieces of their pipeline, I used data collection methods that allowed me to record leadership practice and engagement in improvement over time. A year-long study design permitted me to gather in-depth information about each case of improvement such that I could see patterns of leadership, attention, and interaction over time, while also still being a manageable length for a dissertation study. After initial exploratory interviews in June 2017, I collected data for a full year: from the first Summer Summit event of the 2017-2018 school year in August 2017, through that parallel Summer Summit event in August 2018.

As data sources, I primarily used observations, along with interviews and artifacts. Using observations as my primary source allowed me to directly see, on a week-to-week basis, what my participants did to plan for, carry out, and improve each pipeline piece. Interviews provided data on how individual leaders perceived the work of the pipeline they led, how they understood

the effort as a whole, and how they hoped to keep improving the work. Artifacts, such as emails and photos of meeting materials provided an additional record of actions, ideas, and plans at different points in time within each case. Together, the observation, interview, and artifact data allowed for triangulation of words and actions to create a complete-as-possible record of the work and improvement that happened over time across the MCPS pipeline (Glense, 2011; Merriam & Tisdell, 2015).

Observations

Observations were my primary data collection method. I used observations to capture events, leaders' actions, interactions, and participants' verbal and physical practice while carrying out and improving each piece of the pipeline (Lofland & Lofland, 1995). In total, I observed 81 discrete events that totaled over 192 hours of observation. I observed two primary kinds of events within each case. As noted above in Table 4, I prioritized observing the regular *planning events* of each pipeline piece (i.e., the Principal Supervisor Team, the Pre-Service Team, and the PLD Team meetings). I also observed several *pipeline events*. My observation practice looked slightly differently at the two kinds of events.

During my main data collection in pipeline planning events, I focused on capturing the actions, speech, and interactions of my main participants involved in the meeting. In meetings that included more than 6 people (e.g. PLD Team meetings), I primarily collected data through verbatim notes (Rainey, Venkateswaran, & Honig, 2010). I captured as much as possible the leaders said during the meeting, verbatim, and supplemented with low-inference description, particularly during times when I did not catch exact speech or the main activity of the meeting was not speech. In smaller meetings with 2-6 participants (e.g., Principal Supervisor Team meetings and Pre-Service Team meetings), I often audio-recorded to more completely capture

conversations and supplemented those audio-recorded transcripts with low-inference notes about things audio recordings do not capture, such as participant actions and information about the environment, like the setup of the room. In both smaller and larger meetings, I typically sat at the main table with the participants, which allowed me to hear well all conversation.

During observations of principal pipeline events, such as Principal Learning Days and Assistant Principal Advancement Program sessions, I typically sat to the side or the back of the room, in a position where I could see the PowerPoint screen. I engaged in verbatim note-taking quite similar to what I did during planning events. At pipeline events, which were attended by many school leaders, I focused on the language, actions, and interactions of my main study participants leading the event (i.e., how Principal Supervisors were leading learning at a PLD). If other main participants were present but not leading the event, I aimed to sit with or near them when possible to capture their participation in the event as well.

Whenever I took verbatim notes, I cleaned the notes as soon as possible after the meeting to create as accurate a record as possible, usually within 48 hours (Rainey et al., 2010). In instances that I used audio-recording, I carefully labeled and saved all audio-recorded meeting files in a master data spreadsheet and had them transcribed at once at the end of my data collection period.[20] Once transcribed, I read and listened through to further clean each transcript and correct for transcriptionist errors. This was especially important in meetings with multiple leaders where speakers' names were mis-attributed.

Interviews

In total, I conducted 36 formal and informal interviews across the year with my nine main participants. Primarily, I conducted two main rounds of formal, semi-structured interviews with

[20] I saved transcription to the end primarily for funding reasons.

each main participant, one in the winter and one at the end of the year. In that first round of interviews, I gathered background information on each leader's career and role, asked them to describe what their daily work entailed throughout a typical week carrying out principal support, and asked them about their perspective on the strengths and areas for improvement in the MCPS pipeline. This information shed light on aspects of pipeline work that I didn't see in the formal spaces and on the similarities and differences in leaders' perspectives on and priorities in their work. These first interviews lasted between 50 and 75 minutes. At the end of the year, I conducted similar semi-structured interviews. Questions focused on their definitions of the principalship and equity-centered leadership in MCPS, what they thought went well and not as well in the pipeline over the course of the year, and their perspectives on the planning meeting interactions I observed them in all year. About the latter, to probe about the main spaces of sensemaking in the MCPS pipeline, I asked about how they felt in different meetings, how they described the purpose of each meeting, and how they would give feedback to the facilitator of each meeting. These interviews lasted between 45 and 105 minutes. I audio-recorded each interview, had it transcribed, and cleaned up the transcript for accuracy. See Appendix A for the semi-structured interview protocols I used for the two rounds of formal interviews.

In addition to formal interviews, I conducted several kinds of informal interviews throughout the year. The first set were informal, exploratory interviews at the very beginning of the year first with the Chief of Leadership, and then at his suggestion with the Program Director and the Novice Principal Coaches. These conversations helped me gain initial understanding of how Mountain City Leads took shape in real life, learn about the various teams, and get a sense of the meetings and events to attend. Since these were mostly information-gathering before my study officially commenced, I took informational notes but did not record these conversations.

I conducted a second kind of informal interview whenever possible across the year, ten in total, to gather information on leaders' intentionality and reflections right before and after particular meetings they were leading. Before meetings, I asked the leader their main goals of the event and how they planned to lead for those goals. If possible after, I asked them to reflect on how things went. Sometimes, I was able to audio-record these interviews; other times, they were more informal and I audio-recorded or wrote a summary memo immediately after the interactions; even other times, these conversations happened via email.

In a third kind of informal interview, I sometimes asked a leader to fill me in on what happened in a meeting or part of an event that I was not able to attend. In these interviews, I asked them to describe who was present, the main topics of conversation, and their perspective on whether the goals of the meeting were met. These few check-ins, just six in total, allowed me both to gather some data on events I couldn't attend and also gather data about the interviewee's perspective on those events.

Artifacts

Over the course of the year, I collected 56 separate artifacts documenting contextual conditions, collective processes or ideas generated during events, and materials that anchored pipeline sessions or meetings. To develop understanding of the broader district environment in which the pipeline was operating, I used district documents, such as those articulating district goals and the district strategic plan, as well as PowerPoint slides from the times the Superintendent addressed MCPS principals at Principal Learning Days. I used other artifacts as part of my observation practice to supplement my transcripts and field notes and capture leaders' work more-fully. For example, I often took photos of lists or drawings leaders made on whiteboards during meetings, of agendas, and of PowerPoint slides that anchored discussion.

Other times I had PowerPoint access digitally. I also captured via photo other objects relevant to my study, such as fliers advertising the pipeline and objects participants created or referenced me during interviews, like drawings or books.

Data Analysis

I began analysis of my data concurrent with the data collection process. To aid the process of managing and analyzing my data, I created a spreadsheet to document every piece of data as I collected it, allowing me to keep track of the large amount of data I collected as well as track which cases I had more and less data about to adjust my collection accordingly. During data collection, especially immediately after events and while I was cleaning my data, I also established a practice of regular memoing. I wrote some memos and saved them with my data; others, I audio-recorded after an event and later transcribed. These memos explored emerging trends in what I was seeing and also kept an audit trail about decisions I made regarding next study steps (Merriam, 2009). Organizing and memoing helped familiarize me with my data throughout the year of data collection.

After I collected and cleaned all my data, I uploaded it into NVivo 12 analysis software, during which I engaged in an initial round of reading and coding. I started with a set of descriptive codes to initially organize, classify, and make sense of my data (Miles, Huberman, & Saldaña, 2014). For example, when coding observation notes, I coded the document for which case the event was part of (e.g., "principal supervision" and "novice support") as well as if it was associated with a "pipeline activity" or a "planning meeting." Within observation transcripts, I marked excerpts of the data with other base descriptive codes, such as names indicating who was participating and when portions of meetings focused on different programs within the pipeline. For example, I used codes to divide the portions of a Pre-Service Team meeting into where

Intern Institute and APLD were discussed, respectively. This practice also showed initial intersections of the pipeline, such as when PLD was discussed during PS Team meetings or vice-versa. After this first round of coding, my data were organized into cases of the pipeline pieces, grouping the work of each pipeline piece. Data were also organized by leader and role, grouping each leader's work across pipeline pieces.

My main data analysis then focused on finding cases of improvement, understanding how leaders engaged in the process of improvement, and pinpointing conditions that influenced the process. I did this through rounds of analytical coding, matrix-making, and memoing. Appendix B contains my base and analytic coding schemes, organized by research question. The matrices and analytical memos helped me start to array claims and evidence to answer my research questions.

In my first main analysis, I used analytic codes derived from my framework to identify the cases of improvement. I identified issues that leaders noticed and named and "followed" those issues through the improvement process over the year, using codes from my framework to see how leaders maintained attention on those ideas or didn't (i.e., "notice & name"," "mine information," and "take action"). I made analytical matrices for each case, pasting in data chronologically to construct the timeline of how leaders did or didn't maintain attention on issues over the year. I also created memos that captured the narratives of the process of improvement around the eight cases that leaders maintained attention on over the course of the year. Those narrative memos helped me analyze the extent to which leaders persisted in improvement around each concern. From these memos, I categorized the cases into the three patterns of persistence of from my framework: persistence, partial persistence, and minimal persistence.

In my second main analysis, I coded data within and around the cases of improvement to make visible how the main conditions for improvement manifested across the cases. I used codes from my framework about the conditions (i.e., "routine," "sensegiving,") to account for where and how conditions showed up in each case. After coding, I arrayed data that cross-referenced how the conditions showed up in the three main patterns of persistence. Doing so set me up to explore the extent to which the conditions were consistent with the patterns of improvement found in my first analysis. I refined my analysis with memos about how each condition was or wasn't consistent with the pattern of persistence, including working through if and how the conditions interacted or built on each other.

Ultimately, these iterative rounds of coding, arraying data, and memoing led me to make claims, rooted in my data, to answer my research questions.

Limitations and Positionality

A few limitations of this study are important to note at the outset. First, a study focused on the leadership of a large-scale, multifaceted initiative poses data collection challenges. Primarily, as the sole researcher on this study, it was impossible for me to see everything that happened in the pipeline over the year, especially the work that happened outside of routine meeting spaces I was invited to attend on a schedule. Impromptu meetings on days I wasn't present, meetings that happened concurrent with other pipeline events, and meetings scheduled when I was not present were impossible to see. I did not and could not collect the amount of data needed to see some of the leadership of and conditions surrounding the pipeline; however, I sampled the formal spaces in such a way that allowed for enough data to construct a substantial story, in most cases, about each pipeline piece.

Even so, some pieces of this particular pipeline were more accessible than others. For instance, due to the job change of one of the Novice Principal Coaches in mid-October, the other Novice Coach was tasked with carrying out the Novice pipeline piece on her own for the rest of the year. This change eliminated the weekly Novice Coach meetings, in turn eliminating opportunities to see collaborative work on that pipeline piece. I therefore collected relatively little data about the Novice piece of the pipeline, compared to other cases. In other cases, leaders were hesitant to invite observation of new work, such as the new Principal Learning Communities Principal Supervisors led. While I did observe some PLC activity, I collected more data about PLCs through conversations PSs had in meetings and through interviews.

Finally, aspects of my positionality influenced how I was able to approach data collection in Mountain City Public Schools. First, I benefitted from having connections with many of my main participants prior to the study. I worked as a teaching assistant in a university-based, equity-focused doctoral program that five of my nine main participants were either enrolled in or graduates of. This prior connection helped me quickly earn participants' trust. It may have influenced the level of detail they were willing to share with me about their work, especially about sensitive topics such as race and tensions in the Department. My prior connections with participants also influenced my bias to see their work positively. In some rounds of my analytic memos, I found myself trying to tell a more-successful story of the work I observed than what my data could support. Conversations with colleagues, mentors, and participants about my data helped me more accurately analyze my data, reflecting the results presented in the rest of this dissertation.

Further, as a White, highly educated, woman researcher in the overwhelmingly White- and woman-dominated field of education, my positionality aided in conducting this research. A

benefit of Whiteness is being presumed competent in rigorous tasks (e.g. Tatum, 2017). Movement through my Ph.D. program and ease collecting data in the higher echelons of a predominately-White central office was aided by my dominant racial identity and the on the broader social structures that privilege my identity and perceived ability to conduct research over others'.

Crucially, my own racial consciousness journey significantly deepened during graduate school, sometimes ahead of and sometimes behind my conception, proposal, and enactment of this dissertation. As I laid out in the Introduction, I've always viewed principal pipelines as promising levers for addressing inequitable school leadership. For a long time, I took the stance that studying pipelines as a case of systems change, using theory that elucidates such systems, was an approach to critical research because "systemic inequity needs systemic solutions." I still wholeheartedly believe that systems transformation is vital to dismantling systemic racism; however, I now better understand that centering race and racism in our understanding of those systems is crucial (Dixson & Rousseau, 2005; see also Carter et al., 2017; Ladson-Billings, 1998). The selection of a race-neutral conceptual framework was a manifestation and privilege of my Whiteness. Doing so stymied my ability to bring racial and power dynamics into my analysis and findings, which in turn limits my study's ability to truly center the racial equity possibilities of principal pipelines. Had I been further along in my racial consciousness when solidifying this study design several years ago, I would have chosen to weave concepts from critical theory into my organizational learning frame. I look forward to bringing such framing and analysis to future iterations of this dissertation.

Chapter 4: Leading Improvement in a Principal Pipeline Effort

"At each step of the pipeline, I just want it to be strengthened each year…feeding a trajectory."
-John, October interview

In this chapter, I address my first research question: *"How and to what extent do district leaders persist in improvement across a principal pipeline initiative?"* Findings in this chapter show how teams of leaders in the Mountain City Public Schools Department of Leadership persisted in the process of improvement, consistent with my framework, to varying degrees around issues in every piece of their "Mountain City Leads" principal pipeline initiative. A major finding of this chapter is that they did not persist in the process of improvement around any issues they named about alignment.

In this chapter, I first summarize the outcomes of improvement in Mountain City Leads the year of my study. I then detail what improvement looked like when leaders sustained attention on persisting in improvement, when they persisted partially, and when they persisted minimally, highlighting if and how attention their broke down in the process arrayed in my framework. I conclude with discussion of how findings in this chapter are largely consistent with what my framework predicted about leadership for improvement in a complex environment. Overall, this chapter shows how that Mountain City leaders were persisting, piece by piece, toward their ambitious goal of a robust pipeline effort for equitable school leadership.

Outcomes: Varied Attention on Improvement Across the MCPS Pipeline

As predicted by my conceptual framework, leaders often noticed and named how something in their current work did not match their expectations, based on their experience, goals, and/or information in the environment. Over the course of my data collection, I observed leaders notice and name 19 discrete issues about their current pipeline practice as cases for

improvement. Just three of those 19 cases, about 16%, were about pipeline alignment, while the other 84% concerned within-piece improvement. Table 5 shows the distribution of these cases.

Table 5

Distribution of Cases Named for Improvement

	Number of Cases	**Percent of Cases**
About pipeline pieces	16	84.2%
About full pipeline	3	15.8%
Total	19	100%

Leaders spent attention engaging in the process of improvement in these 19 issues in ways consistent with my framework. For example, consistent with the idea that sustaining attention on improvement of any idea in a complex environment is a challenge, leaders persisted in the process with five issues, or just over a quarter. By contrast, attention broke down somewhere in the process for 13 of the 19, or 68% of cases. Table 6 shows the extent to which leaders persisted in improvement across the 19 cases: *minimal persistence,* where they noticed and named the issue but did not mine any information about it; *partial persistence,* where they mined information but had attention break down at some point, or *persistence,* where they maintained attention such that they were on track to take action as a result.

Leaders persisted at least partially with cases within every piece of the pipeline. Leaders did not engage past minimal persistence with any of the three cases about aligning the pipeline effort. Despite the out-sized focus on the pieces rather than aligning them, MCPS leaders were improving their principal pipeline overall. I next share results from my analysis of how leaders engaged in the process of improvement in their pipeline. The rest of this chapter is organized by level of engagement in improvement, as defined in my framework and Table 6.

Table 6

Level of Engagement in Improvement Across the MCPS Principal Pipeline

Level of Engagement in Improvement	**Minimal Persistence**	**Partial Persistence**	**Persistence**	
	Notice and name issue only	Mine experience, attention breakdown	Persist to or toward new action	
About pipeline pieces	8	3	5	16
About full pipeline	3	-	-	3
Total cases	11	3	5	19

Persisting in Improvement

Department of Leadership members maintained attention to persist in improvement around five issues across the pipeline: one about pre-service, two about hiring, and one each about novice support and principal supervision. In three cases, leaders persisted to take new action during my study period. In two cases, leaders maintained attention on improving the issue but did not take new action the year of my study; however, data suggested that they were on track to doing so. In this section, I detail how leaders led teams of their colleagues to persist in improving these five issues about Mountain City Leads, focusing on how they engaged in the process of improvement as defined by my framework.

Implementing Implicit Bias Training

Principal Supervisors first *noticed* an issue about their current hiring practices in early October, when the Principal Supervisor Team spent one of their Friday meetings engaged in goal

setting for the year.[21] During their conversation about their racial equity goal, the team discussed that they might anchor their goal in the district's Racial Equity Policy. The following excerpt from my field notes[22] shows how their discussion of goals included noticing and questioning how well they were ensuring implicit racial bias didn't manifest in the principal hiring process they led. As they were brainstorming racial equity goals,

> *Supervisor David briefly left the room and came back with a poster-sized copy of the Mountain City Racial Equity Policy. The team worked their way down the list of the components of the policy, talking about whether they could use each as an anchor for their equity goal…On the "Equitable Workforce" component, they talked about how, because they are directly in charge of hiring principals and managing groups who participate in principal hiring, they could support the principalship and the Equity Policy goal by working to diversify the candidates they hire.*

Supervisor Grant then linked an aspect of the team's current hiring practice to the Racial Equity Policy by naming that in the past they had tried to bring ideas about bias to the school-based hiring panels, which decided on principal finalists at each school,

> *Supervisor Grant brought up they had tried to use trainings about bias with the hiring panels they lead and could work from that. Supervisor Nicole then noted how that past practice was minimal. She asked, "Is it really a training about racial bias if we are just giving the panel a piece of paper about the halo effect?"* [23]

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[21] Each member of the Superintendent's large cabinet, which the whole PS Team sat on, was asked to set goals related to each of the Superintendent's goals for the district. This meant that PSs set a goal related to supporting Multi-Tiered System of Supports (MTSS), a goal related to improving instruction, and a goal related to racial equity.
[22] My verbatim notes from this meeting were lost in a computer crash. As soon as I realized this (within 2 days of the meeting), I created field notes (Emerson, Fretz, & Shaw, 2011) writing detailed descriptions of everything I could remember about the meeting. This is the only instance of this kind of data in my study.
[23] The Halo Effect is a cognitive bias that influences people's judgement of others, in which first impressions cloud concrete details later learned about them (Nisbett & Wilson, 1977). It has widely been used in popular psychology for decades.

Supervisor Nicole's comment directly *named* a twofold issue with their current practice: that "giving the panel a piece of paper" is not a sufficient training or learning experience to disrupt status quo practice, and "the halo effect" is a concept that doesn't center race in understanding bias. Leaders ended the conversation that day with an agreement that directly tending to implicit bias in the principal hiring process was what they wanted to propose to the whole Principal Supervisor Team as their collective equity goal (two team members were absent this meeting).

After that meeting, two PSs supported the PS Team and others to *mine information* about addressing implicit bias in their hiring practices. Supervisors Grant and Nicole reached out to a colleague in the Office of Racial Equity (ORE) and met with her about the issue. They together created a draft version of a training about implicit bias that PSs could use with principal hiring teams. and then brought that draft training to a broader audience for feedback and refinement. In late January, they gathered the MCPS leaders who served as screeners for applications into the principal hiring pool, the very first step of the administrator hiring process. This group included the full Principal Supervisor Team and about fifteen other central office leaders from across multiple departments. To engage the group in discussion, Supervisor Nicole, Supervisor Grant, and the ORE leader shared the motivation for the draft training then solicited the group's feedback, expertise, and experience. Supervisor Nicole framed,

> We're back into principal hiring season …One of the things we have been thinking about as a Principal Supervisor Team is what is happening with our hiring…for candidates of color? How are we addressing that and how are we thinking about implicit bias? As we are getting smarter [about how bias works], how are we making our hiring smarter?...

She then named both the issue directly and the training as their current idea about a solution, explicitly soliciting feedback,

> We tend to, on the Saturday of [on-site principal] interviews, get one sheet piece of paper that is talked about for less than 5 minutes… about "the Halo effect"; we don't talk about implicit bias. This is our first run at this training…. We…want your feedback.

Nicole, Grant, and the leader from ORE proceeded to lead the group in a draft interactive training about implicit bias, stereotype threat, "homophily," and how those play out in hiring.

The group collectively mined their experience by giving feedback and sharing ideas about how to make the training even better. For example, a Novice Principal Coach suggested stronger framing that implicit bias is something we all have - and that having it does not make us bad but is important to be aware of. Another central office leader had feedback on making the presentation more user-friendly, saying, "The word 'homophily' is the same as 'in-group favoritism,' and 'in-group favoritism' sounds less academic. Maybe change that?"

In addition to asking directly for feedback, Supervisor Nicole, Supervisor Grant, and the ORE leader supported others to mine their experience by embedding opportunities throughout the meeting for the leaders to share their prior experiences as hirers. For example, after part of the draft training that included a short video about the concept of implicit bias, the ORE leader asked the following question to bring the group's experiences into the room,

> Many of you have been as part of [a principal] hiring process team before. How has your implicit bias maybe been at work? Something you observed, experienced…it might not be something you did … but how might you have made an unconscious decision based on that hard-wiring [of bias]? Turn and talk to you neighbor.

After the turn-and-talk, the facilitators asked for leaders to share out their experiences to the whole group. Several central office leaders shared how they had been complicit in letting bias go

unchecked in the hiring process and described how their own intersectional positionalities had influenced that.

For example, Supervisor Esther described how she knew her biases around native English speakers have surfaced in hiring principals, even though English is her own second language, "I sometimes [find] myself thinking [about] people who were well versed in the English language…do I think they are more equipped for instructional leadership than someone who might be a second language learner? Which I am!" Novice Coach Marí shared how her own bias and fear of being the target of bias had kept her from advocating against bias,

> I've been complicit in some discussions when I've wanted to advocate for an applicant [of color] when other people were saying [things rooted in bias]. I haven't fought. I didn't want to feed the stereotype of me being newer to central office and being a Latina.

Supervisor Nicole also spoke to the team about how the intersectionality of her race and her position as a district leader impacted how bias had played out in principal hiring teams she'd been part of. She described how school-based teams' racial biases often come out explicitly during discussions of candidates, despite that she, a Black woman, is present as the highest-ranking district leader on the team and leader of the process. She wondered if others may have let their biases go unchecked in her presence *because* of her positional status in the district, saying "as a PS siting on these teams, they say these [racist] things in front of me and assume that I've lost my Blackness because I am as part of the [district] system." In a different vein, another Black woman central office leader described her experiences of intentionally working around the current system to fight bias by encouraging candidates of color,

> [In the past] I've made myself available to candidates of color on purpose. I have done some [intentional] racial profiling of names, colleges, hometowns…any communication

> by email or calling to hear the voice and see if it might be a person of color. It's not implicit bias… [It's about] gatekeeping and access…they know that I have that access [and can say] "maybe you should apply." I have looked at paper applications and then offer[ed] to people of color to look over their things.

In addition to surfacing others' lived experiences with their own and others' complicity in racist, biased hiring, Supervisors Grant and Nicole made clear to the team that they were using that information to guide to their decisions about how to improve their hiring. When the meeting was nearing the end, Supervisor Nicole asked the group directly, "Do we think that [using this training] is the direction to go?" The group collectively said "yes" or nodded in affirmation. The meeting ended with acknowledging that the leaders in that meeting would consider themselves "trained" and keep their implicit bias in mind during the initial application screenings they were tasked with. Supervisors Nicole and Grant agreed that they would incorporate the feedback they received into the training draft and create a final version for others to use.

In March, Supervisors Grant and Nicole finished creating a voiced-over PowerPoint video of the training to be shared across hiring teams. The video was seventeen minutes long, included built-in opportunities for the audience to interact through "turn and talks" with each other, and featured specific examples of how implicit bias, in-group favoritism, and racism often surface when hiring leaders. In a March Friday Principal Supervisor Team (PS Team) meeting, they shared the final video with the full PS Team. Chief of Leadership John responded, affirming that they were all ready to take action and use it, "It's so professional! ... [I am] really proud. [It is an] opportunity to help everyone…who sees it."

Then, in April and May, all Principal Supervisors began taking new *action*, using the implicit bias trainings at all principal and Department of Leadership hiring events during hiring

season. As examples, I observed the training used in both hiring events I attended in the Spring: one principal screening interview day and the hiring for a new Novice Principal Coach to replace Marí. In both cases, pipeline leaders framed the training to the hiring team as a deliberate improvement they were making to carry out a more-equitable hiring process. For example, on the April principal screening day, the hiring team consisted of five principals, the PSs, the Chief of Leadership, and one Novice Principal Coach. When opening the day to that group, Chief of Leadership John said, "One of the things we're…trying to improve on this year is being really intentional about the role that bias plays in our interviewing and in the selection process." A few minutes later, he turned the floor over to Supervisors Nicole and Grant, who further connected the training to improving hiring. Nicole said "we have been working together on principal hiring and working on what's missing. One of those [missing] things was really about implicit bias and how that affects [who we hire]"; Grant followed with "We are going to watch this training because we explicitly want to disrupt inequity in the hiring process."

While taking new action on improvement, Principal Supervisors *continued to seek and mine information* from their experience, suggesting they would keep noticing discrepancies between their current and desired practice to refine their work. For example, Supervisors Grant and Nicole collected "exit tickets" from the school-based teams who used the training to glean feedback. In May, Grant described some of the trends he'd seen in the exit ticket data to the hiring team gathered for the Novice Principal Coach position. He included that "about 75% say they notice their own implicit bias during hiring." However, he also noted there were some "interesting comments" from hirers who said they didn't recognize their bias. He acknowledged those comments as evidence of how hard it is to dismantle racism and discrimination – reflecting that the work they did was powerful and also that there was still much more work to do.

On the whole, the PS Team noted the importance of the systemic improvement they made that year for the pipeline effort. For example, Supervisor David in his end of the year interview said, "The use of the implicit bias piece [was a big win] … it impacted the overall system, [and] was…really positive." Supervisor Grant similarly reflected year that "[The implicit bias training] was our effort to start teaching the system, and I feel like that's something that'll be enduring…It's been a positive as far as Mountain City Leads."

Implementing Principal Learning Communities

Due largely to the timing of my study, I did not observe the Principal Supervisor Team's full process of engaging in improvement around the issue of the primary mode of their principal supervision. In fact, the first day of my data collection in August 2017 was the day that the Principal Supervisor Team took new *action* around how they were maximizing their time with principals. Retrospective data suggest how leaders persisted in the improvement process leading up to that action in the months prior to my study by mining information from research about principal supervision and using it to guide their action.

At the Summer Summit in August 2017, the MCPS Principal Supervisors hosted the first gathering of principals in a new configuration of principal supervision. This was the *action* stage of the cycle of improvement. There were two main aspects of this change: 1) the Principal Supervisor Team switched to providing on-site support to principals primarily in small groups, or Principal Learning Communities (PLCs), from primarily in one-on-one meetings, and 2) they changed the way principals were assigned supervisors, moving from a regional assignment (i.e. one PS supervising all principals in the north part of the city, another in the southeast, etc.) to a level-based assignment (i.e. each PS supporting only elementary or only secondary principals across several regions).

Back to the beginning of the cycle, the issue for improvement the PS Team *noticed and named* - and ultimately addressed with the two above shifts - was the extent to which they as PSs were leading as instructional leaders. Specifically, their prior model of supervision included primarily one-on-one principal management focused on supporting principals with immediate needs, which did not allow for focusing on principals' leadership growth. While the *notice and name* phase of the cycle happened before my study period, members of the PS Team often referenced the named issue when they described the rationale for the shifts in Principal Supervision they made that year. For example, Supervisor David described the issue in a January focus group in this way, as he was narrating how PS work had changed over time,

> [Our] support has changed and is changing in a way that is good for principal leadership…The first...years [as supervisors], we were pretty much functioning on 'go out, go on learning walk, sit, talk, problem solve,' and then we were thrust into being the band aid on the spot: problem-solving HR issues, re-doing budget processes for anybody. We were spending very little time on principal [development]…

As another example of naming the issue, when making the case for their action in a letter to principals, Chief of Leadership John described the shifts in principal supervision as addressing a particular question, highlighting that PSs had historically not been focused on growing principals: "How can the central office, specifically the role of the Principal Supervisor, align itself to better support principals as instructional leaders?" On the PLC launch day in August, Supervisor Grant also described the "why" behind their shift to all the elementary principals gathered in their new PLCs, "This is a huge shift we are making back to levels. I hope you feel it. We want to focus on instructional leadership and content."

After naming the issue, evidence suggests that the PS Team extensively *mined information* from research and experience to determine what they should do to address their concern and maximize their support for principal learning. For example, in the letter to principals communicating the rationale for the shifts, Chief of Leadership John wrote about how the PS Team consulted multiple stakeholders the year before my study as they figured out what to do,

> The thought and action behind doing this reorganization has been the result of both formal and informal input. [This included input from] 82 principals [via the] spring [principal] survey, input and feedback from the [Principal Learning Day] Team on possible prototypes, meetings with [the Principals' Association] leadership for input, and input from the superintendent's Cabinet, [including] the Superintendent and Associate Superintendent for Teaching and Learning. After consultation from all of these stakeholders it was clear that a new support model between the central office and principals was needed to address the need for leveled expertise to better support principals.

Leaders also described consulting research. For example, in a letter to the School Board about the shifts, Chief of Leadership John wrote that, "The research on the role of PSs…requires our entire central office to shift our work…to focus on providing high quality, relevant, differentiated support…to building leaders…That initial shift is beginning with the assignment of PSs to principals by levels." Principal Supervisors also described working with principal supervisor standards and other research, such as on the importance of joint work, to inform their shift to leading PLCs.[24] The letter to the school board further described the rationale for focusing on PLCs based on principles of adult learning,

[24] The team used the District Leadership Design Lab's Principal Supervisor Performance Standards to ground their work.

> We are a learning organization and the work we are doing requires all of us to share in the teaching, learning, and leading in service of school improvement…Principal Learning Communities (PLCs)…will model for everyone throughout our system…that adults learn best from sharing, teaching, and learning from one another in job-alike groups…

After *taking action* by launching level-based PLCs in August, Principal Supervisors led PLCs with their principals all year. Largely, the first year of implementation was an adjustment period. Most members of the PS Team named establishing PLC routines as their main work that year. When I asked John in October what his hopes were for PLCs by the end of the year, he simply said "that they are happening," recognizing change takes time. Mid-year, Supervisor Grant similarly named that his main goal for PLCs for the rest of the year was to "just finish this year of PLCs. It's the first year, they've been really successful, I want to get to all the schools…"

In addition to setting up and carrying out PLCs, PSs continued the cycle by *regularly mining their experience* around PLC implementation over the year of my study. For example, especially at the beginning of the year, Principal Supervisor Team meetings included time to debrief PLCs. In the middle of the year, the PS Team conducted a survey of principals about their Supervision so far that year, which focused on PLCs. Feedback was overwhelmingly positive. With such information, PSs viewed their improvement starting level-based PLCs as successful, but that there was much more work to do. In end-of-year interviews, five of six pipeline leaders named that getting PLCs off the ground was one of the biggest wins in their pipeline work this year.[25] For example, Supervisor Nicole put it this way, "Launching the PLCs was [a] big…win. Even if it isn't the best that it could be [yet], getting people together in those

[25] I asked this question to six leaders: four PSs, the Chief of Leadership, and the Program Director. In the other two interviews (one PS and the Novice Principal Coach), we ran out of time for that question, which was at the end of the interview protocol.

smaller groups was…the biggest win for us meeting with principals this year." Chief of Leadership John similarly noted that the action they took was a key first step in the right direction, saying, "the biggest [win] right now is…the PLCs…PLCs were…a big move and symbolic of the shift…we're [making in] the role of the Principal Supervisor. This is a three or four year process."

Centralizing Assistant Principal Hiring

The Principal Supervisor Team also persisted in improvement through a pilot initiative in the hiring aspect of their work. Members of the Principal Supervisor Team first *noticed and named* an issue about Assistant Principal (AP) hiring in February. They did so in the context of a broader conversation about how they were working to diversify the principal corps in MCPS, including the improvements they were making around the implicit bias training. Chief of Leadership John stated that the Principal Supervisor Team was not tracking well who made up the AP corps, in part because of fully site-based AP hiring (versus the initial centralized screening pool for principal hiring before moving to site-based teams),

> [With] site-based interview teams [for APs, there are] no checks and balances on the front, middle, or end [of the process] …we're not saying 'Where are we at? What's the diversity? What's our focus?' And then in the middle [of hiring season, we're not saying], 'How are we doing?' We're not tracking it.

Members of the team began to *mine information* about AP hiring a during that meeting as they discussed diversifying the leadership corps more broadly. For example, Supervisor Esther elaborated how other current hiring practices used by principals further limited the AP corps,

> I am thinking of it as a pipeline [issue] because our principals are a barrier to getting APs where they need to go. I've seen the look-fors principals use when they are hiring an AP; it's not around instructional leadership, it's around management and operations.

In a meeting a few weeks later, Chief of Leadership John and Supervisor David brought the team's attention back to the issue with an idea for an action to take. They discussed ultimately wanting the PS Team to have full control over AP hiring and placement and proposed as an initial step toward piloting centralized screening interviews for APs into the hiring pool, mirroring the screening interviews they had long held for principals. John linked the idea about centralizing AP hiring to the goal of diversifying the corps, saying "…our AP corps is traditionally our most racially diverse, but it's completely unintentional. Let's at least make it intentional." Supervisor David went on with a draft plan for the pilot they could try this year,

> How do we hold 15 minute [AP] screening interviews, like we do for our principals?…[Since we have been] talking about the lack of racial diversity and trying to get our implicit bias needle…stronger, [John and I tried] to try to create [AP screening] teams that would involve one Supervisor, one principal, and one other central office leader, so [screening] teams of three. Five or six teams…. We could potentially in one day do everybody, or we could break it out over a couple days.

The team continued to mine and discuss the possible action of piloting centralized AP screening interviews, refining it with information from their experience. For example, Supervisor Grant said, "if we split up into teams, it would be good for us to think about the diversity of the teams," to which Supervisor David replied that he and Chief of Leadership John had already been thinking about that in their draft groups. John then added "I know that we'll have a lot of

interest from some of our principals [to be on the teams]. They have a vested interest in seeing the [AP] candidates, so they'll participate."

Two weeks later, the PS team piloted centralized AP screening interviews, taking an initial *action* toward the goal of more intentionally shaping the AP corps. Principals participated on the teams, and they used the implicit bias training they created for principal interviews.

After that pilot, leaders did not collectively discuss or reflect on their work in the meetings I attended, but interview data suggest that the issue of AP hiring remained in at least Chief of Leadership John and Supervisor David's attention – and that they were *continuing to mine information* in ways that supported persisting in improvement. For example, in July, John described that they were still "trying to figure out ways of… [getting AP hiring] back more internal." He named that he was trying to get "more data" about the process that year from HR and suspected that, as a result of their screening pilot "we had more racially diverse people in the pool." However, he worried because "the people who went to actual site-based interviews were less racially diverse than the pool…that's a concern." He concluded by saying that he was glad they tried something, but that "I'm still frustrated with the AP hiring process…[we] can do so much...on the front side of screening, interviewing, and then it goes into this black hole of what happens at building sites." David similarly reflected in July on their work around AP screening that their pilot didn't address the full problem of site-based interviews but that they were taking steps, "our [AP hiring] system is broken…or, inefficient…we'll get there."

Revising the Pre-Service Curriculum

The Pre-Service Team persisted in the improvement process around the curriculum of their Assistant Principals' Advancement Program (APAP). The team collectively *noticed and named* an issue with their current APAP practice at an early-December meeting. Program

Director Peter and Novice Coach Barbara noticed and discussed how they were not supporting APAP candidates as well as they could to engage in the "inquiry projects" that were a central part of the Program's design. The inquiry projects asked APAP candidates to lead a team at their school to collect data to identify a problem of practice and collectively plan a theory of action for how to address that problem at their school. This project mirrored the inquiry cycles that MCPS principals were asked to engage in as part of their leadership practice each year. After talking through how each APAP participant's project was going, Program Director Peter and Novice Coach Barbara had the following exchange, *naming* the issue rooted in their experience,

> PETER: We have to improve on next cohort—this issue comes up way too frequently: People don't get their [project] stuff together quickly enough. Sometimes it's because of legitimate circumstances. But we struggle with them getting a quick start such that they can do a presentation [on their work for central office leaders in February].
>
> BARBARA: I agree…
>
> PETER: In the big picture. I think we want to have the [stakes] be more intense…They should be able to do this if they are signaling being ready to be a principal.
>
> BARBARA: I wonder if we would need to be clearer about it from the beginning.
>
> PETER: I think we've been pretty clear.
>
> BARBARA: You've stated it, but I'm not sure [the message really got through]

The Pre-Service Team then continued to *mine information* by engaging in search, reflection, brainstorming, and with experts around improving the project and APAP more broadly. For example, Program Director Peter described reading to gather ideas about what they might change with APAP's curriculum in an interview later in December, "I've still been…under-whelmed with the final [projects]…I've been reading a couple books around

design-based interventions…there are a lot of things coming out of that as far as my thoughts for what we should do next." Peter also described talking about the idea with John and with a professor at a local university.

Then, over the course of the next several months, pipeline leaders decided that they needed to fundamentally revise the curriculum of APAP in ways that would ultimately engage APAP participants in more-rigorous inquiry projects. They tentatively planned to do such revision over the summer. Novice Coach Barbara said in a late January interview that "we talked about, this summer, really looking, really…coming up with a scope and sequence, building on what we have." Program Director Peter similarly described that "We've got to go back to APAP and really take that thing apart. John and I talked about bringing together a handful of [internal and external] folks….to review and discuss, revise the scope and sequence."

Throughout the Spring, the Pre-Service Team *continued to mine new information* from the environment to inform their way forward. For example, When APAP ended for the year in early Spring, none of the program completers were hired into principal positions. Chief of Leadership John referenced this feedback when describing their idea to revise the curriculum,

> I want a revision of the Pre-Service scope and sequence…If APAP completers are not moving into principal positions, then we're not doing something right. It's not meeting the purpose. So, either we change the purpose, change the content…I'm still open to the power of APAP, but…I don't think the current teaching is robust enough…[or] the scope and sequence is...correct to get them prepared for [applying for a position] in February. (March interview)

In April 2018, Program Director Peter, with John's go-ahead, engaged alumni of the Pre-Service programs in two focus groups and a survey, gathering feedback about what was and wasn't

helpful to their development and how they would advise the programs (both APAP and Intern Institute) change. Alumni reported that they wanted more content about racial equity and some less-structured ways to share their work with each other (Peter, June interview).

In June, new information about the next year's (2018-2019) APAP cohort emerged that further informed the Pre Service Team's course of action, and they changed their timeline of curriculum revision accordingly. The information was that only four APs applied to the next cohort – less than half the typical size of the program. Pipeline leaders used this information as an opportunity; they decided to wait to revise the curriculum and instead use the smaller cohort to pilot initial revision ideas. Program Director Peter described how the smaller cohort would enable them to "be much more deliberate, careful, and focused with the participants" and to also engage participants as designers in some of the improvements the focus group suggested,

> Some of the feedback … [from the focus groups was] that the discussion protocols we used felt… repetitive at times, almost too structured. I want to play around with that…use a particular protocol with the cohort the first time and then say, 'Let's talk about how we might adjust this.' (July 2018 interview)

Chief of Leadership John also described the smaller group as an opportunity to try some of their improvement ideas on before fully changing the APAP structure, such as experimenting with providing APAP participants with actual time as an acting principal, rather than just completing an inquiry project,

> So, we have four assistant principals [this year], who…I would love to…experiment with…about how we get them more extended experiences that are authentic to the principal role… I would like us to be able to get the APAP project to be really about the work…of a principal…[With] these four APs, [I want to] sit down with their principals

and say, '…Would you be willing for a month just to step out? Just let [your AP] be the principal?' (July 2018 interview)

And while the Pre Service team did not actually take new *action* toward improving their APAP curriculum the year of my study, the deliberate plans they made using the information they mined show that they maintained attention on the process, persisting toward new action. Chief of Leadership John described that doing the kind of pilot they planned in the coming year was an action step that would move them toward an ultimate formal revision—precisely what my framework suggests is persisting in improvement: "So that's what I'm thinking…How small can we start [with these changes]? But moving into the right direction."

Adopting a Novice Coaching Model

Leaders also persisted in improvement during my study period around the one-on-one coaching aspect of novice principal support. In a Pre-Service Team meeting in mid-December,[26] Program Director Peter and Novice Coach Barbara *noticed and named* an issue with their current approach to novice coaching,

PETER: What theory of coaching do we really have for you, for one? And then for our [on-site] meetings with APAP folks?

BARBARA: We definitely need to tighten up…I don't have any particular philosophy on coaching other than, "What do you think? What does your gut say?"

PETER: That's in the ballpark of cognitive coaching. … I'd be very interested in doing some sort of book study together and then we could go observe each other coaching.

BARBARA: I [love that idea].

[26] Novice Coach Team meetings didn't happen this year because one Novice Principal Coach, Mari, was promoted to a new position in a different department in Mountain City's central office in October. Because of this, Barbara did all the planning for her coaching sessions and the cadre meetings on her own. However, Barbara and others still engaged in improvement in other settings.

After noticing and naming that they didn't have a cohesive approach to coaching, Program Director Peter and Coach Barbara or others didn't regularly revisit the topic together in the formal spaces of the pipeline I observed. However, triangulated interview data suggest that leaders across the department *mined information* and experience about codifying a novice coaching model. For example, in a January interview, Novice Coach Barbara said,

> Peter and I talked about…doing a book study, [to] develop those [coaching] skills, [be]cause that is an area I want to [improve]—I think I'm okay…I coached teachers many years. It's not like I don't know how to do it. But I also, you know, [*ED note: she snaps her fingers*] I like to fix things! So, I'm aware of that…I do a lot of listening.

In March, Chief of Leadership John also said in an interview that he wanted the team to revisit the novice coaching model, saying that "I don't know…if the former measures I sat up five years ago [when I was a Novice Coach], and the things that I did are relevant and impactful any longer." He went on to say that he wanted to survey those who are current and recent novice principals and gather "very specific focused feedback, number one on the coaching. What's the level of coaching [you're getting]? What's the effectiveness of coaching and/or mentoring?" Additionally, a PS said in a February interview that "I think that our model for coaching new principals needs some tweaking…it has been very person-dependent."

By the end of the school year, Department of Leadership leaders decided that the Novice Coaches would *continue mining information* through search by attending a coaching training and bringing the model back to the rest of the department. In a June interview, Barbara said, "I'm taking a training this summer … I want my coaching sessions .... I want them to be better…" She confirmed that the newly-hired Novice Coach, Andrew, would also attend. Chief of Leadership John described how having the Novice Coaches attend the training would help not only their

coaching but the whole department's. He described saying to Novice Coaches Barbara and Andrew that, "the coaching model is not just the two of you, it's for everyone. So go out, get some training, come back to me, and give me [a model]. So then [our] principals are receiving similar, consistent support." At Summer Summit later that month, John let the broader department know about that next step and intention. During a presentation from the Office of Teaching and Learning about new induction for teachers in the district, he connected that topic with their department, saying "Andrew and Barbara are going [to a] …coaching conference [run by] Laura Lipton [in a few weeks]. They will share back with us what they learned for their work but also ours."

In attending a conference focused on coaching, Novice Coaches Barbara and Andrew persisted in maintaining attention improving the Department's "theory of coaching." My study ended before if and how the Novice Coaches "shared back" what they learned at the training or how it made its way into the department in 2018-2019 and beyond. However, this case still falls into the definition of persistence because team members' attention remained trained on finding the information they needed to inform their new action.

Partial Persistence: Attention Breakdown

In contrast to the five cases above, in the three other cases of Mountain City Leads improvement, leaders' attention broke down at some point. In these cases, leaders noticed, named, and initially paid attention to an issue about current practice, such as through mining some information, but did not maintain attention enough to take any action as a result. There were two issues from Principal Supervision and one from Monthly PD in this category.

Refocusing Principal Supervisor Team Meetings

One case of partial persistence had to do with Principal Supervisor Team meetings. In two different Friday meetings in October, Principal Supervisors *noticed* and paid some attention to an issue *about* the meetings. In the first instance, a week when Chief of Leadership John was at a conference, the Supervisors talked about how they wished the Friday meetings were focused more on discussing their work and the dilemmas of their role, given their major shift to leading Principal Learning Communities (PLCs) that year. Supervisors *named* idea again the following week when John asked the team to "pick a tool" to create together that would help them reach their goals for the year,

> GRANT: It would be awesome if the five of us could come together around PLCs… I wish we could practice co-constructing the work here [in meetings] together… it would be great for us to learn together how to design a scope and sequence [for our PLCs] …
>
> ESTHER: We are a PLC! We are a PSLC—a Principal Supervisor Learning Community! …we could create something now that we could carry through [the year] …

Supervisor Esther's comments about being a "PSLC" suggested that she envisioned the PS Team working and learning alongside each other in similar ways to how they were setting up PLCs to support collaborative principal learning. The team continued to share ideas about how they could work differently for the rest of that meeting.

The team didn't discuss their meeting structure in a formal space that I observed again until their first meeting after Winter Break in January, when Chief of Leadership John, who led the Friday meetings, brought the team's attention back to *mining information* about it in a broader conversation about how they work as a team during. He posted an "outcome" of the meeting on the PowerPoint that day: "[For] the PS Team to be better prepared and more eager to

do a better job with one another, the Chief of Leadership, and principals in order to impact student achievement." He brought the Friday meetings back to the team's attention when he said in his framing of the meeting,

> I've wondered how much of me I've inserted and how much of you you've inserted [into these meetings]. I don't need to be driving this. I would like [you five] to start taking over some of the planning, the doing, the structures, and have me be a thought partner on that part of the work…

After framing the meeting as a time for reflection and discussion, John structured the team's conversation in ways aimed to allow the PSs to share and center their experience. He started with a warm-up reflection in which the team shared with each other things that had gone well with their team through December. Then, Chief of Leadership John used a variation of the "think-pair-share" instructional strategy. He asked the Supervisors to first respond to a set of questions on their own in writing, then talk about their answers as a team without him, and then share the themes of their conversation with him. To set this up, he wrote two questions for written reflection and three questions for group discussion on the whiteboard in his office. The questions were about their work as a team, their views on supervision, and what they hoped for their work together and from him as their supervisor.

During the PS' group discussion, they reiterated their experience that their current Friday meetings together were not helping them develop their supervision skills, particularly around leading PLCs. For example, Supervisor Liz said,

> I need from John, as a team, to ground our working time [together] around our role as PSs. Sharing work, observing one another… I don't feel grounded in the work we all

> think we should be doing. I appreciate the mentoring [he gives], but it seems disconnected from our role.

They also generated some ideas about what to do instead of their current meetings, particularly using their Friday meetings to go out in schools together. Supervisor Nicole summarized their discussion when John returned. She described how they hoped John, as their supervisor, would

> …[work] with us and [do] some work around how we're supporting schools… [and be] part of our day to day work. That's something that resonated with a lot of [us]…how are we going out into schools [together]? We would love to be able to talk about that in a purposeful way.

By the end of the meeting, everyone in the room expressed interest in holding some of their Friday meetings out in schools together. To close their conversation, Chief of Leadership John told the team he would think about their discussion over the weekend and come back with "commitments" about the idea the following week. In a reflective interview conversation after the meeting, he said his main takeaway was that "the Supervisors and I want the same thing: to be more grounded in the work in schools" and that he would figure out a way to act on that.

However, the team did not maintain attention to follow through on that idea to change their Friday meetings, despite some effort to do so. In at least four meetings following the discussion described above, John had on the meeting agenda "Satellite meetings," complete with a slide in his PowerPoint with a photo of a satellite in space, signaling time for the team to plan for having learning meetings out in schools. However, other business, such as discussing hiring, kept them from getting to that place in the agenda for several weeks in a row. In response, Supervisor Liz asked if she could lead part of the team's Tuesday meetings to debrief what was happening in PLCs, but that only happened once because, as another Supervisor put it, "we've

had some other things come in the way" on Tuesdays. Ultimately, the team never held a meeting out in a school, nor shifted the focus of their meetings to be more about their daily PLC-leading work, nor returned to the discussion to mine more information.

Uniting Around PLCs

The second case of partial persistence in improvement the Principal Supervisor Team's attention broke down around was related common parameters for PLCs. After launching PLCs in August, the members of PS Team often *noticed and named* that the team was approaching PLCs without a shared definition of what PLCs should include. In particular, the elementary and secondary Supervisors approached PLCs differently from the start. The elementary PSs used their PLCs as a space for groups of principals to collaborate around their beginning-of-the-year goal setting, which is part of the principal evaluation process. However, due to what they described as a historic "competitive environment" between MCPS secondary schools (September 2017 PS Team Meeting), Secondary Supervisors David and Nicole decided to do goal setting in one-on-one meetings rather than in the PLC setting like their Elementary colleagues. In a September PS meeting, Supervisor Nicole named the issue for the team, "…our language [around PLCs] is becoming separate in meetings and stuff—elementary and secondary. Even though we serve different levels, the work should be consistent…[and] connected."

Over the next several months, the PS Team searched, *mining a wide variety of information* and ideas from their experience, experts, and principals about how to move forward to address their misaligned PLC approach. First, in an early October meeting, the team brought up the idea of defining PLC learning goals together as a way to align,

> NICOLE: What we as a group need to create is a scope and sequence of principals' learning [for PLCs] …

JOHN: What's happening in [these early Supervisor Team meetings] is we are coming up with the type of things that need to be created…How [can we] start standardizing practices rooted in improving adult learning?... PLCs could be a start.

ESTHER: … In your PLC, what is the learning we want to scope out for an extended 8-12 month period?…I think we should talk about the learning plan…

NICOLE: I think we still need to talk about…what do we expect from outcomes for principals?...[So that we could say] 'We should be talking about X within all PLCs'….

In the fall and winter, the team accessed the expertise of two professors at a local university through courses two of the Supervisors were taking in their doctoral program.[27] The two Supervisors brought each brought a group of systems leaders from across the region to examine and plan around the PLC structure in MCPS two different times, in October and January. Those sessions respectively suggested to the PS team a broad direction to create a scope and sequence and that the larger district still didn't fully understand the PS role, in relation to PLCs or otherwise. In February, the PS Team continued to mine information by conducting a mid-year survey of principals about their PS leadership so far that year, aligned to their Principal Supervisor standards. As noted, the feedback they received about PLCs was overwhelmingly positive. Two representative comments included, "Our PLC is the most effective PD available in our district for improving my instructional leadership practice. [My Principal Supervisor] leads our PLC so that we are all able to push each other's instructional leadership practice" from an elementary principal and "[My PLC is] one of the best learning focused district-based experiences. Very valuable and facilitated well" from a secondary principal.

[27] Supervisors Grant, Esther, and Nicole were all enrolled in the same Ed.D. program during the period of my study. Many other MCPS district leaders, both in this study and otherwise, were graduates of the same program.

Even with such significant infusion of feedback, expertise, and reflection, the team maintained their attention on naming the issue throughout the spring rather than using the information they mined to move toward action. For example, in a January interview, Supervisor David pointed out the issue again, saying, "Overall the PLCs are moving forward. The elementary team is moving ahead [of the secondary team] but we are moving forward too." In March, Supervisor Liz described their ongoing engagement with information in a meeting between the Supervisors and another central office leader, saying "we're still trying to calibrate as [a Supervisor Team]." Chief of Leadership John followed her comment by indicating to the other central office leader that they had yet to align because it was the first year of implementation: "[Alignment] is our next evolution. This year is the launch [and time to figure out] what are we going to align? And align to?" In an early May PS Team meeting, John named again that the team had work to do around defining PLCs, referencing how well they were going,

> As a team of six we need to get really clear about…the attributes of PLCs…Because …people are starting to see that PLCs are a good place for learning…and we have to start…getting really clear about how PLCs, specifically, support principal learning.

Near the end of the year, the team finally agreed that they would hold a team retreat after the school year ended, designed to be a dedicated space to plan together and make decisions about the parameters of PLCs for the following year. Part of their conversation creating this next step included the following exchange during a mid-May PS Team meeting,

> NICOLE: [We want] a retreat to talk about…PLCs…common agreements from all of us about what we were going to cover. We put [June] 30th [on our calendars] for that…

GRANT: We've been doing things individually and trying them…I think it would be really great to synthesize our learning form PLCs …If we were going to do PLCs 2.0, we could try it out together.

However, the team did not hold the retreat. A couple weeks after the team put the retreat on their calendar, one Supervisor announced they were leaving the district the following year. This announcement seemed to completely break the team's attention down about their PLC work. In the PS Team meeting three days before the planned retreat, they had the following exchange about the retreat plans:

JOHN: …Initially we had a retreat that we were thinking about doing on Friday, but that got scaled down because of [principal supervisor's[28]] departure. But are there things that we wanted to accomplish from 9:00-11:15 on Friday?

SUPERVISOR: Part of that retreat, we were supposed to be ... talking through some things about PLCs, about observing principals, about learning communities. So, there was a lot…We're gonna need a day…longer than two hours…

On the day of the planned retreat, Chief of Leadership John and the four remaining PSs spent time looking through applications to fill the vacancy on their team; they didn't talk about PLCs at all. Since the team did not create any next steps or plans to make up for the retreat, I categorize this case as "partial persistence." Over the summer, attention remained broken down - the team did not gather to discuss their plans for PLCs the following year. The elementary and secondary PSs made separate plans for their principals at the August Summer Summit, maintaining the separate approach they named as an issue.

[28] Pseudonyms removed in this excerpt for additional participant confidentiality

Clarifying Principals' Role on the PLD Team

The third case of partial persistence happened on the Principal Learning Day Team (PLD Team). Members of this team had attention broke down in the process of improving how principals on the team were participating in planning.[29] Early into the year, leaders *noticed and named* how principals had become less involved in the detailed planning and leading of Principal Learning Days (PLD) over time. For example, in a November meeting, Supervisor Esther named the issue,

> ESTHER: Can we go back to something about various voices? …I would love to see some principals leading [PLD] sessions, especially around [the] Race and Equity [sessions]. It would be much more meaningful if you guys are…more involved. Not just introducing speakers but facilitating learning experiences for your colleagues…We [central office leaders] don't need to be in front the whole time.
>
> PETER: The principals on the Race and Equity Subcommittee have been quite open to that. The principals have not been able to make the [subcommittee] meetings recently. I think that's improving as far as them being deeper into the work.
>
> ESTHER: …That's something we should think about. We have to set up the conditions for building principals to engage.

Then, PLD Team Leaders *mined information* about clarifying principals' role on the Team over the year, but not in ways that progressed toward figuring out what to do. For example, in a January meeting, Supervisor Liz said "In the first year [of PLD][30], we were very clear that

[29] As a reminder, the PLD Team was made up of the full Department of Leadership (the Chief of Leadership, the five Supervisors, the Program Director, and the Novice Coaches), seven MCPS principals, and several other central office leaders from various offices, such as Teaching and Learning, Human Resources, and Racial Equity.

[30] This was the third full year of a re-branded "Principal Learning Day" format for all-principal PD. Prior to that, MCPS held "All Leadership Meetings" that leaders described were full of sit-and-get presentations from various Offices in the district. John and other leaders established the PLD Team, which designed the learning-focused PLDs, late in the 2014-2015 school year.

principals needed to be in front of their peers. We're moving toward a place where PSs are facilitating mostly. I would love to be partnering with principals when facilitating." Similarly, in describing a March PLD Team meeting, Program Director Peter highlighted:

> …Sitting in a lot of people's minds is just how much principals have and have not engaged to be…active creators of the content. There's a balance in that, and we have on some levels moved over to where central office is creating more of this content…That has meant that principals have moved to be more…vetters of the content.

In May, Chief of Leadership John invited just the principals of the PLD team together in dedicated extended time to mine information together, with hopes of finding a way forward. He described in a reflective interview his intention of surfacing leaders' experience to inform how they would address the issue,

> I want their feedback on what is going to be the role of principals on the PLD Team, now that it's been changing…for me to not just come with a solution. [I want to] let them tell me what they think it should be…. The main [leadership move I'll make] …is providing space…so that all voices are heard.

On the day of the meeting, John similarly framed their conversation to principals as one about surfacing their perspectives on the concerns they and others had raised over the course of the year around their role and work on the team. He said,

> [Today's] purpose is… to listen and put a couple problems out to principals … for some solutions to make things better. Not to make some quick easy solution, but how can we make serving on the PLD Team better?... As central office is changing in how to support principals,… the role of principals on the PLD team needs to…adjust in significant ways. How that happens, I want to hear from principals.

After such framing, Chief of Leadership John structured the team's conversation to surface the perspectives of principals. He first asked principals to reflect on how their experience on the team had changed over their tenure by writing their own answers to two questions ("What was it like then? What is it like now?"). John then had principals share with a partner before having an extended full group discussion in which everyone shared. One representative comment from an elementary principal was "Before we were in the room and making decisions and doing things and now we're just in the room. Things get passed by us and we [are asked], 'is this good?'" After everyone shared, he said,

> What's valuable about doing this [reflection]…is that our shared history emerges…But also there has been a lot of growth, and a lot of really good things have come out of this group that we want to keep going – or reignite or resuscitate or do something different.

Chief of Leadership John then led the team in a game to get ideas flowing about the team's purpose, generating possible future states. Near the end of the meeting, John brought up a handbook document the Team had created a few years prior, laying out the team's role - and principal's role within. John asked the team to revisit the handbook and suggest revisions so that they could re-calibrate and bring on three new members in the Fall under clearer terms. He noted there wasn't time left in the meeting to collectively revise it, but he asked that they do so electronically in the next few days as a next step to address conversations that day. John also committed to coming back to the PLD Team with a synthesis once everyone had given input.

However, the group's *attention broke down* thereafter. At the next PLD Team meeting a week later, principals had not yet responded online to the role description. Chief of Leadership John clarified and asked them to do so "by next Monday," saying, "I'll go with the…rule [that] silence is agreement." He reiterated that he would, "come back and say to people, 'here are the

adjustments [you made] …'" After that, no one brought the conversation back up in the rest of the PLD Team meetings about where the principals landed with clarifying their role. By mid-summer, they had not started the process to bring on new PLD Team members, indicating further that their attention had lapsed. Program Director Peter described in a July interview,

> I'm interested to see where [the PLD Team] goes for next year…We have…opportunities for some new personalities to come in…[but] I'm concerned about the timelines with that. It's really drawn out a long time. We don't have applications out…We don't have any expectations…I don't even know how much they're going to get paid…[31]

Minimal Persistence: Notice and Name Only

In addition to the eight ideas above leaders maintained some attention on over the year, leaders attended minimally to 11 other issues they named, just over half. In these cases, leaders noticed and named an issue in team space but did not spend any collective attention mining information to figure out what to do about it.

As one example of such a case, I observed pipeline leaders *notice and name* an issue that had to do with improving support for Assistant Principals (APs): how their department wasn't supporting principals to mentor APs as part of AP development in any intentional way. Leaders on multiple Department of Leadership teams noticed and name this issue. For example, in a Pre-Service Team meeting in December, Program Director Peter and Novice Principal Coach Barbara had the following exchange,

> BARBARA: Something isn't right about a bunch of APs struggling with their principals. Principals need to have a better idea of coaching, working with an AP.

[31] The PLD Team and the stipends that principals received for participating were governed by contract through the MCPS Principals' Association. Changing the stipend was part of the conversation of the principals' shifting role on the team – particularly if they were going to remain less involved as main planners and facilitators.

They assign them duties; they don't see it as a way to collaborate. …

PETER: We should think about: where does that support [for teaching principals to support their APs] happen best? …

BARBARA: It's going to take some thought… We want everybody to go through this... as Mountain City Leads team in general, it's a missing piece…

The Principal Supervisor Team had similar brief exchanges to name the issue on least three occasions, including the following during a February meeting where they pointed out that supporting principals in mentoring is not going well. This exchange was part of a discussion of how Principal Supervisors were supporting racial diversity in the leadership corps and came up as part of a brainstorm,

NICOLE: That leads to... principals in their role of mentoring APs.

DAVID: That is also our work specifically [as PSs]: How are we coaching principals to develop AP leadership?...

GRANT: ... We do nothing to train principals to develop APs….

LIZ: I'm wondering about performance management: How are we working with principals to promote [APs}?

These two excerpts illustrate how leaders all over the Department of Leadership noticed discrepant information about a specific aspect of their support for principals *without maintaining attention further* to engage in any information mining or improvement – at least that year. The 11 cases in this trajectory proceeded similarly, with minimal attention paid past noticing a gap between current practice and a desired state. Table 7 shows what those issues were. No leaders supported others to mine experience or engage in search about these noticings.

Chapter Summary and Discussion

In Mountain City Public Schools' principal pipeline effort, leaders noticed and named 19 issues about their current pipeline practice during the year of my study. They persisted in improvement with five of those cases, attention broke down after some attention on improvement in three, and they did not maintain attention on the other 11. Table 7 summarizes these cases.

Table 7

Summary of Cases of Improvement

Level of Persistence	Pipeline Piece	Case of Improvement
Persistent	Pre-Service	APAP curriculum/project not rigorous
	Novice	Inconsistent coaching practice
	Hiring	Process did not address racial bias
	Hiring	AP hiring was decentralized/inconsistent
	Supervision	1-1 Supervision did not maximize PS role
Partial	Monthly PD	P role on PLD Team was unclear
	Supervision	PS Team meetings did not support learning
	Supervision	PS Team not aligned around PLC purpose
Minimal	Pre-Service	APLD was sparsely attended/not valued
	Pre-Service	P mentorship of APs inconsistent
	Novice	Novice Ps overwhelmed with support
	Hiring	Site-based hiring yielded inequitable hires
	Monthly PD	PLD Team not using feedback robustly
	Monthly PD	PLD Team meetings not productive
	Monthly PD	Unclear long-term curriculum
	Supervision	Anchor of supervision learning unclear
	Full Pipeline	Weak department identity/collaboration
	Full Pipeline	PS-Coach collaboration was inconsistent
	Full Pipeline	Unclear how PLCs fit in/influenced pipeline

Note: P = principal; AP = assistant principal; PS = principal supervisor

Findings in this chapter show that improvement of the Mountain City Leads pipeline was largely around pipeline pieces, not the whole: all eight cases that saw some persistence in the

cycle were about a piece of the pipeline; leaders engaged minimally with the three cases named about the full pipeline. A comment from Program Director Peter's mid-year interview illustrates this outcome well,

> We have...crucial elements in place that satisfy…the big buckets…for what a pipeline should look like. I think that the deeper connective tissues between those elements and the broader organizational expectations around them…[have] a long way to go…We have a leadership pipeline. It's not a robust pipeline.

Even so, leaders persisted in improvement to some extent with every piece of the pipeline. And though direct work on alignment was not a focus the year of my study, continually improving all aspects of the pipeline was central to Chief of Leadership John's theory of pipeline-building. In an October interview, he said "at each step of the pipeline, I just want it to be strengthened each year…feeding a trajectory." MCPS did strengthen each "step" of their pipeline in 2017-18.

I showed in this chapter that across the cases of persistence, leaders engaged in various moves to support their teams to maintain attention on improvement, such as through leading conversations that surfaced the experiences of others or seeking other forms of information to inform improvement. However, these leadership moves were consistent across all eight cases that included some attention on improvement. They don't explain why leaders maintained attention on five cases but dropped attention on three – nor why they took up eight and not the other 11. So, what does explain the variance arrayed in Table 7? In the next chapter, I turn to analysis of the organizational and leadership conditions that supported leaders to persist in pipeline improvement in some cases but not others.

Chapter 5: How Conditions Influenced Teams' Persistence in Improvement

In Chapter 4, I detailed what improvement looked like across the Mountain City Public Schools (MCPS) principal pipeline effort and what leaders did to lead that process of improvement in the 2017-2018 school year. I found that teams engaged in the improvement process within every piece of the pipeline and focused more attention on improving the pieces than aligning the whole. MCPS leaders persisted in improvement in five cases, engaged in some improvement before having attention break down in three cases (partial persistence), and in eleven cases only noticed and named an issue for improvement (minimal persistence). What explains such variance? In particular, *What conditions to mediate patterns of persistence? To what extent do the opportunities for sensemaking and the nature of issues constrain and enable pipeline teams to persist in improvement in some instances but not others?*

This chapter's analysis is organized into two main sections corresponding to the two major conditions from my framework and research question. I found that in cases of persistence, teams had quality opportunities for sensemaking, *and* those teams were engaging with issues that were discrete and about pipeline programming rather than about complex issues or issues of their own teaming. I substantiate these claims with representative examples from across levels of persistence to compare, contrast, and find patterns in how the conditions associated with persistence in improvement across the Mountain City Leads pipeline effort.

Quality Opportunities for Sensemaking

Consistent with my framework, the surface-level structures and routines for sensemaking created necessary but insufficient opportunities for sensemaking, and the way leaders led within those spaces through sensegiving leadership is what impacted the how teams persisted in the

improvement process. I argue the quality of sensegiving leadership within sensemaking structures helps distinguish cases that persisted at all from cases of minimal persistence.

Structures for Sensemaking were Necessary but Insufficient for Persistence

Across the Department of Leadership in Mountain City Public Schools, teams had regular meetings that created structural opportunities to implement and improve the pieces of their principal pipeline. As predicted by my framework, the Department of Leadership was *departmentalized*; there were teams dedicated to lead and make decisions about each piece of the pipeline (see Table 3 in Chapter 3) that operated largely separately. Each team had their own regular cadence of meetings (see Table 4 in Chapter 3), which dedicated time and space to attend to their aspect of pipeline work. For example, the Principal Learning Day Team (PLD Team) was in charge of designing and executing the monthly, day-long Principal Learning Days (PLDs). The team of principals, Principal Supervisors, Novice Coaches, and other Central Office leaders met twice per month, once before and once after the PLD. Subcommittees sometimes met additionally in between. The Principal Supervisor Team (PS Team) met twice per week about their Principal Supervision responsibilities, on Tuesdays to focus on operational issues and on Fridays for a longer time to learn together and collaborate.

Meeting routines created further opportunities for each team to engage in aspects of the cycle of improvement. For example, on the PLD Team, the two meetings each month had different routines. At the meeting immediately following PLD, the team closely examined the feedback they received from principals and then discussed implications for the next month's plans – a built-in way to mine information. Between then and the second meeting, subcommittees would meet to get a plan ready for the following PLD, with the feedback in mind. The second meeting was intended to be what Program Director Peter called a "dry run" of the

content for the next PLD. In practice, they often in were time for the full PLD Team to give feedback on draft plans for the next PLD, as subcommittees would often not yet have fully developed plans. As another example, the Pre-Service Team had routines in their standing Monday meetings that supported them to refine their work and also notice and name issues for improvement. Program Director Peter would bring a draft of the plan for the week's programming, such as APAP or Intern Institute, usually in the form of an updated PowerPoint from the prior year's corresponding session. He and the Novice Coaches would walk through the draft, decide whether any content needed to be changed, and decide who would facilitate which parts. In addition to this main preparation routine, the team had broader check-in conversations either before or after they prepared for the week, which allowed them to raise and discuss issues outside the core content of the programs, such as how participants were doing.

Even though these supports were consistent across the spaces, results of teams' improvement processes within still varied, suggesting that the structural conditions alone do not offer sufficient explanations for the patterns of persistence. Within their structures and routines, the three main pipeline teams in the Department of Leadership each engaged with multiple cases of improvement to different degrees. For example, within their dedicated spaces and routines, the PS Team persisted in one issue, had attention break down on two issues, and engaged minimally with a fourth about their Principal Supervision work. About hiring in that same space, they persisted with two issues and engaged minimally with another. In short, the structural aspect of opportunities for sensemaking was not consistent with the pattern of persistence.

How structures and routines for sensemaking played out in the full Department of Leadership provides a contrasting view. The full department did *not* have a structure for meeting regularly until March and only began to create any routines for their work together once they did

meet. Accordingly, they did not engage past noticing and naming with the three issues they raised about pipeline alignment. This negative example further suggests that structures for sensemaking are indeed necessary but insufficient alone for improvement. I further discuss the full team meetings and cases of alignment in Chapter 6.

Sensegiving Leadership as Creating and Directing Quality Opportunities for Sensemaking

The *quality* of the opportunities for sensemaking was more consistent with the pattern of persistence found in Chapter 4 than the structures for sensemaking. As described by my framework, the extent to which leaders within a space engaged in *sensegiving leadership* corresponded with if and how teams engaged in the sensemaking my framework suggests is crucial to moving through the cycle of improvement. As a reminder, my framework further suggests sensegiving takes two main forms. First, leaders bring particular groups of others together and direct their attention to a particular issue about change. Second, leaders attempt to influence how others think or construct meaning about issues for improvement, which often includes strategic framing or other moves that signal such a "preferred redefinition of organizational reality" (Gioia & Chittipeddi, 1991, p. 442).

In cases of persistence, both aspects of sensegiving were regularly present. In cases of partial persistence, both aspects of sensegiving were also typically present but with different results. Finally, in cases of minimal persistence, sensegiving was largely absent. I next show representative examples of each in turn.

Sensegiving in Cases of Persistence. Sensegiving was present in all cases leaders persisted in the year of my study. For example, in the case of addressing implicit bias in hiring, Supervisors Grant and Nicole brought others' attention to the issue of implicit bias in MCPS's current principal hiring practices, they "set the scene" by not just bringing their ideas to the PS

Team but by convening a broader cross-section of district leaders to get input and message the rationale for the training. Collaborating with a colleague from the Office of Racial Equity (ORE) to develop the training also was sensegiving, signaling sponsorship of the work from outside the Department of Leadership by the district's Racial Equity leaders.

They further signaled the "preferred redefinition of reality" by coming to that meeting with a drafted training that would be used with hiring teams, taking a stand that it needed to be explicitly about racialized biases about leadership rather than implicit bias more generally. When opening the meeting, Supervisor Nicole and the ORE leader engaged in sensegiving by framing the reasoning behind and vision for their work. They tied their purpose to the district's Racial Equity Policy and made explicit that using the training could push back against the current inequitable status quo,

> NICOLE: The why [for this training] is that as we start to put into action our Racial Equity Policy, which all of you are familiar with, [one component] is around workforce equity. How do we make sure our workforce reflects [our] diversity, and how does our bias affect [our ability to hire for] that?
>
> ORE LEADER: ... It's incumbent upon us that we are able to call out implicit bias in our work. We all have [bias]. We have grown up in White culture and are biased towards White culture. It's impossible *not* to operate toward implicit bias, [which is why we need to strategize against it].

As shown in Chapter 4, they used the rest of the meeting to support others to engage in further sensemaking about why they needed the training and solicit feedback on the draft, including supporting others to surface their own experiences with racism in the hiring process. After the meeting, Supervisors Grant and Nicole kept the implicit bias improvement in others'

attention to by revising the training with the team's feedback, sharing back out the updates, and showing others how to use the revised training. They also modeled gathering data about its impact by sharing results of initial implementation throughout the Spring.

In the case of the centralized AP hiring, Chief of Leadership John and Supervisor David engaged in sensegiving with the PS Team by ensuring the topic was kept on meeting agendas, asking for feedback, and messaging the reasoning behind the pilot. For example, Chief of Leadership John was the person who created agendas for the PS Team meetings. In March, he used his agency to keep the topic on the Friday meeting agenda three weeks in a row leading up to the screening interview day, ensuring the team discussed and made sense of it. When bringing the plan to the team, John and Supervisor David reminded everyone of "the why" of the work, signaling the "preferred redefinition of reality" that the pilot could ultimately support – an intentionally diverse and higher-quality AP workforce. John said the following,

> When we hire administrators in [Mountain City], our most racially diverse group by no intention is the APs. It just kind of happens...This is our attempt to get a little more intentional—a lot more intentional [across the system], [so that we] have quality control of people coming through the front door, not the side door, not the back door, not through a window into MCPS... David and I have been talking about our shared...inquiry....we're joint planning...the AP process [and] we wanted to share with you [what we have]...

Sensegiving in Cases of Partial Persistence. Leaders engaged in similar sensegiving actions to support quality sensemaking in the cases of partial persistence; however, those actions sometimes led to opportunities for sensemaking that were not tied squarely to the case of improvement. For example, in the case of improving principals' role on the PLD Team, Chief of Leadership John "set the scene" by creating a specific space for a sensemaking conversation

outside the normal routines of the PLD Team. Instead of using the PLD Team's Spring retreat with the full team per usual, John only pulled the principals on the team into this retreat, focusing on just their voices as the ones most affected by the issue. He set the scene by making this intention clear to principals in an email, "Principal Leaders, I would like to meet personally with you as the principals on the PLD Team…I would like us to meet as a group, instead [of our PLD Team Spring retreat], to collaboratively work…and get your input." As shown in Chapter 4, John then used several strategies, such as structured reflections and a creativity-boosting game, to host a sensemaking conversation that both created a collective story about the history of the team and generated initial ideas about what could be better.

In contrast to the moves throughout most of the conversation that supported the team to maintain attention on and surface their own experiences with the issue, Chief of Leadership John closed out the meeting with sensegiving that was more direct. He shared the broader professional learning plans that he and the other Chiefs were working on for the following year, which were on posters around the conference room. He then explicitly connected the PLD Team's work to those plans, reiterating the team's importance to the district. Specifically, he shared how the senior leaders had been beginning to identify what leaders at many levels of MCPS of needed to learn to better support principals – in PLD and otherwise,

> You'll see that we have leaders besides building principals specifically called out... There are things that PSs need to learn to support principals in very specific ways. Cabinet needs to know and be able to do [specific things] to help principals as well.... Chiefs too.... A major focus of this PLD Team [needs to be guiding] how central office responds to needs of principals with appropriate supports differentiated over time…That's where

> this team is [currently] under-utilized. This team can be a megaphone.... This team has a great opportunity.

In this comment, he not only is making visible the current work of the system but signaling a "preferred redefinition" for the PLD Team – using them more strategically in ways that support the whole system. At another point, he said to the team more directly, "What we do need is to authentically engage principals on [this] team for input, to help us problem solve, to help us with implementation, to at times help co-teach or model and to be connectors." After the meeting, John reflected on his sensegiving about how the PLD Team will continue to matter in the system, "I want them to know what we were wrestling with... I intentionally [said,] 'It starts with them... Here it comes back down [to principal growth] and that they're all connected.'"

As shown in Chapter 4, while John's sensegiving created a shared understanding about the issue and with the team and signaled a "preferred redefinition" of the PLD Team's role in the district, attention broke down after the meeting before the team made space to make sense of what they would do next. One potential reason for this is that the retreat and John's sensegiving was outside the main routines of the PLD Team. Program Director Peter facilitated those main PLD Team meetings, and data suggest he actively tried *not* to engage in sensegiving in those regular spaces. Instead, he aimed to provide the container for others to shape decisions, particularly principals. He reflected on his approach in a December interview,

> There's this idea of the shared leadership and this co-creation of content [on the PLD Team], which...has been great in building greater buy-in by principals...I don't feel like I'm the one who needs to make the decision[s]. [We've] got a lot of strong leaders [on the PLD Team], the ideal is that we push to some sort of consensus. That can also be messy.

Observation data corroborate his hands-off approach. Program Director Peter's facilitation focused on asking questions to prompt others to engage in the routines of looking at feedback and giving input on the next PLD design. For example, Peter would prompt the group to discuss their ideas about the next PLD by saying something like this facilitation move from January, "So, looking ahead to our next PLD - thoughts on level-based time?"

In short, Chief of Leadership John used his positional authority, agency, and relational capital to make the space and lead for the principals on the PLD Team to mine information about their role outside the main routines of the PLD Team. When the team returned from that "retreat," they fell back into their routines that didn't include the kind of sensegiving needed to maintain attention on moving further through the improvement process with the issue.

In another instance of partial persistence - the case on the Principal Supervisor Team about aligning around the function of PLCs - sensegiving created quality opportunities for sensemaking surrounding but not squarely about the issue noticed and named for improvement. Chief of Leadership John engaged in a lot of sensegiving that supported the team to make sense of the role of the Principal Supervisor overall, including the theoretical underpinnings of leading PLCs. He often used research or research-based tools to "signal the preferred redefinition" of the PS role and support the team's shared meaning construction about it. For example, I observed John bring and engage the PS Team with research linked to their Supervision practice 13 times, or at 68% of the 19 Friday PS Team meetings I observed. However, none of these resources were directly about leading PLCs.

As an example of such sensegiving for broader PS sensemaking, in January, Chief of Leadership John centered the team's attention across two meetings on creating a mid-year survey for principals to solicit feedback about the PSs' work, both in general and about PLCs. At the

first of those two meetings, he anchored the team's purpose in the Principal Supervisor Performance Standards (PSP Standards), messaging that consistent anchor of their role,

> What will [the survey questions] be connected to? To me it has to be four things. PSP Standards 3, 4, and 6, [since] that's our focus areas[32]... And then also I want to know something about the [PLC] model, how is it working?... getting feedback this far.

He then led the team in an activity where they engaged with the language and indicators of the PSP Standards, asking them to identify the top aspects of their work they would like feedback (At the second meeting, the team selected the actual questions they wanted to ask).

Importantly, Chief of Leadership John didn't give-sense or support the team to make sense of their current PLC practice in this meeting – the issue noticed and named for improvement. However, John continued to signal PLCs' importance in the context of their broader role and focal standards. He said, "Standard 3...is the sweet spot of the EDS role...In PLCs there is instructional leadership, modeling all of those. Standard 3 is the big one..." At the end of this part of the meeting, John reminded the team of the purpose of the survey, suggesting that the survey itself was in part a sensegiving tool to support principals to understand the principal supervisor role,

> We are wanting to signal to principals what it is we are wanting to do [in our role], signaling the behaviors we are working towards. Another purpose for this survey is you are letting people know that "hey, if you want me to be your operational person and your

[32] John consistently messaged these three focus standards for the PS Team the year of my study:
STANDARD 3. Engage in teaching practices while leading principal communities of practice (e.g., professional learning communities, networks) to help principals grow as instructional leaders.
STANDARD 4. Systematically use multiple forms of evidence of each principal's capacity for instructional leadership to differentiate or tailor their approach to helping their principals grow as instructional leaders.
STANDARD 6. Selectively and strategically participate in other central office work processes to maximize the extent to which they and principals focus on principals' growth as instructional leaders.

1-1 therapist…look at what we're asking about." Part of this is another opportunity to teach what the role of the EDS is or is moving towards.

After the team conducted the survey, Chief of Leadership John created a space for the PS Team's sensemaking about the results. Here again, he focused on an aspect of the PS role not directly related to the issue of aligning PLCs. In the survey results, questions around the "buffering" move had the most variance on the team, so he led the team in a sensemaking conversation about the concept of "buffering": what it was, how it related to instructional leadership, and how it was or wasn't part of their current practice. For example, he again directed the teams' attention to research-based tools about the concept, saying, "Find some places [in the PSP Standards or the whitepaper[33]] where it gives a definition of buffering or an example of buffering…" Near the end of their conversation, John summarized themes in what the team had said, drawing the team's attention to how their answers all connected to instructional leadership,

> For your role, what we want to get clearer and clearer about is that [buffering] is in service of improving principals' [practice] and protecting principals' ability to be instructional leaders. For me, my buffering is to help you maximize your time to be able to do that as instructional leaders with principals.

After this meeting, John highlighted his sensegiving stance in a reflective email, "Today was an interesting day. [I am] trying to build their collective capacity/understanding of 'Buffering.' First, [it's] instructional leadership…and get them teaching it to their principals by modeling and using data - data the principals generated for them [with the survey]."

[33] Rainey, L., & Honig, M. I. (2015, August). From procedures to partnership: Redesigning principal supervision to help principals lead for high-quality teaching and learning. Retrieved from University of Washington Center for Educational Leadership website: https://www.k-12leadership.org/publications/from- procedures-to-partnership-uwcel-dl2.pdf

In sum, on the PS Team in cases of partial persistence, Chief of Leadership John engaged in sensegiving moves that helped that supported the team to make sense of their role as principal supervisors as instructional leaders. However, his sensegiving moves did not help them move through the process of improvement with the issues they directly raised for improvement that came up in the context of that role, like their PLCs, nor other aspects of their daily work.

In other words, John's sensegiving moves were consistent with my framework – keeping attention on an issue, supporting new meaning construction, signaling the "preferred redefinition of organizational reality"; it was what he was engaging in sensegiving *about* that kept the team from persisting in the process of improvement. The focus was higher and more theoretical, not about their daily practice or the issues at hand. Supervisor Liz described this disconnect in an end of year interview, using the "forest versus trees" metaphor to describe how their current routines and John's leadership were focused on big picture theory rather than discrete practice,

> LIZ: [Our current focus] is almost like less trees, more forest…that bigger picture of 'how does your work fit in with everything else that you're doing? How are you prioritizing things?' It's very, very abstract, high, high, high, high, level.
>
> ED: So, to clarify, you'd say you spent a lot of time in the forest [in your team meetings]?
>
> LIZ: I would say [we spend] a lot of time in space…at Space Camp… I learn a lot from John, and he's got a very different outlook and perspective than I do… I have found value in that Outer Space view. So, it's not like it's [not valuable] …It's [like we touch] polarities. Outer Space, in the weeds. We need something kind of in the middle.

Sensegiving in Cases of Minimal Persistence. In the eleven cases of minimal persistence, Mountain City pipeline leaders did not engage in sensegiving or otherwise create quality opportunities for sensemaking towards improvement. In some cases, no data suggest

leaders attempted to influence others' attention or meaning construction toward the issue after leaders noticed and named it. However, in some cases, leaders did attempt to engage in sensegiving but did not do so in ways that maintained others' attention on the issue named for improvement.

For example, one issue leaders on multiple teams noticed and named for improvement was how the Mountain City Leads team wasn't doing enough to support principals to know how to support the development and promotion of their assistant principals (APs). As shown in Chapter 4, leaders across teams named the issue times within their regular meeting structures; however, no leader engaged in sensegiving leadership to keep it in others' attention nor mine experience around it. For example, after the issue was named by multiple PSs in a February PS Team meeting, Chief of Leadership John said, "I would love for someone to tackle that." Doing so signaled the issue's importance, but he nor other leaders ever advocated for its placement on another agenda, brought more data to mine about how they could improve supporting principals to develop their APs, or signaled a vision for the future state of the work. Similarly, when the Pre-Service Team noticed and named the issue in December, Program Director Peter stated an idea about how they could start mining information about it, suggesting he might take ownership to keep the issue in the team's attention. He said, "Sometime in January, maybe if we have time with APAP folks, let's do a brief discussion about feedback from them around their principals' best practice…helping them when they are new APs." However, he and the team never returned to that proposal nor the issue.

In another case of minimal persistence, one PS had a vision for a "preferred redefinition of organizational reality" that would address the noticed and named issue that their supervision did not have a scope and sequence. However, she did not use sensegiving leadership to engage

her colleagues in improvement. Supervisor Esther's idea was that they should support principals to create "Principal Learning Plans" as part of their goal setting process, which would then drive the learning scope that PSs provide in PLCs.

Supervisor Esther brought this idea to the team's attention in at least four different meetings. However, she did not engage in sensegiving past sharing an alternative vision of their work. Sharing such a preferred redefinition without supporting others to create meaning around it was not enough to support past minimal improvement. For instance, she said the following in the context of an October discussion of the PS's own goal setting for the year,

> If we can help principals frame and daylight what they need to learn as a leader… we haven't introduced the notion of 'what do you need to *learn*?' [but instead focused on] 'what do you need to *do* to get [to your goals]?' We can call it... a learning plan. [emphasis reflects speech pattern]

This conversation resulted in the PS Team creating a draft learning plan for themselves that day along with their goals, but they then didn't return to it all year, nor did they translate it to their work with principals. As another example, Supervisor Esther shared her vision of learning plans for principals several months later in January in a focus group without engaging in moves to create further buy in then or later. She said, "My goal [is that] we are, as a principal corps, a learning unit... I would love my principals to have an individualized learning plan and using a PLC scope and sequence to drive [the learning]."

Summary. Sensegiving that supported teams to maintain attention on and/or construct new meaning about an issue was present in some form in cases in which teams persisted or partially persisted in improvement and was absent in cases of minimal persistence. However, this condition was not wholly consistent with the full pattern of persistence in Mountain City. Since

sensegiving was present in some form across all eight cases that either persisted or broke down, it doesn't fully distinguish between partial and full persistence. Furthermore, some of the most robust instances of sensegiving consistent with moves in my framework happened in in cases that didn't persist, such as John's sensegiving with the principals on the PLD Team.

Findings in this section suggest that sensegiving is necessary in some form for teams to persist past minimally in improvement. I now turn to the other major condition in my framework, the nature of the issue, to explore how that condition worked in conjunction with opportunities for sensemaking to support persistence in improvement.

Nature of the Issue

The second major condition my framework suggests constrains or enables persistence in improvement has to do with the issues teams notice and name for improvement. My framework suggests two main aspects of this condition: the *level of interdependence* of an issue named for improvement and the *core concern* of each case. I find that the level of interdependence is consistent with the pattern of persistence from Chapter 4. I show that the core concern aspect is also consistent with the pattern – and particularly sheds light on the distinction between persistence and partial persistence that was not clarified with the sensegiving condition alone.

Level of Interdependence was Consistent with Level of Persistence

Without exception, this condition followed the pattern of persistence, affirming that decomposed, rather than interdependent issues are more likely to support teams' persistence in improvement. As my framework suggests, the more decomposed the issue, the more likely it was to be a case of persistent improvement. The more interdependent the issue, the more likely attention would drop at some point.

Cases of Minimal Persistence were Interdependent Issues. All eleven cases of minimal persistence were about interdependent issues. They were either tied up with another unresolved issue, they impacted more than just the team in which it was named, and/or they were about alignment across the pipeline. Notably, all three cases about alignment in the pipeline, which are inherently interdependent, saw minimal persistence the year of my study. I share two representative examples of the eleven cases of minimal persistence in this section.

In the case of how PLCs fit into and influenced the rest of the pipeline, the issue noticed and named was interdependent with another unresolved issue: aligning the content and focus of PLCs the year of my study. When leaders across the Department noticed the feedback that PLCs were going well in their first year (as shown in Chapter 4), they named that other aspects of the pipeline were not as well-received and began to imagine several ways those other pipeline pieces could be influenced by PLCs. However, they couldn't engage further in improvement without more information about PLC implementation. For example, leaders could only speculate that successful PLCs could mean the monthly Principal Learning Days (PLDs) for all principals could change as a result. Chief of Leadership John said in an October interview, "Someday…I would like to see PLDs be extinguished, or [at least] not full days, because there's not going to be a need for it. That the learning [will be] happening in PLCs." However, this was an issue for improvement "someday"; there was not yet enough known about PLCs' ultimate form to move forward in improvement.

Leaders across the pipeline also speculated whether they could support alignment by replicating the structure of small learning communities for other aspects of the pipeline, such as for APs or Novice Principals. Here, the unresolved issue of misalignment of PLC focus on the PS Team implicated the Novice and Pre-Service teams. For example, Novice Coach Barbara said

the following in a Pre-Service Team meeting, referencing a conversation she'd had with Chief of Leadership John about coordinating PLCs for novice principals in the future, "if the PLCs work with the experienced principals and I do the similar thing with the new principals, then the new principals, they might not [need to do both]." Similar to above, however, since PLCs' form was not yet codified, there was not enough information to move forward in creating parallel learning spaces for other leaders; leaders named the issue for APs too.

In a second example of interdependent issues seeing minimal persistence, leaders noticed and named how they had gotten away from using any anchor - standards or a "scope and sequence" - to drive the continual design of the support they provided to principals. This happened on both the PS Team and the PLD Teams, and data suggest interdependence of the two cases. For example, in a February PS Team meeting, Supervisor Liz said "...the five of us [Supervisors] don't really talk about [the State Leadership Standards] anymore…I think really digging into the framework [is important] .... It's one reason why I think we're all over the place." In the PLD Team space, Supervisor Nicole asked in November, "As a PLD team—what are we trying to learn in PLDs?...we haven't articulated our outcomes from [this Racial Equity Learning] for principals." Program Director Peter separately described how neither the State Leadership Standards nor the district-specific Mountain City Leadership Competencies[34] served as anchors across their pipeline programming, "[The MCPS Competencies] have not been a guiding document, or... have not provided a lot of direction. Loosely, the [prioritized] State Standards...are guiding priorities, but we have not necessarily mapped [either of] those closely."

[34] Each MCPS Principal Competency had a "tagline" and description: "**Champions and acts on a Vision of Equity**: Champions a culturally responsive, equitable vision and mission to eliminate opportunity gaps Relentlessly supports rigorous teaching. **Prioritizes collaboration based on data:** Works with teams of teachers on a day to day basis to accelerate adult and student learning. **Cultivates Instructional Expertise:** Creates urgency and opportunities to build the instructional expertise of teachers. **Aligns resources for equity:** Leverages resources with a focus on equity. **Builds strong, strategic partnership:** Builds purposeful partnerships to ensure culturally responsive supports for students."

As shown, this issue often came up separately in pipeline spaces about one aspect of their work, such as needing clear learning outcomes for PLDs in PLD Team meetings. However, the interdependent issue implicated all Department of Leadership teams aiming to create a seamless arc of learning for principals in MCPS. In a March PS team meeting, Supervisor Liz highlighted the interdependence as coordinating learning across pipeline spaces,

> I'd like for us to really think about over the next three years, what it is we want [principals] to know and be able to do? Because there are things that whole group needs to know. There are things where it might be PLC [learning]. It might be that there is another piece of PLCs [that we haven't figured out] ….it might be a half day at PLD, half day at PLC... We have to start with what principals' need to know and be able to do…

Less Interdependence in Cases of Partial Persistence. Corresponding with the pattern, the cases of partial persistence were less interdependent issues but were not all fully decomposed. Unlike the cases above, all cases in this category were in the sole purview of the team where the issue was named. In the case of principal participation on the PLD Team, for example, that issue squarely resided within the bounds of the PLD Team; members of that team did not need to collaborate with others to engage in the improvement cycle about the issue. On the PS Team, both cases at this level of persistence were about their own work. The Friday Meetings issue was squarely about their own team practices. As noted in the prior section, the PLC issue had implications for other streams of pipeline work; however, the main issue the year of my study was aligning PLCs among the PS Team, narrowing the issue to their team.

However, the two issues within the PS Team were connected, muddying their discreteness. Data suggest that the PS Team's current use of Friday meetings (the first issue) contributed to their misalignment on PLCs (the second issue), since learning differently on

Fridays could better support the team to come to shared understandings about PLCs. Leaders often brought up the issues in conjunction, suggesting their interdependence, such as the following representative quote from Supervisor Nicole in a January focus group,

> With PLCs, we started last spring with…the redesign. Then as we're in it [this year thinking about, 'Okay, what's not working? What's missing? How could we be doing this better?'…Liz propose[d] a new thing for our Tuesday meetings,[35] which was supposed to be [a debrief of PLCs]. We haven't been able to do that. We've done it once, and then had some other things come in the way…I really think we need to debrief those so that we can start to see what works and what doesn't…

Cases of Persistence were About Decomposed Issues. In the cases of persistence, every issue leaders persisted in the improvement cycle around was decomposed - solely in the purview of the team and not dependent on other issues in the system to move forward. As chief examples, re-vamping the APAP curriculum was fully within the authority of the Pre-Service Team, launching PLCs was the sole responsibility of the PS Team, and adopting a coaching model for the Novice Coaches was targeting that team's work. In the instances of hiring improvement, the PS Team had agency over the aspects of the hiring process that they persisted in improving.

In some of these persistent cases, data suggest the issue leaders were addressing at present would ultimately become more interdependent as their work deepened; however, the improvement this year was discrete. This happened in the case of PLCs, for example. The team persisted in launching PLCs the year of my study, but they were only able to partially persist in improving the more-challenging work of codifying PLCs across the team after the launch. As another example, in the case of adopting a coaching model, the year of my study the

[35] As a reminder, at one point, Supervisor Liz proposed using their Tuesday meetings to focus on PLCs if Fridays weren't going to work for that; Nicole referenced that here.

improvement was focused on identifying a model and getting the Novice Principal Coaches trained on it. John ultimately wanted the entire Department to use the model. That eventual work would be more interdependent, implicating multiple teams and supporting alignment. He reflected on what he'd told Coaches Barbara and Andrew in a July interview, creating a picture of the alignment he hoped the tool would later help provide,

> I said, 'The coaching model is not just the two of you, it's for everyone. So go out, get some training, come back to me, and give me one.'... I just need for [our whole team] to [be able to] say, 'hey if we say [XYZ] model, do you know what we're talking when we're talking about [XYZ] coaching model?' So, then your principals are receiving similar consistent support.

In theoretical terms, the coaching model issue was decomposed the year of my study, facilitating persistence in improvement, but may become more interdependent later as an alignment tool.

Core Concern: Programming Issues Saw More Persistence than Teaming Issues

To explore the core concern aspect of the Nature of the Issue condition from my framework - that the topic or kind of issue may impact a team's ability to persist in improvement with it - I engaged in inductive coding. I found that leaders in MCPS named two kinds of core concerns for improvement: cases about pipeline programming and cases about their own Department of Leadership teams and dynamics. I refer to these respectively as "programming issues" and "teaming issues." Across the pipeline, leaders named more programming issues than teaming issues: thirteen (68%) and six (32%) respectively. However, the breakdown of these issues fell into a pattern across the levels of persistence, suggesting that the kind of concern may operate as a condition for improvement. In particular, there were a high percentage of teaming

issues in the partial persistence category and a high percentage of programming issues in the persistence category. Table 8 shows the breakdown.

Table 8

Distribution of Programming and Teaming Issues Across Levels of Persistence

Level of Persistence	Pipeline Piece	Case of Improvement	Core Concern
Persistent	Pre-Service	APAP curriculum/project not rigorous	Programming
	Novice	Inconsistent coaching practice	Programming
	Hiring	Process did not address racial bias	Programming
	Hiring	AP hiring was decentralized/inconsistent	Programming
	Supervision	1-1 Supervision did not maximize PS role	Programming
Partial	Monthly PD	P role on PLD Team was unclear	Teaming
	Supervision	PS Team meetings did not support learning	Teaming
	Supervision	PS Team not aligned around PLC purpose	Teaming/ Programming
Minimal	Pre-Service	APLD was sparsely attended/not valued	Programming
	Pre-Service	P mentorship of APs inconsistent	Programming
	Novice	Novice Ps overwhelmed with support	Programming
	Hiring	Site-based hiring yielded inequitable hires	Programming
	Monthly PD	PLD Team not using feedback robustly	Teaming
	Monthly PD	PLD Team meetings not productive	Teaming
	Monthly PD	Unclear long-term curriculum	Programming
	Supervision	Anchor of supervision learning unclear	Programming
	Full Pipeline	Weak department identity/collaboration	Teaming
	Full Pipeline	PS-Coach collaboration was inconsistent	Teaming
	Full Pipeline	Unclear how PLCs fit/influenced pipeline	Programming

Note: P = principal; AP = assistant principal; PS = principal supervisor

Teaming Issues Pervaded Cases of Partial Persistence. First, there was a high percentage of teaming cases in the group of partial persistence. Here, all three cases were teaming cases: two were fully about teaming issues, and the third had both teaming and programming components. The first teaming case was the principals' role on the PLD Team. This case was fundamentally about how the PLD Team worked together and whether its current

practices were living up to its indented purpose of involving principals in designing their own learning. Supervisor Nicole described this purpose in a representative comment, "Originally… [PLD Team meetings] started because there was a strong desire for principals to be a part of their professional development. That was a specific ask from principals:…'We want to help design what comes out every month.'" In the Spring retreat with the PLD Team principals, Chief of Leadership John's framing highlighted the teaming nature of the issue at hand:

> The reason and purpose [of this meeting] is ...to listen and put a couple problems out to principals on PLD Team for some solutions... Not to make some quick easy solution, *but how can we make serving on the PD team better?* [emphasis added]

The second teaming case was the PS Team's learning together during Friday meetings. It was centrally about how they worked together rather than the work they did as a result. Throughout the year as they named the issue and mined their experience with it, they centered the "how" of their teamwork, as in this comment from Grant in a late-October PS Team meeting,

> I wish we would practice co-constructing the work here [in our meetings] together with John as opposed to having him design it and him doing it... How do we navigate [that]? I feel like it would be great for us to learn together how to design a scope and sequence—could we recommend that to him? Modeling the co-design [we want principals to do]?

The third case in this level was at its core both a programming and teaming issue. The issue of aligning the content of PLC was a programming issue because in this first year of PLC implementation, it was the team's work to figure out what consistent content and routines PLCs should entail for all principals. However, it was also a teaming issue because it was centrally about how members of the PS Team were not in agreement about how to go about implementing

PLCs. As shown in Chapter 4, the split between the elementary and secondary PS approaches was particularly stark, but coherence across the whole team was also at stake.

Programming Issues Dominated Cases of Persistence. In stark contrast to the prevalence of teaming issues in cases of partial persistence, the number of programming issues in cases of persistence was disproportionately high, as compared to the breakdown of cases overall. All five cases at this level were programming issues; zero teaming issues saw persistence through the improvement cycle. These cases were about the "what" of pipeline work rather than the "how." For example, the issue of APAP redesign was about the content of the program, not about how the Pre-Service team operated to run the program. Launching PLCs was about the model of principal supervision, not about how the PS Team worked together to lead PLCs; that teaming issue arose separately. Adopting a Novice Coaching Model was about choosing a model, not about how the Novice Coaches worked together to learn about or align implementation of the model.

Notably, in the two cases that concerned hiring programming, the programming concern was actually outside the realm of a team's primary work. In the cases of centralizing AP hiring and installing implicit bias training, principal supervisors had agency to influence programming, since they oversaw the administrator hiring processes at their respective schools. However, they recognized that the core function of hiring was not under their purview. In the initial October goal-setting conversation about whether the PS Team should work to address implicit bias in hiring, the team named that it was actually HR's job, as shown in this field note excerpt,

> *[The Supervisors] ... start discussing how they could support principals though diversifying the candidates they hire, as they are directly involved in hiring and managing the hiring panels who select principals. They talk some about how this is really*

HR's job – and maybe how they could influence the HR Chief's team through their position.

Similarly, in the case of centralizing AP hiring, Supervisor David at the end of the year reflected how they positively chipped away at a process ultimately not in their control, "[With] the AP screening process...Our system is broken. Or it's not broken; our system is inefficient and that's an HR piece in large part..." Even though designing hiring processes was outside the core work of the PS, the conditions in my framework supported the PS Team to persist in improvement: the issues were discrete, they were about programming not teaming, and the team had some agency over them as PSs.

Core Concern Condition Did Not Associate with Minimal Persistence. The 11 cases of minimal persistence saw both kinds of core concerns represented. There was a similar ratio of teaming to programming cases in this level as there was overall: 36% Teaming and 64% Programming vs. 32% and 68% overall. Such proportionality suggests that the core concern doesn't shed any further light than the interdependence aspect of this condition about what distinguishes cases of minimal persistence. It seems that no matter whether these cases were about programming or teaming, their interdependence and sensemaking opportunities, as shown above, kept them noticed and named only.

Summary. All cases of persistence were about programming issues and the vast majority of cases where attention broke down were teaming issues. Cases of minimal persistence were proportionately split between the two. Taken together with the findings in the prior section about interdependence, these findings suggest that the level interdependence is consistent with the distinction between cases of minimal persistence and cases with any further experience mining. They further suggest that given issues are decomposed, programming issues are much more

likely to see teams engage in improvement than teaming issues. In short, it's more accessible to engage in improvement around the "what" of a team's (or other teams') work than the "how."

Teaming and Programming Issues as Linked

An additional pattern emerged during my analysis of programming and teaming issues, suggesting the two core concerns may be connected to each other in any given pipeline context. This inquiry was driven by the finding above that the two cases of partial persistence on the Principal Supervisor Team were interdependent: that the case of how the team used Friday meetings may have influenced the case of aligning PLCs on the team. This finding prompted me to examine the cases *within* each pipeline piece to see if any other instances of connected programming and teaming cases existed.

Table 9

Programming vs. Teaming Issues by Pipeline Piece

Pipeline Piece	Case of Improvement	Level of Persistence	Core Concern
Pre-Service	APAP curriculum/project not rigorous	Persistent	Programming
	APLD was sparsely attended/not valued	Minimal	Programming
	P mentorship of APs inconsistent	Minimal	Programming
Novice Support	Inconsistent coaching practice	Persistent	Programming
	Novice Ps overwhelmed with support	Minimal	Programming
Hiring	Process did not address racial bias	Persistent	Programming
	AP hiring was decentralized/inconsistent	Persistent	Programming
	Site-based hiring yielded inequitable hires	Minimal	Programming
Monthly PD	P role on PLD Team was unclear	Partial	Teaming
	PLD Team not using feedback robustly	Minimal	Teaming
	PLD Team meetings not productive	Minimal	Teaming
	Unclear long-term curriculum	Minimal	Programming
Supervision	1-1 Supervision did not maximize PS role	Persistent	Programming
	PS Team meetings did not support learning	Partial	Teaming
	PS Team not aligned around PLC purpose	Partial	Programming
	Anchor of supervision learning unclear	Minimal	Programming
Full Pipeline	Weak department identity	Minimal	Teaming
	PS-Coach collaboration was inconsistent	Minimal	Teaming
	Unclear how PLCs fit/influenced pipeline	Minimal	Programming

Note: P = principal; AP = assistant principal; PS = principal supervisor

As shown in Table 9, I found that in no pipeline piece context where a team was actively working to improve a teaming issue did the team persist in improving any programming cases. The pattern of no programming persistence with an active teaming case happened in every context where a teaming case was named for improvement: the PS Team, the PLD Team, and the full Department of Leadership. I describe next how this pattern played out in each of those contexts. In the other three pipeline pieces (pre-service, hiring, and novice) no teaming issues were named.

As noted, the primary teaming issue on the PS Team about Supervision was about their Friday meetings. Both the Principal Supervisors and Chief of Leadership John wanted to hold at least some of their Friday learning meetings differently, out in schools, but they never did. Consistent with the pattern, while this issue was active, they did not persist in improving either of their programming issues about supervision: their internal alignment around PLCs, nor their lack of a common anchor of principal learning for their supervision. Supervisor David's reflection from a July interview highlights how their Friday meetings kept them from discussing their work as a team *and* PLCs:

> Seldom do I ever feel like we finish the [Friday meeting] agenda as it was originally intended… I think we spend too much time on conversational pieces or… stuff that keeps us from getting to... conversations [about PLCs] we need to have. Some of that has been that we need to have [other conversations] about ourselves as a group, which we somehow also… never get to…and that's gotten frustrating.

On the PLD Team, there were no cases of persistence. The only case they engaged with more than minimally was the teaming issue about the principals' role on the team. They named two other teaming issues: how the PLD Team used the feedback they solicited from principals

and how they enacted their team and meetings. The only programming case was the lack of a long-term scope and sequence for PLD. Leaders did not use attention to improve that programming issue, nor the two other teaming issues. When leaders reflected on the PLD Team's work the year of my study, they often described the teaming issues that needed to be addressed without even touching on the programming issue, suggesting teaming's salience in the team's collective attention. As a representative example, Supervisor Grant reflected in an end of year interview about the team, bringing up the principals' role and the meeting efficiency issues,

> [The PLD Team] did not go well this year... [Principals] were resigned to giving input and then not having much impact…[Their] input was around small things…[like] the order of the day…They did lots of vetting around Race and Equity [sessions], but only because Race and Equity was always first in the conversation... We spent an hour and 15 minutes on 'what do we think about the Race and Equity plan?'...Then, quickly just go to what elementary and high school is doing. The PLD team used to plan in subgroups, where we would do the actual designing and planning together...We stopped doing that.

Finally, with the full department, leaders named three issues for improvement but engaged in none of them further in the process of improvement. Two of those three issues were about teaming: overall department identity and the collaboration between the PSs and Novice Coaches. The emergent finding in this section suggests that those teaming issues would need to be addressed first if any deeper alignment work were to happen in the department. In Chapter 6, I show how the conditions were not yet in place to do so.

These emergent findings suggest a relationship between teaming and programming cases that functioned as an additional condition, past the finding that teaming issues were more difficult to address with improvement than programming issues. In particular, unresolved

teaming issues and un-addressed programming issues were often connected. This finding suggests that persistence in program improvement is unlikely to happen at all without first using the cycle of improvement to address teaming issues. This finding further suggests that quality team dynamics may be an additional condition necessary for teams to engage in improvement.

Chapter Summary

This chapter explored the extent to which two major conditions, opportunities for sensemaking and the nature of the issue, impacted teams' ability to persist in improving the MCPS principal pipeline the year of my study. I found that in the cases in which teams persisted in the process, teams had structures and opportunities for sensemaking, including leaders who engaged in sensegiving, *and* those teams were engaging with issues that were discrete and about pipeline programming rather than about complex issues or issues of their own teaming. In cases of partial persistence where attention broke down after some initial engagement, teams often had routines to support some quality opportunities for sensemaking, but the issue they aimed to improve was about their own practices or how they approach work as a team. In these cases of attention breakdown, the nature of the issue stymied improvement. Finally, in cases of minimal persistence where teams noticed and named the issue only, neither condition was in place. There were opportunities for sensemaking in the form of spaces and routines but sensegiving leadership was largely absent, and the issues teams named were typically interdependent or complex in another way.

Chapter 6: Creating Conditions for Improving Pipeline Alignment

"I'm excited...because now I have a full team and now I can start leading, really leading, in ways that have consistency and .... be like truly head of the department."
-Chief of Leadership John, July Interview

A major finding in Chapter 4 was that during my year-long study period, leaders in MCPS engaged in the cycle of improvement more often and more persistently on issues related to pieces of the pipeline than pipeline alignment. Mountain City Leads leaders did notice and name three issues concerning alignment for improvement, but they didn't persist beyond that stage of the improvement cycle. These outcomes are not surprising given my conceptual framework's suggestion that teams are more likely to engage in improvement in departmentalized spaces and about decomposed issues. However, my problem statement found that existing literature suggests that alignment is one of the most promising aspects of pipeline efforts in how they support principals' learning. Given the importance of alignment to realizing principal pipelines, in this chapter I explore the additional question: *Why didn't leaders persist in improvement around alignment the year of my study?*

In this brief chapter, I show that the conditions my framework suggest support improvement were not in place to support work on issues of alignment until the last few months of the school year. Below, I first lay out how the three issues of alignment were noticed and named only the year of my study. I then show how instead of leading a team through the cycle of improvement on any of these issues, Chief of Leadership John eventually made moves to address some of the conditions my framework suggests facilitate advancement through the cycle of improvement, particularly the structures and routines for sensemaking and sensegiving.[36] I

[36] This chapter arose out analysis from my prior chapters. I initially analyzed the moves John made to set up structures for sensemaking in the department, which I array below, as a case of persistent improvement around the issue of strengthening department identity. However, when analyzing the conditions surrounding that case for

suggest that creating such conditions may have been a promising first step toward addressing alignment issues in the MCPS pipeline; I also show that the timing and impact of these moves help explain why the MCPS Department of Leadership did not engage in improvement about alignment the year of my study.

Issues about Pipeline Alignment Noticed and Named

Three of the 19 issues MCPS leaders noticed and named for improvement were about pipeline alignment. Teams engaged in none of them past noticing and naming. The first was the issue of weak Department of Leadership identity across the department teams. Data from my very first interview with Chief of Leadership John in summer 2017 suggest he had noticed the issue in the previous school year. He described then that one of his priorities for the year was "creating a department," all focused on "support and development [of] leaders" in Mountain City. In winter and early spring, other department leaders noticed and named the lack of identity and function as a full department as an issue for improvement. For example, in a January PS Team meeting, Supervisor Nicole described that she and others had been,

> …thinking about how we function as a whole department. We [haven't] ever really done that. We've had sprinkles of it. But how do we bring in [Program Director] Peter, our [senior] administrative assistants, [Novice Coaches] Barbara [and] Marí so we form an identity around our department?

Similarly, in March PS Team meeting, the PS Team completed in a SWOT Analysis[37] of their department per the request of the outgoing Superintendent.[38] As a "Weakness," Supervisor David

Chapter 5, the data suggested progress was made in addressing the lack of conditions for improvement, not in addressing department identity. Further, the case largely didn't follow the process of improvement. sensegiving and other leadership moves that did not fully address the issue, but created initial conditions for doing so in the future.

[37] A protocol for team reflection. SWOT = strengths, weaknesses, opportunities, threats.

[38] The board announced the superintendent's departure in the fall, and the search commenced soon after.

described that the team was "[lacking] alignment not only in this room but with a chunk of this team that is never here, the full Mountain City Leads team…We have [the pieces of a pipeline in place], but when is the last time we were all together?" After these comments, no team mined information or further engaged in directly strengthening Department of Leadership identity.

The second alignment issue was similar but distinct: leaders noticed and named that the Principal Supervisors and Novice Principal Coaches in particular didn't have consistent patterns of collaboration, which impacted the support they provided to the principals they shared. First, the Novice Coaches felt like they didn't have the opportunity to collaborate with the PS Team. In an August meeting with the Novice Coaches, Novice Coach Marí described that they as Novice Coaches were "part of the team but not part of the collaboration." Later in the year, other Department of Leadership members named how collaboration was inconsistent across the various members of the PS and Novice Coach teams. For example, in a January PS Team meeting, Supervisor Esther reflected,

> I was...thinking about the role of the [Novice] Principal Coaches…now that Marí is in a different role [outside the department]. I noticed that I worked more with Marí than Barbara for many reasons, [and] there were times that I was unsure [about the differences in our roles] ...

Other data support the claim that PSs and Novice Coaches collaborated inconsistently. For example, in a May PS Team meeting, John described that he had just talked with Novice Coach Barbara about some positive feedback she had received from one of her principals about how Barbara and Supervisor Liz had collaborated, "Barbara shared...the appreciation by principals [of] the communication between the Novice Principal Coach and [the PS] .... finding value that the PS and Novice don't...do the same work but can be on the same page." On the

other hand, one PS said the following when I asked if they collaborated with the Novice Coach Barbara, “Not really, we don't coordinate.” Over the course of the year, the teams across the Department of Leadership did not mine information or engage further with the named issue.

The third issue leaders noticed and named about pipeline alignment had to do with Principal Learning Communities (PLCs), which I described some about in Chapter 5. Specifically, once the Supervisors launched PLCs, the rest of the Department (and leaders outside the Department) were unclear about how PLCs were going to influence or impact the rest of the pipeline and other district initiatives. The issue was that they needed to figure such alignment out. For example, during a conversation between the PS Team and the Chief of Student Support, Supervisor Grant named how they needed to have deeper discussions across the district about how PLCs were going to work with other initiatives,

> I do think we should have a bigger conversation with [the Chief Academic Officer] too. We are rolling out lots of great stuff… [the Multi-Tiered System of Supports] roll out, [new curriculum], and PLCs... We’ve been talking about moving some content from [Principal Learning Days] to PLCs. People don’t feel like PLD is best place for learning around [the new curriculum] .... also don’t think [we PSs] are calibrated on how that aligns with other initiatives…

Leaders further noticed and named the need to figure out how PLCs fit in internally within the Department of Leadership, such as how Novice Coach Barbara mentioned potentially turning the Novice Principal Academy sessions into a PLC, “if the PLCs work with the experienced principals and I do the similar thing with the new principals, then the new principals, they might not [need to do both].” Chief of Leadership John again named in a PS Team meeting in May that

it was incumbent on their team to get clear about PLC's purpose so that others wouldn't encroach,

> Because what's starting to happen, [other central office leaders] say 'oh... we can... just put that in the PLCs... People are starting to see that PLCs are a good place for learning, a good place for information, and we have to start branding it a little bit and getting really clear about how PLC's, specifically, support principal learning and what, if any, intersections, any of these people...can have access to.

In these examples and others, Department of Leadership team members named *that* they needed to discuss the implications of PLCs but did not actually move through the cycle to mine information and discuss the implications of PLCs.

Conditions for Engaging in Improvement toward Alignment

Why didn't teams get further in the cycle of improvement in the three instances where they noticed and named issues about pipeline alignment? I now examine how the conditions in my framework operated in this cross-pipeline context and show that neither condition was in place for most of the year of my study.

Nature of the Issue

My framework suggests that two aspects of the nature of the issues teams notice and name for improvement – level of interdependence of issues and the core concern of issues - both impact the extent to which teams are likely to persist in improvement with those issues. In Chapter 5, my findings confirmed my framework's suggestion that teams were more likely to persist in improvement about the pieces of the pipeline when the issues they noticed and named were decomposed, not interdependent. I also found that teams were more likely to engage in issues where the core concern was about programming rather than teaming.

With these three issues of alignment, the interdependence aspect of this condition highly relevant – but unavoidable. Issues of alignment are inherently interdependent, implicating multiple parts and teams of the pipeline. I drew from these alignment examples in Chapter 5 to show how teams did not move forward in the process in these and other cases with interdependent issues.

Regarding the core concern, the three issues above fall into the programming or teaming categories similarly to issues within the pieces. Of the three alignment issues noticed and named, one was about programming (the role of PLCs), and two were about teaming (creating a department identity and Supervisor-Novice Coach collaboration). If findings from Chapter 5 hold true, with two "active" teaming issues, the team likely wouldn't address the programming issue until they take the time to improve their teaming. However, this condition alone still doesn't help explain why the team didn't address any of these issues at all.

In short, since my study did not produce any positive cases of work on alignment, it is difficult to draw conclusions about how the nature of the issue functions as a condition for improvement in cases of alignment. Chapter 5 showed that within pipeline pieces, the full condition operated such that given an issue was decomposed, a programming issue was likely to be taken through the cycle. Since all alignment issues are interdependent, this condition likely does not operate in the same way; there will never be given decomposition. And while my findings in Chapter 5 suggested that programming issues were more likely to be taken through the cycle than teaming issues, leaders did not take either teaming nor programming issues through the cycle on these alignment issues.

Opportunities for Sensemaking

For the vast majority of the year, there were not opportunities for the Department of Leadership to come together as a full department to engage in any collaboration or improvement, which likely helps explain some of the minimal persistence. Data from early in my study suggest Chief of Leadership John intended to create such a dedicated Department-wide space at the beginning of the year. At the very first Principal Supervisor Team (PS Team) meeting of the year in September, John discussed with the PSs how they would use part of their Friday meetings once a month to meet with the whole Department of Leadership, including Program Director Peter and Novice Coaches Marí and Barbara. John pointed out a schedule of the weekly meetings PS Team written on the whiteboard, which read, "entire Mountain City Leads team meet once a month on a Tues or Fri." As he discussed that schedule with the Supervisors, he also noted that "[Novice Coaches] Marí and Barbara will join us every other week [in this Friday meeting] for the first hour."

However, by November, the full team had not met nor had the Novice Coaches joined a PS Team meeting. Chief of Leadership John re-voiced his intention a dedicated full department space at a Tuesday meeting in November where Program Director Peter and the Senior Administrative Assistants joined for the first few minutes for a quick update. He shifted the idea to gathering on Tuesday, "My hope is meeting on a regular basis, Tuesdays will be a good time for entire Mountain City Leads Team to [meet and] check in…" but John never convened the group after re-stating this intention.

In short, for the majority of the year, there were no structures or routines for sensemaking available, which completely limited any sensegiving opportunities or opportunities for leaders to use their agency otherwise to engage the team in the cycle of improvement. My framework

suggests that not having these conditions in place in the context of the full department contributed to the fact that the three issues of alignment saw minimal persistence from the team.

Pipeline Leadership as Addressing Conditions for Improvement

However, the landscape of conditions changed somewhat in March, when Chief of Leadership John finally created a structure for full Department of Leadership collaboration. In this section, I argue that while John did not lead his department through the cycle of improvement about any issues they raised specifically, he did use his agency to create conditions that could allow for that kind of work in the future: he created structures and routines for sensemaking.

First, John created a team meeting structure. In March, John brought the full department team together for the first time all year, including the Principal Supervisors, Novice Coach, Program Director, and the Senior Administrative Assistants. He continued this structure monthly for the rest of the school year, hosting a total of three meetings in March, April, and May. He primarily used the hour-long meetings for the team to discuss the work they would be collectively supporting for the rest of the year, such as principal hiring and graduations.

In addition, John created two routines within the full department meeting structure that had the potential to support the team's collaboration and engagement in improvement. The first was a conversational routine that supported the team to start sharing their work with one other – a place for potential *noticing and naming*. He called it "word on the street." John described the purpose of this routine in an interview at the end of the year as getting everyone's voice and experience in the room as full members of the team,

> When… I say, "Hey what's the word on the street?" I want to hear from the Senior Assistants… I want to hear the Novice Principal Coaches. I want to empower them. I

> want.. [Program Director] Peter to be there. I want the [principal supervisors] to be listening… to try to get away from some of the power dynamics that are present. Because we're all in support of building leaders.

In the April and May meetings, for example, John used a modified think-pair-share move to bring "word on the street" to life. In introducing this routine, he invited the group to, "Think for a minute about something that is important that this entire team should know about… something that people might not know but should." He then asked them to partner with someone who didn't share their role and share their "word on the street." Then, for the full-group share-out, he asked each person to share what their partner said. In the three meetings the year of my study, this routine didn't support the team to engage in any stages of the cycle of improvement, about an issue for improvement, but it did establish a routine for initial collaboration and transparency about their work.

The second routine John established was grounding the department in their shared purpose. In this routine, he engaged in sensegiving about the bigger picture of their collective Mountain City Leads work, reminding them that they were all one team and sharing a vision of their collective. For example, in April, he opened the meeting with the following framing,

> The purpose of this morning is to make sure that we're...aware of our shared work… [First] what I want to [do is] center us a bit in the reason we exist [as a department], and it's really, truly about supporting principals and leadership development throughout the system. Each [of us] is a different role, but how can we as a group support the people who have significant impact on student learning?

He used a PowerPoint deck in both April and May meetings to support the routine, which included a slide with the Mountain City Leads logo, a slide listing everyone's role on the team, a

slide with an image of an oil pipeline to depict a metaphor for their department's charge, slides with the Mountain City Principal Competencies, and two slides with the "Mountain City Leads Theory of Action" – all discursive strategies associated with sensegiving. As an example of using these slides to frame the team's work, he shared the Theory of Action slides in the following way,

> The next slide is our theory of action... I'm going to read it because I am making sure we're all on the same page: 'If MCPS proactively selects, develops, and supports highly effective, skilled, future principals and assistant principals, the quality of principals and assistant principals will increase, which will impact the quality of teaching and create equitable outcomes for each and every student in every classroom…Mountain City students, teachers, and parents are worthy of school leaders who are highly skilled and effective. Therefore, Mountain City Public Schools' Department of Leadership has created the Mountain City Leads Program to proactively invest in the development and support of future and current administrators.'

While John led this routine himself in these meetings, he signaled that the team's purpose was for everyone to know and learn. For example, John framed the activity to suggest it was important knowledge for the whole team, such as in May when he said,

> This is for the entire team to center us into our why. This is the Mountain City Leads Program, focused on recruiting, selecting, and supporting leaders. What I want to keep doing for all of you, for all of us, is [going over this] so that you can tell others in other spaces who we are and why we exist.

In an interview at the end of the year, John described that the sensegiving routine of rooting in their purpose gave the whole team a "reminder…here's our theory of action; here's what we're focused on…we're here to support principals in specific ways."

Impact of Creating Initial Conditions

On the surface, John created aspects of the "quality opportunities for sensemaking" condition as laid out in my framework. He created the *structure* of regular meetings; he created *routines* within the meetings that could support sensemaking, such as how "word on the street" could be an opportunity to name an issue or mine information; he used his *agency* to focus the meetings on the team's purpose, and he engaged in *sensegiving* to remind the Department of the vision of their work. However, none of this mattered for addressing the three issues named for improvement because the routines and John's sensegiving didn't directly address the issues noticed and named. For example, while the routine of grounding in their shared purpose could ultimately help build a sense of shared purpose as a remedy to the weak department identity issue, John never asked the team to surface their experiences as a department member nor supported them to engage in search for routines of collaboration. In sum, these limited meetings the year of my study, though likely on track to providing the conditions for engaging in improvement, were not enough to support the team to do so around the three issues they named.

Team members' responses to the meetings corroborated that the new full-department space was positive but a very initial start to any collaboration or collective improvement. In both the following quotes, team members bring up one or both of the teaming issues noticed and named for improvement – team identity and collaboration between PSs and Coaches respectively. However, they state that the meetings did not yet support the team to address those

issues. For example, Program Director Peter described whether the meetings met what he perceived their purpose to be,

> My sense is that that [the full department meetings] happened to begin to build more of a sense of identity as a team… It was good to have everyone there… If the purpose [was] to build a greater sense…that we're on a team, yes [they met the purpose]. If the purpose was to get to know one another and …begin to think of ourselves as collaborators and peers and colleagues on the same team, I don't know that happened very well.

Supervisor Grant similarly described the meetings' potential versus actuality,

> I think that the intention was to bring people together for us to build identity as a team.... I don't think that they necessarily did that. There were very few and far between [and were] very business-y.... like nuts and bolts with everybody [present]. But there's important collaboration that needs to happen between Principal Supervisors and [Novice] Coaches....It could be a powerful meeting. The five Supervisors, Coaches and…Peter asking 'what's working? What's not working? What can we improve? What are the holes?' I think it can be powerful if led well…[and] was like an actual work session.

The end of Grant's thought describes how the meetings *could* but did not yet help them notice and name issues for improvement – the first stage of the improvement cycle. Supervisor Liz similarly described the logistical focus that year but how the meetings were a start, seeing that they could turn into deeper collaboration as they continued, "My feeling is [we started meeting because] John knew we needed to [meet]. And even just starting out with some logistics and stuff could lead to something else later…because … there's a lot more that we could do together."

Chief of Leadership viewed the Department meetings as a starting place for the following year. For example, in the May meeting, during which the team welcomed Andrew, the Novice Coach hired to replace Marí, he said the following about future collaboration,

> I'm really excited because this is the first time in a long time we've had a full, complete team. I want to introduce Andrew as our new team member…This is a good day because this is the first day of beginning for next year. Some of the things we'll be thinking about and doing…today and moving forward: how do we think about the work and support for principals…as a team of 13? [39]

Other data point to John viewing having a "full complete team" as a necessary precursor to leading a department that collaborates. In his end of the year interview he said, "I'm excited…because *now I have a full team and now I can start leading*, really leading…and be...truly head of the Department" (emphasis added).

Summary

In this brief chapter, I described the three issues of alignment that members of the Department of Leadership noticed and named for improvement the year of my study. I argued that a likely reason no leaders persisted in the cycle of improvement to address these issues was that no aspect of the two major conditions my framework was in place in the Department for most of the year of my study.

I then showed how Chief of Leadership John did take some steps not to directly address any of the issues named with the process of improvement but to set up the conditions for such improvement. In particular, he created the space and routines for potential collaboration, learning, and sensemaking. However, these moves were 1) too-little, too-late for any

[39] 13= Chief of Leadership John, five Principal Supervisors, Program Director Peter, two Novice Coaches, and the four Executive/Senior Assistants

improvement the year of my study, and 2) did not directly support the team to use the cycle of improvement to address issues they had named: their sense of identity as a team, the way they collaborated, or how PLCs influenced all of their work. In particular, John's sensegiving routine about the purpose of the Mountain City Leads pipeline was disconnected from those issues. Such a disconnect kept them from working on alignment the year of my study.

Chapter 7: Contributions, Limitations, and Implications for Research and Practice

Current literature suggests principal pipeline initiatives are a promising model for developing high quality school leadership across our nation's largest school systems (Darling-Hammond, Wechsler, Levin, Leung-Gagné, & Toz, 2022; Gates et al., 2019). These findings are encouraging for districts seeking strategies to improve the skills and stability of their school leadership workforce as a lever for educational equity. However, a school district leader turning to research literature for advice on how to realize the ambitious goals of principal pipeline initiatives would mostly find descriptions of what pipelines can look like and assurance that they are promising, rather than strategies for how to begin implementing or improve one successfully.

What do district leaders do when leading implementation of a principal pipeline initiative? How can they think about the kind of change they are embarking on and the kinds of challenges they will face? In this study, I set out to understand how district leaders lead improvement of pipeline efforts over a full academic year I used a conceptual framework rooted in Organizational Learning and Organizational Sensemaking Theories to articulate such leadership as leading teams to persist in a process of continuous improvement towards their ambitious goals. My framework conceptualized the challenge of pipeline implementation as teams maintaining attention amidst ambiguity on addressing discrepancies between their current practice and their goals. In the Department of Leadership in Mountain City Public Schools (MCPS), I observed four pipeline teams for one school year and analyzed how and why cases of improvement unfolded across the school year to different degrees. In this concluding chapter, I summarize my findings and discuss their contributions, limitations, and implications for research, funders, and practice.

Summary of Findings

Over the 2017-2018 school year, I observed the teams within the MCPS Department of Leadership implement and engage in improving aspects of their Mountain City Leads principal pipeline initiative. Teams noticed and named 19 issues as potential cases for improvement across the five parts of their pipeline, as well cases at the intersections of those parts. Teams persisted in improvement in five cases, such as the Principal Supervisor Team's (PS Team's) pilot of centralizing hiring for Assistant Principals (APs) and the Pre-Service Team's work to revise the entire curriculum for the Assistant Principals Advancement Program (APAP). Teams partially persisted in three cases, for example the PS Team's attempts to align their model of Principal Learning Communities (PLCs). In 11 cases, teams noticed and named the issue only, such as the lack of a long-term curriculum for monthly Principal Learning Days (PLDs). All eight cases that progressed to some degree through the improvement cycle were about a piece of the pipeline; teams engaged minimally with the three issues related to pipeline alignment.

Across the eight cases in which leaders persisted past noticing and naming, leaders engaged in various moves to support their teams to move through the process. For example, leaders led conversations that surfaced the experiences of others, such as the conversation Chief of Leadership John led with the principals on the PLD Team around their experiences on that team over time. Leaders sought other forms of information to inform improvement, such as how Program Director Peter led focus groups with APAP graduates to inform redesign. Leaders continued to mine information after taking new action, such as how the PS Team collected various forms of feedback about how PLCs were going after their launch to affirm they were on the right track with that new form of principal supervision.

I also explored how two main conditions – opportunities for sensemaking and the nature of the issue – related to the patterns of persistence across the 19 cases. In the 16 cases about pieces of the pipeline, teams had structural opportunities for sensemaking in the form of regular meetings and routines that supported improvement. Further, in the eight cases that saw some persistence, a leader within that dedicated structure used their agency to engage in sensegiving by supporting particular groups of people to maintain attention on improvement, such as Supervisor David's insistence that the AP hiring pilot stay on agendas in the lead up to that day, and by engaging in moves that supported teams to see a "preferred redefinition of organizational reality," such as how Chief of Leadership John consistently supported the PSs to view their role as one of instructional leadership. However, such sensegiving was present in all cases that got past noticing and naming; this condition didn't help distinguish partial and full persistence.

In conjunction with the quality of sensemaking opportunities, the nature of the issue teams named for improvement related to the patterns of persistence. Both the level of interdependence and the core concern of an issue played a role. All 11 cases that teams noticed and named only were somehow interdependent with another issue or another team's work, for example how the Department was not well supporting principals to consistently develop their APs, which implicated multiple teams. By contrast, the eight issues teams persisted in were more discrete and within their own realm of control, such as how restructuring PS Team Friday meetings was squarely about the PS Team and within the sphere of the PS Team's work. Furthermore, teams were much more likely to engage in improvement around issues of pipeline programming; no team persisted in improving issues concerning their own teaming. Finally, in no team context where a teaming issue was noticed and named for improvement did the team persist to in the cycle on any further programming issues.

Taken together, these findings show the leaders in MCPS were engaging in improving Mountain City Leads largely by addressing discrete programming issues within the pipeline pieces. This approach resulted in some change in the pieces of Mountain City Leads; however, such a piece-by-piece approach is inconsistent with truly working towards alignment, as issues of alignment are inherently interdependent and in need of cross-team collaboration. I showed in Chapter 6 how leaders in MCPS had not yet created the conditions to foster cross-department work on cases of alignment. In the last three months of the school year, Chief of Leadership John did establish the space and routines of a full department meeting, which my framework suggests is an important initial step towards department collaboration – and potentially alignment.

Contributions

This dissertation differs from past studies of principal pipeline implementation in two significant ways: through its organizational theory lens and its focus on leadership. While other scholars have previously codified the idea of "principal pipelines," (e.g. Turnbull, Riley, Arcaira, et al., 2013), detailed what pipelines looked like at various points in a pipeline effort across the six initial Wallace grantee districts (e.g. L. M. Anderson & Turnbull, 2019; Turnbull et al., 2016; Turnbull, Riley, Arcaira, et al., 2013), and shown the promising positive impact pipelines can have on principal retention and student outcomes (Gates et al., 2019), studies have not conceptualized pipelines as major change efforts nor articulated how leaders and leadership function to implement such fundamental change. My study's conceptual framing and unit of analysis led me to findings that contribute to existing literature on pipelines and other district-led complex policy implementation by viewing pipeline implementation as a major organizational change effort that demands people pay attention to continuously improving and understanding

their daily work in new ways. My study also sheds light on what leaders do day-to-day when leading such change. I next expand on these contributions to theory and to pipeline literature.

Contributions to Theory

First, my theoretical framework, built from both Organizational Learning Theory and Organizational Sensemaking Theory provides researchers a way to investigate how leaders manage to pay attention to improving a multi-pronged initiative, over time, in complex environments; how they use agency to influence others to persist in the process of improvement; and how organizational and cognitive conditions influence such persistence. For example, recognizing the challenges of learning in a complex organization, my framework focuses on the process, rather than the outcomes, of improvement. Using a process-focused lens in this study expands the definition of pipeline implementation success, casting implementation in terms of engaging in an iterative improvement process towards ambitious implementation goals, rather than an achieving a particular end state of pipeline programming. My framework suggests there are different successful manifestations of persistence in improvement, and my findings provide examples from MCPS. For example, some cases persisted all the way through the cycle of improvement the year of my study, such as how Supervisors Grant and Nicole led the PS Team to implement new anti-racist hiring practices. In other cases, leaders' attention broke down at some point, such as how the leaders on the same PS Team never fully addressed how they learned together in their Friday meetings. This was a case of "partial persistence," where leaders did not take new action but did engage in some stages of the improvement cycle, including mining information collectively as a team. My framework suggests that engaging in just part of the process can still ultimately support improvement.

My framework further articulates change leadership as influencing others' attention and how others think about their work. The branch of Organizational Learning Theory centered in my framework and Organizational Sensemaking have not historically centered leadership and have downplayed agency in the learning process. To address this, my framework draws attention to how individuals' leadership matters to complex, iterative change, using ideas from both theories, which share similar roots: the attention-based view of the firm (March & Olsen, 1975; Ocasio, 1997), individuals' agency (Feldman, 2000; Feldman & Pentland, 2003), and Sensegiving (Gioia & Chittipeddi, 1991). Such an explicit leadership- and team-driven view of organizational learning is a small contribution to theory.

My study further provides examples of such change leadership, portraying the concept in practice. For example, across the cases of persistence, leaders engaged in moves that supported their colleagues to maintain attention on the process of improvement to find ways forward. In many cases, this looked like structuring meetings and facilitating interactions in particular ways, such as how Supervisors Grant and Nicole led conversations that surfaced multiple others' personal experiences with racism in hiring as both perpetrators and victims of bias, solicited feedback on a proposed new action, and then created a tool that others could incorporate into new action. Additionally, leaders engaged in sensegiving, or influencing others to think about the future of their work in new ways and ensuring the process of improvement was leading teams towards particular ambitious goals. For example, Chief of Leadership John showed the PLD Team how MCPS senior leadership was prioritizing leadership development, including the PLD Team's work, as a lever for districtwide change. In doing so, he shared a "preferred redefinition of organizational reality" (Gioia & Chittipeddi, 1991, p. 446) and helped the team see their place in that vision. John also regularly drew his team's attention to scholarship on principal

supervision and created opportunities for them to reflect on their work in relation to such models. These findings follow the lead of existing research on single pieces of the pipeline that get down to the daily practice of leaders, such as Honig & Rainey's various scholarship on the practice of Principal Supervision (Honig, 2012; Honig & Rainey, 2014, 2019, 2020) and research on district-university partnerships for pre-service support (Orr et al., 2010; E. L. Wang et al., 2022).

Additionally, my study of a principal pipeline initiative provided a unique case of organizational learning. This case allowed the exploration of multiple, often intersecting, cycles of improvement at once – the kind of change such a multifaceted change effort demands. My findings affirmed Organizational Learning Theory's concepts about how learning often happens in simplified ways through departmentalization and decomposition of problems (e.g. Levinthal & March, 1993; March & Olsen, 2009). Leaders in my study often did not take up the more-complex, interdependent issues for improvement; however, it is within those intersections where principal pipelines' promise lies. While my study did not surface many examples of persisting in improvement at the intersections or interdependencies, my framework and resulting methodology helped bring to light the distinction and set the course for further study.

Contributions to Research on Pipelines and District Change

My review in Chapter 1 found that central office change literature often casts implementation challenges or failures as typically political in nature. My study contributes an alternate view, suggesting organizational implementation challenges may also be cognitive in nature, following in the footsteps of other implementation scholars who have used a cognitive frame (Spillane, 2000; Spillane & Callahan, 2000; Spillane & Thompson, 1997). My framework posits that implementing pipelines is a challenge of learning and attention; Organizational Learning Theory helps us see why the seemingly-simple concept of maintaining attention on

improvement is quite complex, particularly given the abundance of ambiguity in district central offices (Honig, 2008). My study affirmed the theoretical idea that it is rarely a deliberate decision to not maintain attention. Rather, the ongoing work and ongoing patterns of thinking get in the way of persisting in the process of improvement, such as the PLD Team's entrenched routines that kept them planning month-to-month and the full department's patterns of not gathering, which kept them from being able to engage collectively in any aspect of the improvement cycle. These were not deliberate choices; they were standard ways of working that are difficult to change.

Additionally, centering the various teams of the department of leadership and their regular practice as the core cases of study was a unique approach to the study of district change. Existing studies of district change often focus on a single leader, typically a superintendent, as the arbiter of change leadership. My study's framework supported a focus on teams, leading to the finding that teams – and how leaders led those teams - centrally mattered to the success of implementing pipeline change. For example, findings in my study suggest that persisting in improving "teaming issues" was fundamental to whether teams made headway in improving the programming aspects of their pipeline. In the MCPS Department of Leadership, in no team where there was an active "teaming" issue were leaders able to improve other work, such as how the PLD Team didn't make any improvements to PLD programming the year of my study as they were actively trying to figure out the role of the principals on and other dynamics of that team.

In short, with its conceptual framing and examples of leadership, my study contributes to pipeline literature by highlighting who leads pipelines within districts and how they enact their work on a daily basis. Past pipeline literature referred to "districts" writ large as leading pipelines; my study brought forth the leadership of a Chief of Leadership, Principals Supervisors,

Novice Coaches, a Program Director, and other Department of Leadership staff as the engine of pipeline implementation. Published Wallace tools suggest that *having* a dedicated "pipeline leader" with access to other departments and the superintendent is a key condition for pipeline success and sustainability (Aladjem, Anderson, Riley, & Turnbull, 2021); my study begins to illustrate what such leaders and their teams *do* on a daily basis..

Two additional contributions to pipeline literature are worth noting. First, my study contributes to the field of research on principal pipelines by arguing that pipelines are indeed worth scholarly attention. When I began exploring this study in 2015, the first Wallace Principal Pipeline Initiative (PPI) was just four years old. Given the then-infancy of the concept of a principal pipeline as a district policy, I began my research with the question, *are pipelines even worth studying?* To date, pipeline research largely draws from one source – reports to the Wallace Foundation about that first funded pipeline initiative. In my literature review, I built on this foundation and reviewed all peer-reviewed literature about principal support across the career. I found most existing research focuses on a part rather the integrated whole, so I reviewed the research on pre-service, novice, and in-service support separately. In doing so, I surfaced findings that the promise pipelines is their promotion of *alignment* across traditionally separately-implemented facets of principal support, that they are *career-long,* and that they are *district-led.* I argued that these promising features suggest pipelines are indeed worth further research attention.

And while my study did not end up contributing findings directly about improvement or leadership of alignment, findings in my study do suggest that alignment demands new kinds of collaboration. Many of the initial pipeline studies suggest that leadership standards are the main aligning force behind pipeline initiatives, carrying the logic that if every piece of the pipeline is

aligned to the same standards, the pipeline is aligned (Turnbull et al., 2016; Turnbull, Riley, Arcaira, et al., 2013). Findings in my study did affirm the need for that kind of alignment to common anchors, such as how the PLD Team and PS Team both named for improvement a reexamination of how they were using the State Leadership Standards to drive their work. However, findings in my study suggest another way alignment surfaces in pipelines: when teams notice and name "interdependent" issues for improvement that implicate more than one pipeline piece or pipeline team, such as how leaders in MCPS named that they had not figured out how Principal Learning Communities were going to influence the other parts of the pipeline. My framework suggests that teams would need to build new, shared understandings of their work by engaging in a collective improvement process around such interdependencies, requiring space, time, routines for collaboration, and leadership. In short, my study suggests alignment demands new forms of teaming (Argyris, 1977; Senge, 1990) and shares examples of what that teaming did and did not look like in MCPS.

Limitations

My study contains several limitations, many of which were rooted in my methodology and conceptual framework. First, the length of my study was a limitation. While a yearlong study yielded a significant amount of data and was ample time to see teams engage in the process of improvement with many issues, bounding data collection for a study about ongoing complex change poses challenges. Ending my study while the work was ongoing may have led me to prematurely conclude that leaders didn't persist in a cycle of improving their work when they in fact may have gone on to do so. For example, in the three cases where attention broke down after mining information, leaders may have picked up attention and continued the process they began after my study concluded. Leaders may have also begun to mine information about any of the

eleven cases of "minimal persistence," in which leaders noticed and named an issue only during my study period. Thus, given this limitation and my framework's suggestion that managing to pay attention to anything that isn't the status quo is a challenge in complex organizations, all 19 cases should be viewed positively.

Additionally, choosing to conduct an embedded study in only one district was beneficial for understanding nuances of leadership and pipeline implementation within one principal pipeline effort. However, a comparative case study model between MCPS and another district may have elucidated additional contextual conditions about the organizational environment that influenced leaders' engagement of improvement in their pipeline. In short, having another case to compare MCPS's outcomes to may have provided further knowledge about how pipeline leadership operates.

Further, my site selection criteria may have contributed to this study's limitations, particularly that it didn't produce positive cases of working on pipeline alignment. Mountain City Public Schools' principal pipeline effort met all my selection criteria as I was establishing the study. However, the criteria of "likely to be continually improving and aligning" and "had a set of leaders dedicated to pipeline work" were in retrospect not strong enough to ensure the district was far enough in their pipeline implementation to be focused on alignment. While they did have a department dedicated to leading a pipeline called Mountain City Leads, that department was still actively being built. Chief of Leadership John's plans to work on both improvement and alignment through department building with such an emergent department may have been aspirational. Using indicators of existing initial alignment rooted in evidence, such as evidence of active use of standards, active collaboration between teams, or evidence of a consistent all-department space already in existence may have yielded a site further along.

Another major limitation stems from my conceptual framework and its lack of criticality. By choosing to root my framework in organizational theory, my analysis was trained on patterns of action, organizational conditions, and attention. I was able to make claims about how leaders engaged in learning and improvement of their work over time and the conditions that helped and hindered that improvement, and such analysis was an important first main analysis of my data. However, as noted in Chapter 3, my framework could not account for data that arose, particularly from the three participants who were women of color, about racial, social, gender, and political dynamics that leaders described as influential to their work as district and pipeline leaders, such as how the MCPS central office embodied a male-dominant culture. Had my framework been centered in or included critical theory, such as Critical Race Theory or critical feminist theories, I would have been able to explore the structural racism and patriarchy that influenced how leaders were able to carry out their work. Such analyses are vital to understanding the leadership of district change that has aims racial equity, like this pipeline initiative. I aim to position my next analysis of these data to center race and racial dynamics.

Implications

My study's findings and limitations suggest implications for future research, funders, and for practitioners in the field. I expand on each in turn.

Implications for Research

Our field would benefit from further research that focuses on the aspects of principal pipelines that findings in my problem statement suggest are particularly promising: that they are district led and that they focus on aligning principal learning. Pipeline studies of longer duration and/or in settings further along in implementation would benefit the field in a number of ways. First, the field would benefit from a longer study of the leadership practices of pipeline

implementation. A strength of the initial studies commissioned by the Wallace Foundation were their five-year scope. A similar timeline focused on further exploring the leadership findings in my study would help the field understand what pipeline leadership for pipeline improvement looks like over several years. For example, a longer study could explore the difference between true attention breakdowns and pauses in attention that may have been misrepresented in my own study due to my limited study period. A longer study could also address whether and how conditions for improvement change over multiple years of a complex change effort. Additionally, a longer study might provide more opportunities to see how leaders lead teams in alignment, as findings from my study suggest getting to that place takes time – MCPS had been working on their pipeline for 6 years and they were just barely getting started on alignment.

Second, the field would benefit from further research around the aspects of change leadership highlighted in my framework. First, further research exploring distinctions between sensegiving moves or approaches within improvement leadership would create more nuance in our understanding of how sensegiving functions in complex change efforts like pipelines. My study largely examined whether any form of sensegiving was present in cases of improvement, finding that sensegiving did support teams to persist to some degree in improvement. Further research using for example Maitlis' (2005) four outcomes of sensemaking to explore variations in sensegiving across teams in a principal pipeline would help the field understand which sensegiving leadership moves support which kinds of improvement. Additionally, further research exploring the concept of coordinating leadership would benefit the field's understanding of leadership for alignment. As a reminder, coordinating leadership is leadership that deliberately tends to the learning of multiple teams and engages in sensegiving on those teams help them understand how their learning intersects with others' (Lounamaa & March, 1987). Lounamaa &

March (1987) used modeling to create the concept, but examples of what it looks like in the context of a school district change effort don't yet exist. A district with a pipeline further along in implementation would be a good candidate for such inquiry.

A contribution of my study is the importance of teams to pipeline implementation. As noted, existing scholarship rarely centers central office departments, but individuals or "districts" more broadly, as the locus of change. Honig and colleagues (2010) research has begun to articulate promising innovative functions for central office departments, such as HR and Teaching and Learning. What department dynamics, teaming, and leadership would support teams to enact those ambitious new forms, as well as multi-faceted initiatives like pipelines? Argyris & Schön (1978) argue that certain matters must be "discussable" on a team for learning to happen, such as admitting to an error. My study suggests teams must be able to improve their own dynamics if they are going to engage in programming improvement.[40] The field would benefit from further study of teams and team dynamics as a driver of district change – particularly how they leverage their own teaming practices as a condition for engaging in programming improvement.

One way to approach the further exploration of team dynamics would be an analysis of how racial, cultural, and gender dynamics influence pipeline leadership and pipeline teams. Such analysis would address the race-neutral limitation of my study's framework and analysis. For example, further analyses of the data in this study or a similar data set that layers in a critical race lens to explore which leaders engaged in sensegiving around which issues on which teams would add crucial understanding to the notion of "opportunities for sensemaking" as a condition for

[40] I did not center Argyris' ideas in my framework, but they are relevant in light of these implications. In particular, Argyris (1977) directly argues that organizations rarely use double-loop-learning to improve their "programming" if they can't use it for their "teaming" issues. He says, "It is rare...that an organization is able to use double loop learning for its instrumental and policy issues if it cannot do so for the games and norms" (1977, p. 117).

teams engaging improvement. What are the racial identities of the leaders who engaged in sensegiving? What are the racial identities of the leaders who first noticed and named ideas that got taken up? Whose sensegiving supports teams to persist? Who has power on these teams? Additionally, investigating how racialized tension may have functioned as part of teaming issues, which my study suggested are barriers to improving pipeline programming, is an important next step. Such critical analyses would add vital, racialized understanding of the daily work of pipelines I laid out in this study. In short, our field would benefit from racializing the *process* of pipeline implementation, particularly given the potential pipelines have to address inequitable school leadership as laid out in my introduction.

Finally, a study focused directly on how pipeline leadership leverages principal pipelines for systems change would benefit the field's understanding of these efforts as transformational. My study was largely focused internally the MCPS Department of Leadership, illuminating the day-to-day leadership of a team leading a pipeline. Further studies that interrogate how someone in Chief of Leadership John's position interfaces with the rest of the central office are vital to our further understanding of pipeline implementation as a systemic district change strategy. Such an approach is consistent with how other central office scholars view change, such as how Honig & Rainey (2020) argue that shifting even one piece of the pipeline – the role of the principal supervisor - "takes a system" (p.103).

Implications for Funders

If we are to build comprehensive knowledge about principal pipelines, we must understand more about the "how" of pipelines, in addition to what they can look like across settings and of course whether or not they have positive, equitable outcomes for leaders and students. I aimed with this study to look *inside* a principal pipeline effort; my findings shed light

on how district leaders manage to work towards the implementation goals of pipeline efforts on a daily basis. Funding more qualitative case studies with observation-driven methodologies in addition to the major cross-case and evaluation studies would bring this comprehensive knowledge to light so that we can know about the what, the why, the who, *and* the how of pipelines.

For example, in light of the lack of a race-explicit lens in my study and previous pipeline studies, the Wallace Foundation is currently on a promising track with their latest funded pipeline initiative. In 2021, they launched an explicitly "Equity Centered Pipeline Initiative" in eight districts across the nation and funded intersecting university-based research teams to study the initiative (Superville, 2021).[41] My study suggests that if we are to fully understand what it means to establish a principal pipeline with racial equity at its center, we need funders to fund studies that not only help us know what those equity-centered pipeline initiatives look like over time and whether they have positive impacts on outcomes for students and leaders of color, but we also need to know from research the kinds of conversations leaders are having during implementation, the racial and social positionalities of those leaders, and the likely racialized challenges they are facing day-to-day when doing so.

Implications for Practice

Current research and tools increasingly provide a vision of what principal pipelines can look like. For example, Policy Studies Associates recently published a "self-study guide" for districts to assess their readiness to implement a leadership pipeline (Aladjem et al., 2021). This

[41] For transparency, my current employer, Portland Public Schools, is one of the eight recipients of this "ECPI" grant from the Wallace Foundation. I am the Assistant Project Director of the initiative in our district.

tool helps districts assess themselves on the seven domains of pipelines.[42] However, district leaders committed to creating a pipeline in their district do not yet have research to turn to that guides them in *how to enact* such a promising vision and improve their self-assessment. What are the leaders supposed to do? Where do they start? How does context matter?

Based on the findings of this study, I argue that practitioners should consider an array of strategies when working to improve their principal pipeline efforts. First, teams matter. My study found that teams often did not move through the cycle of improvement around their own dynamics or other teaming issues, such as how the PS Team's attention broke down on transforming their Friday learning meetings. Teams in MCPS often initially raised and sometimes discussed concerns about team dynamics, but mining information to dig to the root of those issues – such to have a critical conversation on how beliefs on the team were different – was not common practice. Furthermore, I found that teams with active "teaming" issues often did not or could not address their "programming" issues. These findings suggest that pipeline leaders' time is well spent explicitly building team connections, team processes for engaging in improvement, and team culture. Role clarity is also crucial. For example, Program Director Peter did not perceive his own agency to lead the PLD Team's attention to particular aspects of their work, which hindered that team's progression through the cycle of improvement. Do the leaders in charge or pipeline teams understand their agency?

Relatedly, how teams spend their time together matters. In my study, regular meetings were the primary chances for teams to engage in collective improvement of their work. The absence of a regular meeting with all the members of the Department of Leadership until March

[42] The seven pipeline domains include the four original domains of 1. standards, 2. high quality preparation, 3. strategic hiring, and 4. evaluation and on-the-job support. They then include three that emerged out of the original PPI initiative, 5. principal supervision, 6. leader tracking systems, and 7. systemic support (Gates et al., 2020).

hindered work on alignment the year of my study, for example. Practitioners should consider ensuring that there is regular opportunity to gather the full pipeline team in addition to all the component teams. However, it's not just having meetings that matters. My study's findings about sensegiving leadership suggest that meetings matter to whether teams engage in the process of improvement only when led in ways that allow them to collectively examine their work. The leadership of meeting routines were often what either got in the way or facilitated teams to engage in improvement, such as how Program Director Peter's leadership of the PLD Team meetings often led to unfocused conversations and how Chief of Leadership John had a skill in surfacing multiple voices on a team to support mining information. Practitioners should consider: Who is leading each pipeline team? To what extent do they have facilitation skills to support the process of improvement? To what extent do they perceive their own agency to make changes in the work they are leading? To what extent do they understand their work as leading a team as a part of a larger whole?

Ultimately, my study's findings support practitioners to understand that the *how* matters just as much as the *what* when it comes to pipeline implementation. For example, as noted above, existing pipeline literature suggests that aligning all aspects of the pipeline to high-quality leadership standards is the crux of pipeline alignment (Turnbull et al., 2016; Turnbull, Riley, Arcaira, et al., 2013). I argue that this explains *what* districts are shooting for, but *how* they go about doing so entails a dynamic process of teams engaging in the cycle of improvement towards such aligned principal development work: working together to mine experience, trying new things, and continuing to notice and name discrepancies. Additionally, practitioners would be wise to look out for and prioritize engaging in improving issues of pipeline intersections and

interdependencies when they do arise as a way to prioritize alignment. My study suggests it is easy to not do so without such intentionality.

Conclusion

The implications of this study are timely. Quality school leadership is more both more vital and more precarious than ever. Since I began planning this study in 2015, our national context has drastically changed. Donald Trump was elected, served as president, and continues to threaten our democracy. A global pandemic hit, upending our lives, and upending schooling. George Floyd's and Breonna Taylor's murders at the hands of police launched many in our country into another wave of (arguably temporary) racial consciousness. A new wave of right-wing rage has been directed at schools, threatening educators' ability to teach the truth about our country's history and sociopolitical dynamics. The global pandemic remains, with over a million lives lost. In short, the principalship in this moment is exponentially *more* challenging than the existing research in my introduction suggests. How does one lead a school in such a context?

Recent leadership turnover data is beginning to show the challenge of doing so. One NASSP study showed that 45% of principals are planning to leave the field earlier than they intended as a result of the pandemic and the layers of challenge described above (as cited in Maxwell & Superville, 2020). This is true in my own district, where at least 37.5% of school leaders left their roles after the 2021-2022 school year full of COVID contract tracing, substitute shortages, students struggling to re-regulate back in schools after a year online, and an uptick in racialized hate crimes. However, our students need stable, transformational, instructional, culturally responsive leaders in this moment more than ever.

Principal pipelines that address both leadership turnover and leadership quality are one crucial response to the current state of inequitable school leadership in our nation's biggest

school districts. The implications in this chapter suggest ways forward for research, funders, and practice. Fellow researchers, we must continue to build knowledge about the "how" of pipeline implementation by interrogating not only the policy but the people and places that interact to influence implementation (Honig, 2006). Funders must prioritize funding such fine-grained qualitative studies. Fellow practitioners, we must build our teams' capacity to maintain attention on persistently refining how we are supporting principals across their careers.

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Appendices

Appendix A: Interview Protocols

Interview #1: Winter

Introduction

- Thank you for participating
- Reminder of the study – leadership practice of those leading efforts to improve supports for principals—like yourself! As well as what supports or hinders that work.
    - Sign consent form (or remind of signing)
    - Reminders: Confidentiality, Voluntary
- Preview interview
    - Purpose – understanding your goals and plans for the rest of the school year, your perceptions of your practice
    - Process, types of questions, feel free to ask me questions at any time
- Ok with audio recording?
- Questions?

Background – for the record

- What is your title and role with the district?
    - *How did you come to be in this position?*
- How would you categorize the different ways in which you support school leaders in your role? In other words, what are the "streams of work" you participate in that support principals or aspiring principals?

Your leadership practice

One of the things I'm focusing on in my research is getting beyond roles to describe leadership *practice* of supporting principals' leadership—it's why I observe you all so much!

- How would you describe your leadership *practice* as an EDS? In other words, if I were to watch you do your work, what would I see you *doing* to support principals on a regular basis? [probe for: different streams of work]
    - What guides your practice? How do you know what to do? [probe: people, documents, books, conversations]
    - How, if at all, do you plan your leadership practice?
    - How, if at all, has your practice changed since you started this role? What's influenced that change?
    - How, if at all, does your practice look different when working with different groups of principals? [probe: principals of color, white principals, novice principals]
- How do you work with others as part of your leadership practice?
    - Can you give an example?
    - Is there another person or office whose work yours depends on? Who and how?
- How and when do you reflect on your leadership practice? [probe: formal, informal, solo, with others]
    - Examples?

Goals for your work this year

I am curious about your goals for the rest of this year around the different streams of work you've mentioned [re-name the areas of work]. These next questions are around that.

- What are 2-3 main goals or hopes for the rest of this year with your work? [PLCs? RACE & EQUITY? CCC?]
    - Are those the same goals you've had all year?
    - Where do those goals come from? [probe: district goals, Mike, board, etc.]
- How are those things going so far?
- What are your plans to get there for the rest of the year?
    - Challenges?
    - What do you think will help you do that work?
- Do you have any goals or focuses for the year around your learning or your leadership outside any particular work stream? Why that?
- About PLCs:
    - What has been your biggest success with transitioning to PLCs this year? What enabled that?
    - What's been hardest about the switch to PLCs? What contributed to that?

Principal support as a district

I also have a few questions about principal support in Mountain City more broadly:

- Writ large, how would you like to see principal support improve or change in MCPS? Why that?
    - What barriers are in place to that vision? [probe specifics]
    - What do you think would enable it?
- This might be the same answer or different: what is one key lever, in your opinion, that would improve school leadership in Mountain City in a big way? Why that?
    - [if it makes sense: What is the definition of the principalship in MCPS?]
- [Probably a whole separate interview] How do you think MCPS is doing in supporting leaders in culturally responsive school leadership and leading for racial equity? Why?
- How would you define the "Mountain City Leads" program in MCPS?
    - How, if at all, do you see your work and yourself as part of "Mountain City Leads" or the principal pipeline?

Conclusion and next steps

- I would love to dig deeply into one aspect of your work that you think is particularly likely to improve for the rest of the year. What do you think that would be?
    - Alternatively, is there a piece of your work that you would like me to follow and capture?
- That's all I have for you for now. Do you have any other thoughts? Or any questions for me?

Interview #2: End of Year

Introduction

- Thank you for your time!
- Reminder of the study – what it takes to improve and support principal leadership district-wide—especially the role of leaders. This is not an evaluation; I'm not here to assess the success or failure of this work—I recognize that this is really hard work and I'm trying to study leaders doing hard work to help others in the field get better
    - Sign consent form (or remind of signing)
    - Reminders: Confidentiality, Voluntary
- Preview interview
    - I have two main sets of questions for you.
    - Feel free to ask me questions or add other related thoughts at any time
- OK with audio recording?
- Questions for me before we start?

I. Equity-driven principal support and central office leadership

My first set of questions are about leading for equity Mountain City Public Schools. I'm going to use the term "equity-focused" throughout this part of the interview. That term means a lot of things to different people; what does it mean to you?

1. How would *you* define school-level, equity-focused leadership in MCPS?
    - To what extent are principals in Mountain City expected to engage in this kind of leadership? How do you know?
    - If you were at a school observing what you consider an equity-focused principal, what are 2 or 3 things that principal would be doing?
    - If we were setting up that observation today, right now, and we needed to choose a principal who was likely to be engaging in equity-focused leadership right now, who would you choose to observe? Why them? Concrete example?
        i. Potential follow up: how would you describe this leader's racial identity? How if at all do you think this person's equity-focused leadership would look differently if they were [white, a person of color.]
2. How would you define district-level, equity-focused leadership in MCPS?
    - To what extent would you say that EDSs are expected to engage in equity-focused leadership in MCPS?
        i. If you were engaging in a peer observation of an EDS leading in that way, what would you look for in their practice? 2-3 concrete things?
        ii. If we were setting up this observation today, right now, and we needed to choose a district leader who was likely to be engaged in what we're calling equity-focused leadership, who would you choose to observe?
            1. Why them?
            2. Concrete example from their practice in the past 3 months?
    - To what extent would you say that other district leaders, aside from EDSs and principals, are expected to engage in equity-focused leadership?
        i. What are 1-2 things we would see them doing?
        ii. Who would we observe? Why them?
3. Let's say we were observing YOU engage in what you are calling equity focused leadership, and we'd been observing you consistently.
    - What's something you'd hope we'd see you doing over time?
    - What's a concrete example of that leadership? [Get to specifics: what time of year, who was involved] How is that an example?

- How close is that example to what you think your equity-focused leadership *should* be? Why?

All of this you've been saying about racial equity is and sounds really hard. The next few questions are about how MCPS as a district supports leaders across the system to do this work.

Let's think about principals first.

4. If I were a principal seeking to engage in equity-focused leadership, what from your perspective, are the main ways I would learn how to do so? [Probe: PLCs, LLD, Mountain City Leads…to what extent does ____ support principals in equity-focused leadership?]
    - How close is this support to what you think supporting equity-focused leadership *should* be?
    - What are 1-2 things that would need to happen for the system to get to that more-ideal place? Why that?
5. How, if at all, are you as a district leader supported to grow in equity-focused leadership?
    - How close is this to what you think the support you receive for *should?*
    - What are 1-2 things that would need to happen for the system to get to that more-ideal place? Why that?

Any other thoughts about equity-focused leadership or support in MCPS?

II. Perspectives on planning meetings.

I've been observing a lot of meetings about principal support in MCPS this year, but I don't want to jump to assumptions about what I'm seeing. This next set of questions aims to get your perspective on some of these meetings. I have a set of questions that that I'll ask you about a few different meetings. [List them.] Is there one you'd like to start with?

Interviewee	Chief of Leadership	Principal Supervisors	Pre-Service
Meetings to ask about	PD Team EDS Friday EDS Ops Full Mountain City Leads	PD Team EDS Ops EDS Friday	PD Team AP PD Team J-C-V weekly check-in Full Mountain City Leads

1. How long have you been participating in [meetings]?
2. What is your sense of why these meetings happen at all?
    - Probe: who decided?
    - Potential probe: is that purpose [potentially rephrase] still the main purpose of these meetings?
3. Over the course of this school year, to what extent would you say, in general, that [these meetings] accomplished that main purpose? Why do you say that?
    - Thinking specifically about the last [meeting], to what extent would you say that's an example of a meeting that accomplished what it was supposed to do?
        - To what extent is that typical of what is accomplished in [meetings] in relation to their purpose?
        - Meetings sometimes accomplish what they're supposed to and sometimes they don't. What would you point to as an explanation why this meeting did or didn't?
4. If you could change 1-2 things about the meeting in any way to better align what happens in the meeting with what it's supposed to do, what would you change?
5. To what extent would you recommend these meetings continue into next year? Why?

- To what extent would you like to participate in these meetings next year? Why?

Something else about these meetings that I want to understand is the leadership of [these meetings.]

6. At the last meeting I was at, [person] facilitated—and what I mean by that was that they set the agenda and ran the meeting.
    - How typical is it that [this person] would facilitate [that meeting]? Who else, if anyone, has led these meetings?

For non-facilitators	For facilitators

• To what extent would you consider that leadership effective, whatever that means to you?
  ○ Sometimes people use how participants feel as evidence of facilitation or leadership. Putting yourself back in that meeting, how do you remember you felt as they were leading the meeting? [Probe if needed: Did you feel heard? Comfortable? Productive?]
  ○ If you were conducting an observation of [that person] to understand their effectiveness in leading [meetings] over time, what are 1-2 things you would point to as evidence of their effectiveness? [Probe: what would you have documented?]
  ▪ Let's say that person asked you for concrete pieces of advice to improve their facilitation or leadership of the meeting, what would you offer and why?
  ▪ To what extent have you been given the opportunity to give that feedback? Why do you think that is?
	• If we had a video trained on you to collect evidence of your facilitation of that meeting, what are 1-2 things we would see you doing?
	• To what extent would you consider those things and your leadership of that meeting effective, whatever that means to you?
	  ○ If you were replaying that video and watching yourself facilitate that meeting with your supervisor or a coach, what are 2-3 things you would point to as evidence of your effectiveness? Why those?
	  ○ If you were to give yourself one piece of advice to improve your own leadership of [these meetings] what would you tell yourself? Why?
	• To what extent have you gotten feedback on your leadership of [these meetings] this year? [From whom? When? In what form?]
	  ○ Not everyone uses feedback they receive—some do and some don't. To what extent would you say you have or haven't used or incorporated that feedback? What explains why you did or didn't?

    - Would you recommend that [these meetings] are led in the same way next year? Why or why not?

7. Any other thoughts about [these meetings]?

Those are all the Questions I have for you. Do you have any other thoughts about any of what we've talked about? Or anything else you'd like to share?

Appendix B: Coding Scheme

Base Codes

Code category	*Codes and sub-codes* (Pseudonyms appear here when applicable)

Pipeline Piece (embedded case)	Pre-Service
	• APAP
	• Intern Institute
	• Pre-Service Planning Meetings
	
	Hiring
	• Interviews
	• Hiring Planning
	
	Novice Principal Support
	• Novice Principal Academy
	• Novice principal coaching
	
	Monthly PD
	• PLD
	• APLD
	• Summer Summits
	• PLD Team
	  ○ Race & Equity subcommittee
	• APLD Team
	
	Principal Supervision
	• PLCs
	• PS Team Meetings
	  ○ Friday Learning Meetings
	  ○ Tuesday Ops Meetings
	
	Full Mountain City Leads
	• Leadership Department Meetings

Role	Chief of Leadership Principal Supervisor Novice Principal Coach Program Director
People	[names omitted for confidentiality]
Data type	Observation Interview Document

Analytic codes

1. To what extent do district leaders persist in improvement across a principal pipeline initiative? To what end?

Code category	*Codes and sub-codes*	*Description*
Process of engaging in improvement	Notice & Name	When leaders introduce concern with current practice into a collective space
	Mine information • Reflection • Search • Other	When leaders discuss concern and ideas about how to address it through reflecting on experience, using feedback, seeking models, or using research
	Action	When leaders take new action to address concern as a result of engaging in improvement
	Continual mining	When leaders reflect on new action in conversation or through seeking feedback
Alignment	Intersection of pieces	Conversations, situations, events, or interactions where more than one pipeline piece is implicated
	References to other pieces	When a pipeline piece comes up in conversation or setting squarely focused on a different
	Pipeline	When a leader or group of leaders uses the term "pipeline" to refer to their work
Cases of Improvement	HIRING AP Hiring	These were emergent codes I used to track the cases of some persistence in improvement after the initial analysis. Data coded in these cases included data that showed the full "story" of persistence. I did not create codes for the 11 cases that were noticed and named only; that data was all held in a matrix. In retrospect, I should have!
	HIRING Bias Training	
	MONTHLY Role of Ps	
	NOVICE Coaching Model	
	PRE SERVICE APAP Project	
	PS Creating PLCs	
	PS Aligning PLCs	
	PS Team meetings	
	DEPARTMENT Development	

2. What conditions mediate patterns of persistence? In particular, how do the opportunities for sensemaking and the nature of issues constrain and enable pipeline teams to persist in improvement in some instances but not others?

Code category	*Codes and sub-codes*	*Description*
Opportunities for sensemaking	Routines	Patterns of action that support leaders to engage in the process of improvement, such as looking at feedback or reflection (Feldman, 2000; Feldman & Pentland, 2003)
	Agency	Leaders having, speaking of, or using their position to inform the work they do (Feldman, 2000)
	Sensegiving • Directing attention • Meaning construction • Setting the scene • Coordinating Leadership	A leader engaging in sensegiving by: • Directing others' attention via controlling discussion, using tools, or structuring discussion • Influencing meaning construction (Gioia & Chittipeddi, 1991) • Setting the scene (Rouleau & Balogun, 2011) – bringing a particular group of people together • Leadership moves that work to coordinate the improvement and alignment of the pipeline pieces, including connecting others' work to each other, describing long-term plans for coordination (Lounamaa & March, 1987)
	Sensemaking	Leaders are discussing their work in ways that include construction of new meaning about their work (Weick, Sutcliffe, & Obstfeld, 2005).
Conditions for improvement – nature of the issue	Issue complexity: • Interdependent • Decomposed	• Issue is connected to other issues or teams • Breaking down problems so that they *aren't* interdependent – simplification (Levitt & March, 1988)
	Information: • Feedback about practice • Models • Other	The kind of information leaders engage with while mining information.
	Nature of the issue	*Inductive Codes:* • *Programming* • *Teaming*

Other codes not tied directly to RQs:

Code category	*Codes and sub-codes*	*Description*
Other	Role Clarity	When leaders brought up or discussed their roles or the lack of clarity in their role
	Department	Anything that has to do with the Department of Leadership and their collective work
	Barriers in environment	Things leaders brought up as barrier to work, including superintendent transition, politics, conflict