ENACTING ACCOUNTABILITY IN INNOVATIVE SCHOOLS: THE SENSEMAKING STRATEGIES OF PUBLIC MONTESSORI PRINCIPALS

A Capstone Project

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EXECUTIVE SUMMARY

Montessori is the largest alternative pedagogy represented in the public educational system (Debs & Brown, 2017), with over 500 such programs currently operating in the US. The number of publicly funded Montessori schools has doubled over the past two decades, in part due to market-based reforms promoting educational innovation and school choice. Our nation's simultaneous pursuit of comprehensive, accountability-based reforms presents another promising opportunity for the Montessori movement, as Montessori is one approach that is both innovative and supported by research that demonstrates its potential to improve and equalize student outcomes (Culclasure, Fleming, & Riga, 2018; Daoust, 2004; Lillard et al., 2017).

Fidelity of implementation, however, appears key to the model's impact (Lillard, 2012; Lillard & Heise, 2017; Lillard et al., 2017), yet Montessori teachers, leaders, and researchers report that accountability requirements pose significant barriers to high-fidelity implementation within the public sector (Suchman, 2008). The leaders of public Montessori schools, therefore, are tasked with the challenge of meeting requirements while striving to maintaining the unique pedagogical identity of their schools.

In light of these challenges, this study attempts to understand how the principals of public Montessori schools negotiate coherence between dual theories of action driving educational improvement. To that end, the study's research questions explore participants' personal and professional histories, their interpretations of Montessori pedagogy and accountability policy (as well as perceived interactions between the two),

and their activities around collective meaning construction, organizational mobilization, and policy enactment within their schools.

This mixed-methods study applies a descriptive, interpretivist approach to a three-site case study in which participating schools were all Title I, public, district (non-charter), elementary Montessori programs located in the state of South Carolina. Each site, furthermore, was identified by a panel of experts as fully-implementing the Montessori model. At each site, all elementary Montessori teachers completed an instructional practices survey, while principals engaged in a series of three, 90-minute, semi-structured interviews. Survey data was analyzed using descriptive statistics, while interview data was recorded, transcribed, and coded to identify themes within, and patterns between, participating leaders' responses.

Findings from the study suggest that participants entered leadership with a substantial mismatch between their preparation and the demands of the Montessori principalship. Their sensemaking around issues of accountability policy was significantly constrained by regulative pressures, but also scaffolded by well-aligned resources and supports, all originating at the state and district level. That was not the case, however, when it came to their sensemaking of Montessori pedagogy. In contrast, in the absence of externally provided standards or supports, the particular experiences, social connections, and resources available to, or selected by, participating principals, had substantive influence on their understanding of the Montessori model. Further, the specific understanding at which each arrived influenced the degree to which they were committed

to implementing the Montessori model with fidelity or accepting of accountability-driven compromises. Additionally, findings suggest that principals developed the capacity over time to coherently enact policy within their unique context by investing significant time and effort to developing their pedagogical understanding. They described this process as requiring at least 5 years, a finding of relevance given the average principal tenure in South Carolina is 4.5 years (Tran, McCormick, & Nguyen, 2018).

Given these findings, this study offers several recommendations intended to aid researchers, policy makers, and school leaders in the work of promoting high-fidelity public sector Montessori programming. Researchers are encouraged to further examine the ways in which educators' sensemaking capacity may be complicated when held dually accountable to high-stakes policy and non-traditional pedagogy. Recommendations for policymakers focus on simultaneously prioritizing the hiring of experienced Montessorians into positions of leadership, but also providing clear standards and sufficient supports for principals who are new to the pedagogy. Finally, recommendations for practitioners encourage school leaders to undergo a structured, rigorous, and ongoing process for building deep and nuanced understandings of the Montessori approach. The ideal version of this may be committing to undertake Montessori teacher training during the early years of one's principalship.

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APPROVAL OF THE CAPSTONE

This capstone, "Enacting Accountability in Innovative Schools: The Sensemaking Strategies of Public Montessori Principals," has been approved by the Graduate Faculty of the School of Education and Human Development in partial fulfillment of the requirements for the degree of Doctor of Education.

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DEDICATION

I dedicate this work to the four loves of my life:
Lowen, who came in to the world just two weeks before I began coursework, and was my comfort animal through days of class and nights of studying.
Aedith, our sweet bundle of all that is good in the world; she makes even the hardest days a joy.
Aoife, dutiful and fiercely loyal, who shepherds the younger two off to bed each night "so mama can study."
And to Chris, who has reinvented himself as a husband and father to support me through this process.
I love you.

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SECTION ONE: INTRODUCTION

I inherited a mess. Scores were very low in math and writing, and the school had recently been put on state watch. That first year I just kept thinking, "These are talented and skilled teachers, but they don't seem to know the power of what they have in their hands."

-Sandra McDowell, Principal, Horizon Montessori

Sandra McDowell is in her third year of the principalship at Horizon, a large and well-established public Montessori school serving children in pre-Kindergarten through 6th grade and located in an urban midwestern city. Before assuming this role, Sandra's professional experience was largely comprised of teaching and administrative positions at private sector Montessori schools; in fact, she had worked at some of the nation's flagship programs, held up as model embodiments of the philosophy and used as sites for Montessori teacher and administrator training. She had a strong understanding, therefore, of what Montessori practice was "supposed" to look like. The pedagogy, based on the research and writings of Dr. Maria Montessori, a 20th century Italian physician and educator, emphasizes the development of children's independence and autonomy. Montessori students remain in the same mixed-aged classroom for three years, where they enjoy a high degree of choice and freedom of movement. Typically, they spend the bulk of a 3-hour uninterrupted morning period choosing their own work, with learning activities centered largely around physical manipulation of specially designed didactic materials. Lessons are presented by teachers with specialized Montessori training; they are quite brief and delivered predominately in small groups or to individual students. But

none of this describes what Sandra found when she stepped into the principalship of Horizon.

"No one had Montessori training," she explains, "no one." Because her state, similar to most others, does not recognize Montessori training as a valid route to teacher licensure (State advocacy groups, 2019), previous leadership had found it prohibitively expensive and burdensome to either identify or develop teachers that held both state and Montessori credentials. "And the morning work period had dropped to below two hours!" she exclaims, exasperated. Sandra went on to explain that the recommended three-hour work period had been cut short due to state and district policy mandates for daily blocks of time devoted to direct math and literacy instruction. Unfortunately, successful implementation of those accountability-related policies meant that Horizon's accreditation with the American Montessori Society (AMS) was now in jeopardy. "Everywhere you turn," Sandra bemoans, "you're moving around a new dictate or policy. I walked into a school that felt pulled around to perform for the state and district and had lost its sense of Montessori identity."

Sandra has limited time, she says, in which to make sense between these conflicting demands before there may be real and significant consequences for the future of the school. It is time to submit Horizon's annual academic achievement plan to the district, and Sandra has a bold plan. She and her teacher leadership team have written this year's plan in 100% Montessori terms, using AMS accreditation standards as their template. It remains to be seen both whether the plan will be accepted by the district, and beyond that, the eventual impacts that such a recommitment to Horizon's Montessori identity will have on students and their long-term success.

Statement of the Problem

Sandra's experience is becoming a more familiar one as more states and districts implement Montessori programming in public schools. The United States has seen a precipitous increase in the number of publicly funded Montessori programs over the past three decades, in large part due to market-based reform movements promoting school choice and the establishments of magnet and charter schools. After remaining almost exclusively situated within the private sector for well over a century, the number of public Montessori schools in the United States has doubled within the past 20 years. Now, comprised of over 500 schools and growing, the network of US Montessori schools constitutes the largest alternative pedagogy represented in the public educational system (Debs & Brown, 2017).

The arrival of Montessori in the public sector coincides with the rise of the comprehensive school reform movement and the subsequent shift in our nation's federal and state educational policy emphasis from issues of equality and access to those of ambitious standards, high-quality instruction, and equity of educational experience (Peurach, Cohen, Yurkofsky, & Spillane, 2019). One control mechanism for managing this shift took form as the standards and accountability movement, which was institutionalized into federal policy via the No Child Left Behind Act of 2001 (NCLB). This policy stream emphasizes student achievement and educational accountability via standards, standardized testing, and data use (Peurach et al., 2019; Skrla et al., 2004). According to Knapp, Bamburg, Ferguson, and Hill (1998), the espoused aims of these federal accountability policies are to clarify rigorous standards for student achievement, typically measured via performance on standardized tests, and to align curriculum,

instruction, and resources, as well as professional preparation and development towards the realization of those standards. Additionally, both NCLB and its reauthorization as the Every Student Succeeds Act of 2015 (ESSA) include provisions targeting our nation's persistent racial and socio-economic equity gaps and mandating that all students be brought to proficiency standards. At the heart of this legislation, then, is the intent to rectify the systemic educational inequalities that disadvantage marginalized students such as racial minorities, those of low socio-economic status, and the disabled (Peurach et al., 2019; Skrla et al., 2004).

On the one hand, the stated national priorities represent promising opportunities for Montessori schools and their leaders. The educational approach is in a moment of increasing public interest and is gaining legitimacy as research continues to highlight its potential to both improve and equalize student outcomes on a wide range of important academic and noncognitive measures (Culclasure, Fleming, & Riga, 2018; Lillard et al., 2017). Many Montessori educators are eager to leverage this momentum towards securing a foothold for Montessori schools in the public sector, and demonstrating the method's potential to address some of our nation's most pressing educational problems.

Of crucial importance, though, is that comprehensive, whole-school implementation of the model appears key to its impact and attempts to selectively incorporate individual aspects of the approach or to supplement the materials and curriculum with more conventional elements have resulted in diluted effects (Lillard, 2012, Lillard & Heise, 2017, Lillard et al., 2017). But while fidelity of implementation appears central to the model's success, Montessori teachers, leaders, and researchers report unique barriers and challenges to implementation in the public sector, due to a

policy environment that many see as fundamentally misaligned with their pedagogy (Suchman, 2008).

Researchers, for instance, have noted that practitioners identify several common “mismatches” between the visions, goals, and strategies of Montessori schools and the federal, district, or state policies they encounter in the public sector, with Brown (2015) describing such mismatches as potential “obstacles to implementing a Montessori program with fidelity in a 21st-century American public school” (p. 2). For example, the K-12 curricular standards of many states are not aligned with those of the Montessori curriculum and do not allow for the sort of student-lead curricular exploration encouraged in Montessori classrooms. Further, while Montessori teachers assess through daily observation of students’ classroom work, accountability-focused legislation such as NCLB and ESSA require students’ and schools’ adequate yearly progress to be tracked and reported via standardized testing scores. Although a Montessori classroom should contain a 3-year mixed age span, the pacing guides and linear, age-based curricular benchmarks of many states and districts render such an arrangement problematic or even impossible. Teachers with specialized Montessori teacher training are considered an “essential element” of an authentic Montessori school, but most states and districts require schools to hire state licensed teachers. This presents a substantial challenge, both financial and logistical, to the development of a qualified public Montessori teaching force (Montessori Public Policy Initiative, 2015). Lastly, due to a shortage of dually qualified leadership, districts often assign principals without Montessori training, experience, or understanding to lead Montessori schools, giving rise to predictable philosophical tensions between leadership and staff (Culclasure, Fleming, & Riga, 2017).

Clearly, despite the opportunities presented by Montessori's public sector growth, this expansion into new, unfamiliar, and at times shifting territory brings with it fresh challenges for the leaders of public Montessori schools. They are tasked with the challenge of meeting policy requirements in the accountability-focused public context while, at the same time, striving to maintain the unique pedagogical approach of their schools, built around deeply held beliefs regarding human motivation, learning, development, and the nature of success. In order to do so effectively, these leaders must first make individual sense of two overlapping, and at times conflicting, theories of action regarding the underlying goals of, and most effective path towards, educational improvement. Further, they must find a way to act as "sensegivers" within their organizations, shaping the meaning construction of others and creating a sense of shared purpose and collective understanding. How they undertake these sensemaking and sensegiving processes is the focus of the proposed study.

Background and Role of the Researcher

As a Montessori teacher and administrator myself, I share many of those core Montessori beliefs regarding how children learn and the crucial importance of focus, concentration, and intrinsic motivation. I work at a private, non-profit Montessori school in a mid-Atlantic state. I received my Montessori teachers' training at the adolescent level in 2004 through the North American Montessori Teachers' Association, which is affiliated with the national organization, American Montessori Internationale. I have been the lead teacher in an early adolescent program (6th-8th grade) ever since, for a total of 15 years. Additionally, I have been serving in administration for 9 of those years, and currently hold the title of Director of the Upper School and Staff Development. As an

outspoken advocate of the Montessori method, I acknowledge the clear potential for researcher bias related to the viability and potential of the method.

My earliest childhood, though, was spent in Alaska, as the child of public school educators who moved between stints in various villages above the Arctic Circle and on remote islands in the Gulf of Alaska. My parents were deeply committed to providing an equitable, quality education to children living, quite literally, at the outermost edges of our nation's public school system and built their lives around that mission. My mother would go on to be a nationally recognized elementary school principal, and later the Director of Elementary Education for our school district. This study, then, represents the convergence of two distinct but deeply meaningful threads from my life story.

Research Questions

This study seeks to better understand the lived experience of public Montessori principals as they navigate their role within a policy environment based on goals and strategies which compete with those internal to their schools. Towards that end, this study will examine the ways in which these leaders make sense of the interaction between accountability demands and Montessori structures and processes, define their own role in policy enactment, and formulate a basis for organizational response that may preserve Montessori fidelity or modify practice in important ways. The specific research questions to be examined are as follows:

> Central Question: In what ways do principals make sense of the Montessori model (as a whole school approach) within the specific accountability contexts in which their schools are located?

Five sub questions tease apart the essential dimensions of the central question:

1. What are the personal histories and professional or educational experiences described by principals leading high fidelity public Montessori schools?
2. How do these leaders make sense of the Montessori approach as a pedagogy and organizational philosophy?
3. How do these leaders make sense of the specific federal, state, and district accountability context in which their schools are located?
4. In what ways, if any, do they identify conflict or congruence between their understandings of both the Montessori approach and their schools' accountability context?
5. How do these principals influence the sensemaking and meaning construction of others in their school around issues of accountability-related policy enactment within a Montessori context?

Purpose and Significance

The proposed study will contribute to an understanding of the challenges faced by Montessori leaders as they attempt to maintain fidelity of implementation while bringing the model to scale within the public school system. The body of research involving Montessori schools is exceedingly thin, and what literature *does* exist is overwhelmingly concerned with comparing the academic, noncognitive, and life outcomes of Montessori students to those educated within more traditional environments. Empirical, peer reviewed journal articles specifically examining leadership practices within Montessori schools, either public or private, are virtually non-existent. [1]

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[1] To illustrate, a simple search in the EBSCO collection of 7 educational databases for the broad terms "leadership" and "Montessori" to appear within the abstracts of peer reviewed journal articles yielded no empirical studies at all. A similar search of all US dissertations published from 1997 through the current day yielded 20 papers, several of which proved irrelevant to the search terms, and just three of which considered leadership of public Montessori schools within the context of their policy environments.

The prevalence of public-sector Montessori schools is growing, and bringing with it a unique set of leadership challenges as Montessori principals attempt to meet the expectations of policy demands while protecting core beliefs and strategies. Unfortunately, there is surprisingly little research available for guidance as they navigate these challenges. The significance of this study, then, is that it aims to contribute where there is a wide gap in the literature by providing leaders, researchers, and policymakers with a deeper understanding of the relationship between Montessori schools and their public policy environments.

Beyond its significance within the Montessori context, though, this study seeks to illuminate a tension that is felt more broadly in the educational community as our nation pursues two prevailing, yet seemingly contradictory strategies, one based on market forces and the other on bureaucratic control (Peurach et al., 2019; Peurach & Glazer, 2015). On the one hand, the magnet, charter, and school choice movements encourage educational variety and innovation, and operate on a market-based logic that through experimentation, successful educational approaches will distinguish themselves. The standards and accountability movement, on the other hand, encourages bureaucratic centralization and operates on a logic that standardization will improve efficiencies within the system and minimize inequitable variations in educational quality (Peurach, Cohen, Yurkofsky, & Spillane, 2019). What is not yet clear, however, is whether and how these two strategies can coexist without each counteracting the effectiveness of the other. The broader significance of this study then, is that it explores the ways in which

leaders of innovative or non-traditional schools negotiate coherence with a policy environment that may require adaptation of core beliefs and practices.

Conceptual Framework

The conceptual framework of this study examines those processes of negotiation between schools and their external environments through the lenses of new institutional and sensemaking theories. Within the field of organizational studies, new institutional theory emphasizes the "reflexivity of structure and agency" (Gray, 2008, pg. 959). This particular viewpoint melds earlier organizational theories to claim that, while organizations (in this case public Montessori schools) are compelled to model internal structures and processes after templates provided and enforced by their institutionalized environment, organizations and their leaders also possess agency. With that agency comes a measure of power to structure one's organization in ways that reinterpret and modify old templates, or even model possibilities for *new* ones. So, on the one hand, the activities within Montessori schools are indeed constrained by regulative pressures arriving via educational policy, and they may experience pressure to reconfigure in conformity with commonly accepted templates for "schooling." But on the other, principals are key agents in the policy implementation process, functioning to either bridge or buffer between their macro and micro-level environments (Honig & Hatch, 2004; LeChasseur, Donaldson, & Fernandez, 2018; Rutledge, Harris & Ingle, 2010; Suchman, 2008). Principals, therefore, play a crucial role in determining the degree to which accountability policy impacts the nature of instructional practice within their schools. But further, as Spillane, Diamond, & Burch (2002) argue, the causal arrow is not unidirectional. Rather, "the implementation of district accountability policy has to be

understood in terms of a two-way interaction in which accountability policy shapes and is shaped by the implementing agent and agency" (p. 755).

But what are the organizational structures and processes through which policy and practice engage in this iterative cycle of mutual shaping? And what is the principal's role in guiding the form those interactions ultimately assume? Perhaps one "micro-level mechanism that produces macro-change over time" is described by the framework of "sensemaking" as advanced by Karl Weick (Weick, Sutcliffe, & Obstfeld, 2005, p. 419). Sensemaking is defined as an ongoing, enacted social process through which individuals and organizations simplify and structure ambiguity and change--in other words, how they "make sensible" an unfamiliar or shifting environment. Some recent scholars have made an effort to reconcile the two bodies of literature through a focus on the structures and mechanisms within organizations that link macro-environmental changes to micro-organizational actions (Coburn, 2004; Spillane et al., 2002; Weick, Sutcliffe, & Obstfeld, 2005). Located in a mediating position between policymakers and teachers, the principalship may function as one such linking structure. While Weber and Glyn (2006), propose that sensemaking may be an under-examined thread connecting institutional forces with micro-processes within individual organizations, the conceptual framework of this study proposes that it is principals who are uniquely positioned to function in this connecting capacity due to their responsibility to act as "sensegivers" within their schools. Wong (2019) describes sensegiving as the process through which key organization actors shape the meaning construction of others, while Spillane, Diamond, and Burch (2002) identify principals as crucial sensegivers when it comes to shaping the enactment of accountability policy.

This study, then, combines the lens of new institutionalism with Karl Weick's (1995) sensemaking theory as articulated within the contemporary K-12 public school context by those educational researchers particularly interested in the position and role of principals during policy implementation (Coburn, 2005; Spillane et al., 2002; Rigby, 2015). This resulting conceptual framework is applied to an examination of the leadership strategies of public Montessori principals as they negotiate tensions and ambiguities which arise between their understandings of both the Montessori model and the specific accountability policies under which their schools operate.

Methods

This study was approached through an interpretivist theoretical framework (Butin, 2010, p.59), in that it sought to understand how principals construct sense and meaning from the dual (and often conflicting) demands of both the Montessori pedagogy and their schools' policy environments. Furthermore, it was designed as a descriptive study, which Butin (2010) describes as being "primarily concerned with explaining a phenomenon clearly through the construction of categories and order that can, in turn, support later action" (p.81).

A mixed methods design was used to examine links between the sensemaking processes of leaders, their enactment of accountability policies within a Montessori context, and their role as sensegivers for others within their school buildings. Expert opinion was solicited to identify the principals of three high-fidelity public Montessori schools operating within South Carolina, as that is the state with the widest public sector implementation in the United States. An existing survey instrument which measures fidelity of Montessori implementation was administered to teachers within selected

schools to triangulate the suggestion that they are enacting a high-fidelity version of the model. Next, data collection consisted of a series of three in-depth, semi-structured interviews with selected principals, the purpose of which was to better understand their personal histories and professional backgrounds, their encounters with accountability messages in the course of their daily work, and the meaning they make (for themselves and others) of those policies themselves as well as their interactions with the Montessori method.

Limitations of Study

This study examined and compared the leadership and policy enactment of three principals, selected for their schools' adherence to the Montessori model, and each situated within a specific state and district accountability context. States vary widely, in both their degree of Montessori expansion within the public sector and their interpretation of federal accountability policy. Generalizability, therefore, is significantly limited by the small sample size, purposive sampling methods, and degree of policy variability between localities. The selection of case study methodology, however, helps to build theoretical understanding and provides in-depth exploration of particular cases, allowing informed readers to transfer findings across similar contexts (Yin, 2017).

Furthermore, sensemaking is inherently a theory which focuses on the situated nature of individual sensemaking within the larger organizational and institutional context. In this case, the theory was applied to an examination of the lived experiences of individual leaders, located within specific contexts, as they worked to reconcile ambiguity and tension encountered through their daily work in schools. The findings,

therefore, are based on principal reports of their individual interpretations and understandings, which further limits generalizability.

Delimitations of Study

In order to most effectively highlight tensions between accountability policy and the Montessori model, schools selected as research sites were public, district (non-charter), Title I designated elementary schools identified by available local experts as fully implementing the Montessori model. The Montessori approach is most thoroughly clarified for classrooms serving birth-3 year-olds, 3-6 year-olds, and 6-12 year-olds, while Montessori middle and high schools vary more substantially in nature of implementation. This is due in part to the fact that secondary pedagogy was under-researched and under-theorized by Maria Montessori herself, and also to Montessori secondary schools' practice of "pedagogy of place," in which programming is adapted to the specific people, resources, culture, and history available in a school's immediate surround (Ludick, 2001; Montessori, 1976). Federal and state accountability programs, meanwhile, apply from kindergarten through 12th grade. Quality improvement efforts aimed at early childhood education, many of which do, in fact, impact Montessori schools, belong to a different policy bundle, frequently originating from states' departments of health and human services (About QRIS, 2021). Elementary programs, comprised in these schools of grades 1-6, are therefore the context in which frictions between the Montessori method and contemporary accountability policy should most clearly demand the attention and sensemaking activities of educators and be most readily observable.

A further delimitation of this study is that it focused on school principals as its unit of analysis. While much sensemaking research examines the policy interpretations of teachers at the level of classroom practice, less has been concerned with the sensemaking of educational leaders. As many of the barriers to authentic implementation in the public sector identified by Culclasure and Riga (2019) are, in essence, leadership challenges, this study concentrated on the sensemaking activities of principals rather than teachers.

Summary

This qualitative study is designed to explore the problem of practice, described by researchers, policy makers, and practitioners, that Montessori educators identify challenges related to the implementation of accountability policy within the unique contexts of their nontraditional schools. The study applies an interpretivist and descriptive frame to the examination of three case study sites, all public Montessori elementary schools in the state of South Carolina that have been identified by experts as fully-implementing the Montessori model. At each site, a teacher practice survey and a series of three in-depth, semi-structured principal interviews will more fully describe the nature of this problem, as well as the processes undertaken by school leaders to reconcile tensions between policy and practice.

This proposal consists of two additional chapters following this introduction. In Chapter 2, I will undertake a comprehensive review of those strands of literature useful to building a deeper understanding of the stated problem of practice. The first of these strands aims to frame out the history, and current state, of Montessori as a well-defined, educational theory of action. This is done with the intention of developing a deeper understanding of the raw material of which Montessori leaders are attempting to making

sense as they go about their daily work in schools. The second strand examines the observed, school-level impacts (both intended and unintended) of standards-based accountability policies. The juxtaposition of these first two sections of the literature review serves to highlight and explicate tensions and ambiguities which may arise at the intersection between the dual accountability systems (internal and external) to which Montessori schools must answer. Lastly, in order to better understand how school leaders in the broader K-12 context make sense of similar policy implementation challenges, literature examining principal sensemaking (Weick, 1995) during local policy enactment will be reviewed.

Chapter Three will outline the methodological approach of the study. That section will include a thorough explanation of the conceptual framework, which combines ideas from new institutionalist and sensemaking theories and applies them to the context of accountability-related policy implementation in public Montessori schools. The final chapter will also explain and justify strategies for participant selection, the instrumentation used, modes of data collection and analysis, a critique of the study's validity and reliability, identification of study limitations, and a discussion of ethical considerations.

SECTION TWO: REVIEW OF THE LITERATURE

As Montessori schools expands within the public sector, their principals encounter a complex and layered policy environment. Converging reform demands present new challenges and complexities for Montessori teachers and leaders (Block, 2015; Brown, 2015; Suchman, 2008), as policies can undermine or contradict each other, as well as the goals and strategies internal to schools (Honig & Hatch, 2004; Knapp, Hamburg, Ferguson, & Hill, 1998). This is sometimes because reform demands can operate on "theories of action" or "theories of schooling" that conflict with schools' existing beliefs and practices (Hatch, 2002), creating frictions and ambiguities that may be amplified in highly progressive, constructivist, or nontraditional environments such as Montessori schools.

Knapp, Bamburg, Ferguson, & Hill (1998) describe three prevailing policy strands to emerge in recent decades: those seeking to reform patterns of governance and decision-making; those coordinating health and social services to children in schools, and accountability-related reforms aiming to improve curriculum, instruction, and assessment in hopes of positively impacting student achievement. All public schools are challenged to make sense of the dynamic interactions between these three strands and to plan for coherent enactment of multiple, converging policies. Emerging research, however, suggests that the standards and accountability movement, embodied by the federal policies of NCLB and ESSA, may present a unique set of challenges for public Montessori schools (Block, 2015; Brown, 2015; Murray, 2005; Suchman, 2008). Provisions in those policies related to teacher qualifications, annual curricular benchmarks, and assessment via narrowly focused standardized testing, to name a few,

are not easily reconciled with Montessori's specialized teacher training, mixed-age classrooms, and practice of assessment through observation. While research into the subject remains exceedingly thin, the few identified studies which address Montessori leadership (either directly or indirectly) suggest that the boundary-spanning activities of school leaders exert important influences on the particular nature of policy enactment within individual public Montessori schools (Block, 2015; Scott, 2017; Suchman, 2008). Principals' understandings, therefore, of their schools' internal goals and strategies, the degree of alignment between those and incoming policy messages, and their own role in building coherent sense from the two, will have important implications for the prospects of high-fidelity implementation of the Montessori method within the public sector.

Although little is known about the work of Montessori principals as policy actors, helpful lessons can be drawn by combining existing research on Montessori as a theory of school organization with that on school leaders' implementation of accountability policy in public schools. This review of the literature, then, seeks to understand what is known (and not yet known) about:

- The espoused goals, theory of action, and researched outcomes of Montessori schools
- The outcomes and school-level responses (intended or otherwise) to our nation's current standards and accountability-focused policy regime
- The sensemaking and sensegiving of school leaders as they grapple to enact multiple, overlapping policies within the specific contexts of their schools

Reviewed Bodies of Literature

Although this study focuses on the experiences of public Montessori school leaders as they navigate contemporary educational policy, a literature base specific to Montessori schools is in its nascent stages. While public Montessori schools are certainly unique contexts, relevant lessons can also be drawn from the broader field of research in public, K-12 settings.

This review, then, brings together three bodies of research relevant to the stated problem of practice. The first of these examines the background and current state of the Montessori community's attempt to frame out the concept of Montessori as a mode of whole school organization. This section details the pedagogy's underlying philosophy, goals, core practices, and known outcomes, as described by contemporary practitioners, teacher trainers, scholars, and other experts. Secondly, in order to better understand the policy context within which public sector Montessori teachers and leaders are operating, the next category of reviewed research explores the aims, features, and impacts (intended and otherwise) of the standards and accountability mandates central to NCLB and ESSA. Lastly, some researchers highlight the sensemaking process as an important leadership activity through which principals simplify, categorize, filter, and integrate multiple demands into the daily operations of their schools. Therefore, the third strand of literature examined here is that applying the frame of Karl Weick's sensemaking theory, as articulated in *Sensemaking in Organizations* (1995), to the context of principal policy enactment. This final section of the literature review seeks to understand the specific activities through which principals guide organizational responses related to implementation of standards-based accountability policies.

Search Methodology

Due to previous challenges with finding in the educational databases scholarly literature relevant to Montessori contexts, I took an alternative approach to gathering literature for the first thread of my review (Montessori theory of action and outcomes). First, I reviewed the entirety of the *Journal of Montessori Research* (*JoMR*) archives, and collected every article published there with relevance to any of my three literature strands. Next, I collected every article included in the National Center for Montessori in the Public Sector (NCMPS) bibliography of recent Montessori outcomes research ("Does it Work?", 2019). Finally, I scanned and compared the citation lists of all articles collected from NCMPS and *JoMR*, gathering any research cited there that was not yet saved in my personal database, until redundancies in findings and citations made apparent that extant literature had been included.

The collection of studies for literature bodies two and three, however, began when I identified (or was pointed towards) a few seminal, anchoring pieces that served to ground and orient the collection process for each of the identified literature bases. Those "anchor pieces" included Berliner (2011), Hancock and Kilpatrick (2004), Spillane et al., (2002), and Coburn (2005). These pieces provided orienting vocabulary which assisted in the formation of an initial "word bank" for subsequent database searches (Butin, 2010). Further, their resource lists provided the source material for a "snowball" approach to gathering additional, relevant articles.

From there, using terms identified from those anchor pieces, a series of searches was conducted in the EBSCO collection of 7 educational databases. Because I found that a wide variety of vocabulary was used amongst researchers to describe similar

phenomenon, multiple searches were required, each yielding a few relevant studies. For the second literature strand (curricular and instructional impacts of accountability policy), search terms included: impact, consequences, effect, influence, outcome or result (in the title); standards, standardized, accountability, tests, testing, high-stakes, or NCLB (also in the title); and curriculum, instruction, teaching, teachers, learning, and students (in title or abstract). For the third strand (principal sensemaking), search terms included leader, leadership, or principal (in the title or abstract); sensemaking, sense-making, sensemaker, or cognitive (in the title); and policy, policy enactment, or policy implementation (in the title or abstract.

Delimitations

This study relies primarily on scholarly, peer reviewed works. In order to serve the specific research needs of this study, however, a subset of "grey" literature has been included from sources such as reports, professional journals, and periodicals. This is the case because a portion of this review seeks to understand the underlying frames, theories, or pedagogical understandings which likely influence the sensemaking processes of some Montessori school leaders. Therefore, selected literature which explicates the "theories of action" underlying both the Montessori model and the standards and accountability policies of NCLB/ESSA is largely conceptual or theoretical rather than empirical, and sometimes originated from non-scholarly sources. Literature included in other sections of the review, however, such as that relating to outcomes, sensemaking, and policy enactment, is largely empirical and sourced only from scholarly and peer reviewed journals.

A few reviewed studies examined phenomenon from the broader field of policy and leadership outside of an educational context, and when that was the case, studies authored after 1990 were included. This date was selected to allow for more current conceptions of the “reflexivity of structure and agency” (Gray, 2008, p. 959), characteristic of new institutionalist theory (a term coined in the 1990’s), to have entered the field of organization/environment relations. Those studies examining educational contexts, however, were included only when written after 2000. This date was chosen for two reasons. The first was to ensure that the experiences of schools working under contemporary policy mandates, namely the standards and accountability regimes of NCLB and ESSA, were the focus of this review. The second justification relates to the fact that new institutional conceptions of organization/environment relations, Weick’s sensemaking theory, and related cognitive frames for policy implementation studies, were all formulated during the 1990’s.

Delimitations related to school context were also applied. For instance, in an attempt to better understand the specific context in which public Montessori schools are operating, only research inclusive of, or exclusive to, public, K-12 schools was reviewed. Studies were largely restricted to US schools, but exceptions were made to include some research from countries undergoing national standards-based reforms highly relevant to the current US policy context, such as England and Israel (Schechter, Shaked, Ganon-Shilon, & Goldratt, 2018; Thomson & Hall, 2011).

Lastly, concerns regarding unit of analysis served as important delimitations for reviewed research. The guiding questions of this literature review involve the sense made by school leaders of the tensions between Montessori philosophy and broader policy

pressures. Literature included in thread three (sensemaking and policy enactment), therefore, holds school principals as the unit of analysis. While much of the existing research on sensemaking examines impacts and processes occurring at the classroom level, this study is interested in the role and positionality of leadership, and therefore, includes only research relevant to that concern.

Structure of the Review

The first section of this review attempts to frame the concept of “Montessori” by reviewing theoretical and conceptual literature around the pedagogy’s logic model, which is to say its stated goals, underlying assumptions, and inputs (both structural and process), as well as empirical literature examining outcomes for Montessori students. Section two will take a similar approach to the standards and accountability movement of recent decades by examining its stated goals, assumptions, and core strategies, as well as synthesizing research regarding impacts (intended and otherwise). Finally, to better understand how principals may interpret and respond to such complex policy interactions, the third section of this review consults literature on principal sensemaking and policy enactment in the broader public K-12 educational field.

About Logic Models

A logic model is a succinct representation that elucidates the intended outcomes, core components, processes, and sequence of a program or approach. It tends to consist of an explanation of a given program’s resources, activities, outputs, short-term outcomes, and long-term impacts. In essence, a logic model serves as a programmatic map, articulating an organizational “end-goal” and clarifying necessary supplies and the path to follow to get from here to there. Logic models serve as very helpful framing

devices, for both program evaluation and research, as they help to assess whether a program is "working," but can also surface important underlying assumptions, as well as highlight mismatches between the program as designed and that being enacted (Patton, 2012).

In the case of this study, an examination of logic models serves two purposes. First, a central concern of this study relates to the impact of principals' policy enactments on the fidelity of practice within public Montessori schools. Thus, examination of a Montessori logic model helps to define high-fidelity practice as it is described by expert practitioners, teacher trainers, and researchers. A detailed definition of the pedagogy serves as an important conceptual element of this study, then, and also provides the reader with a window into the educational paradigm which Montessori teachers and leaders are navigating in their daily work.

The second justification for a focus on logic models relates to the fact that a potential source of dissonance demanding the sensemaking activities of Montessori school leaders is tensions between dueling theories of the foundational goals of education, as well as the key resources and most effective strategies for realizing those goals. In order to understand the challenges facing public Montessori principals, therefore, as they attempt to enact multiple, overlapping, and sometimes conflicting systems of learning within their buildings, it is helpful to first frame out the core elements of those systems.

A Review of the Literature Towards a Montessori Logic Model

Montessori: A contested term. It is widely observed that Montessori schools, at least in the United States, diverge markedly in the nature of their interpretation and

implementation of the Montessori model (Daoust, 2004; Lillard, 2005; Suchman, 2008). Far from a settled term, the word “Montessori” is one whose definition has been contested, adapted, and reinterpreted for over a century now (Debs, 2016; Whitescarver & Cossentino, 2008). The adaptability of the method, which lends itself to adoption by diverse constituencies for a wide array of educational goals, allows advocates, policy makers, parents, and practitioners to “create fluid interpretations” around the method and implement it within a variety of contexts and communities (p. 126). This versatility may largely be to credit for both the pedagogy’s endurance in the United States and its more recent expansion into the public sector, but also gives rise to ongoing debate within the Montessori community surrounding issues of fidelity vs. plurality. While some argue that close adherence to original conceptions of the model is what makes Montessori “work”, others advocate for modernization and cultural adaptation of the model in the name of mainstream legitimization and widespread adoption (Debs, 2016; Lillard, 2008; Whitescarver & Cossentino, 2008).

The roots of Montessori’s conceptual ambiguity are no doubt numerous and complex, but two things are cited repeatedly by scholars and practitioners as foundational sources of equivocality. The first of these is a long-standing, and at times quite bitter, rift between the two governing bodies responsible for Montessori teacher training, professional development, school accreditation, and public relations, which has fostered a climate in which Montessori educators often amplify divergent practice and philosophical disagreements rather than mobilizing around shared pedagogy and values (Suchman, 2008). The second source is the unrestricted public use of the term Montessori—any

school is free to call themselves as such—which was, in fact, an unintended consequence of the aforementioned dispute.

The organizational rift opened in the early 1960's when the American Montessori Society (AMS), which originally functioned as the American subsidiary of Association Montessori Internationale (AMI), severed ties with its parent organization and established itself as an independent entity. Not long afterwards, AMI, originally founded in 1929 by Maria Montessori in order to preserve and advance her educational method, formed AMI-USA to serve as its new American arm.

At its heart, the conflict between AMI and AMS was rooted in philosophical differences around notions of fidelity and the locus of authority to define it. Dr. Nancy Rambusch, the founder of AMS, was a strong advocate for broadening the reach of the Montessori method to serve a wider and more diverse population of families, and felt doing so would necessitate diffusion of its message through a network of training centers, professional organizations, and universities (Whitescarver & Cossentino, 2008). She also argued that, in order to both expand and meet the needs of a broader constituency, practitioners would need to find ways to adapt, modernize, and Americanize the method (American Montessori Society, 2019; Lillard, 2012). Adaptations introduced by Rambusch include supplementation of Montessori's didactic materials with "curriculum support materials" and increased flexibility for practitioners to more broadly interpret some structural and process components of the method, such as length of an uninterrupted work period, multi-age groupings of students, and the number of adults responsible for working with a given group of children (Lillard, 2012).

Rambusch's assimilation of the model, and her dissemination of its message through both new and existing professional organizations, appears to have worked. The resulting legitimization of the pedagogy in the public eye lent to its relatively widespread adoption in both the private and public sectors. In the decades preceding the founding of AMS, Montessori as a movement was floundering in this country. Sixty years later, there are 5,000 Montessori schools in the United States, placing it second only to China as a worldwide leader of implementation (Whitescarver & Cossentino, 2008). However, as Lillard (2012) points out, research on the adaptations that occur during the "scaling-up" of educational models often reveals compromised fidelity and results in diminished positive impact. So, along with increased visibility and prevalence, the Americanization of the method by AMS brought to the Montessori community a heightened level of concern and dispute over what was meant by the word "Montessori," which components were crucial to its effectiveness, and who held the authority to say.

AMI, meanwhile, under the leadership of Mario Montessori (Maria's son), continued (as it does to this day) to promote a strict, classical implementation of the model as originally described by Maria Montessori in her lectures and writings. Mario advocated for a centralized organizational structure designed to protect the integrity of the method, and asserted that AMI was the sole entity with authority to train Montessori teachers and transmit the pedagogy's message (Whitescarver & Cossentino, 2008). AMI's interpretation of the method, therefore, dictates tight adherence to original conceptualizations of the model, including 3-hour uninterrupted work periods every morning (and afternoon beginning at age 4), 3-year student age groupings within each classroom, a full complement of Montessori materials without supplementation, and a

single trained teacher (Lillard, 2012). Art and music taught by specialists, for instance, is eschewed. AMI does not accredit schools with teachers trained by other organizations nor those which implement modernized or adapted interpretations of the model. “While these practices may appear exclusionary,” writes Debs (2006), “such orthodoxy has also enabled (AMI) to act as standard-bearers, preserving Montessori’s distinct tradition” (p. 44).

Eventually, the two organizations ended up in court, vying over exclusive rights to use the term Montessori. The judge, however, ruled that the word was a generic descriptor of a category of school, and therefore could not be trademarked or copyrighted (Chertoff, 2017). As a result, no governing body now holds the authority to determine whether or not a given school meets the criteria to operate under the banner of the name, and unaccredited or unaffiliated schools may use it, too. Indeed, today, examples abound of Montessori schools, both public and private, that are such “in name only,” and may not employ trained teachers nor structure their learning environments according to principles described by the method (Debs, 2016; Lillard, 2019).

Two sources, then, of Montessori’s conceptual equivocality are fairly well established in the literature, the first being inter-organizational conflict over preservation vs. adaptation of the model, and the second being lack of proprietary control over the term. Two other sources, however, are mentioned but less thoroughly elaborated upon by researchers. One, advanced by Debs (2016), is that Montessori schools are often founded as the result of parent-initiated, grass-roots efforts. The diverse groups of parents who unite to advocate for this particular school choice, however, have often joined forces for a wide, even contradictory, set of reasons. While specific elements of the philosophy align

with individual parents' personal ideologies, values, and worldviews, the specific notes of resonance may range quite widely amongst the group. Montessori, for this reason, has been advanced as "a solution to a wide range of educational values," and adopted by parents who see the method as aligning and reinforcing personal values, be those conservative, liberal, libertarian, equity-minded, religiously affiliated, or entrepreneurial, to name just a few (Debs, 2016, p. 119). So, interpretation of the methods underlying assumptions and key outcomes in ways that align with stakeholder values and needs, particularly those of parents, may be another source of conceptual flexibility.

Lastly, as Montessori schools interact with the requirements and expectations of the public school context, researchers find that practitioners must often work to make sense between the dual accountability systems of educational policy and the Montessori philosophy (Block, 2015; Brown, 2015; Murray, 2005; Scott, 2017). This process frequently involves updating, supplementing, and modifying traditional materials and practices in order to leverage the method towards meeting academic goals which originate in federal, state, and district policy. Reinterpretations arising from pressures to adapt and assimilate to the public context, then, are the final source of conceptual ambiguity noted in the literature.

Montessori's susceptibility to adaptation and reinterpretation, as described above, has enabled the method to endure for over a century in the United States, expand into the public sector, and weather ongoing cycles of systemic educational reform. It has also, however, resulted in a lack of conceptual clarity that is problematic for all stakeholders, but in particular for teachers and school leaders as they attempt to interpret and enact

some version of the method within the high pressure, high stakes context of the public school system.

Towards a shared conceptualization. Very recently, however collaborative ventures between AMS and AMI, most notably the joint formation of the Montessori Public Policy Initiative (MPPI) and the National Center for Montessori in the Public Sector (NCMPS), have mobilized members of the Montessori community to begin framing out a shared conceptualization of the model intended to aid the work of both researchers and practitioners. While philosophical differences have historically served to foreground divergence between Montessori groups, these organizational efforts are working to articulate and focus attention upon the many points of convergence. These endeavors have produced a couple of key artifacts which attempt to synthesize the collective understandings of Montessori experts regarding the crucial components and intended impacts of a Montessori education, and encourage the adoption of that synthesized understanding by the broader Montessori community. For example, MPPI has published a statement entitled "The Montessori Essentials" (2015), and uses it as the basis of training for practitioners and advocates to standardize their language when describing Montessori to policymakers and the wider public (see Appendix A). More recently, Culclasure, Daoust, Cote, & Zoll (2019) published an article which was the result of a three-year collaborative effort amongst a large committee of Montessori researchers, teacher trainers, school leaders, practitioners, and advocates known as the Montessori Research Working Group. The article proposes a detailed Montessori logic model (see Figure 1), and promotes the model as "a collective reference point to reconcile conversations…providing a common language and starting point for

understanding best practices" (Culclasure, et al., 2019, p.37). Below is a review of those commonalities that appear in the literature as widely shared conceptualizations of the Montessori logic model, including the pedagogy's underlying assumptions, intended long-range impacts, necessary inputs and resources, prescribed activities, and measurable, shorter-term outcomes.

Underlying assumptions. According to Patton (2012), one purpose of diagramming a given program's logic model is to reveal practitioner assumptions regarding the relationships between planned work (including resources and activities) and programmatic outcomes. In the Culclasure et al. (2019) diagram above, such assumptions are labeled as "key concepts," and they relate primarily to the nature of human motivation and development. Central to those is the assumption that motivation to learn is a natural tendency which will persist when nourished and protected by an optimal environment. As Lillard (2019) writes, a foundational premise of the philosophy is that children are "active learners with intrinsic motivation and innate knowledge of how to develop themselves under two conditions: when adults do not interfere, and when they can deeply concentrate on meaningful work in natural social environments" (p. 3). This core belief means that Montessori practitioners eschew external motivators, believing that incentives and punishments corrupt ones intrinsic motivation.

Another important assumption is the idea that children pass through successive "critical" or "sensitive" periods in which they are acutely attuned to particular forms of development and learning (Lopata, Wallace, & Finn, 2005; Marshall, 2017; Murray, 2008; Scott, 2017). While sensitive periods may occur during fairly predictable

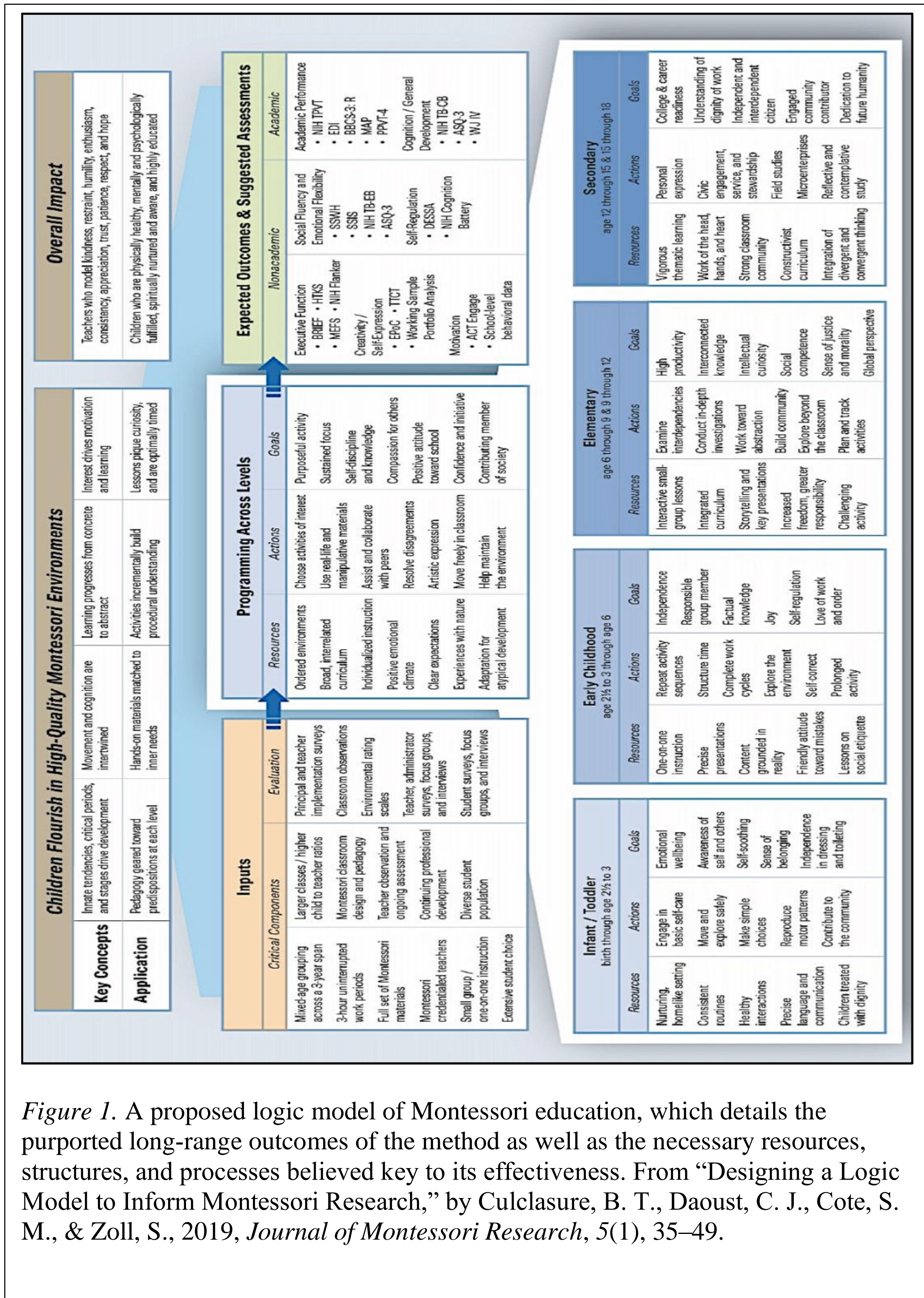

Figure 1. A proposed logic model of Montessori education, which details the purported long-range outcomes of the method as well as the necessary resources, structures, and processes believed key to its effectiveness. From “Designing a Logic Model to Inform Montessori Research,” by Culclasure, B. T., Daoust, C. J., Cote, S. M., & Zoll, S., 2019, *Journal of Montessori Research*, *5*(1), 35–49.

developmental windows, their timeline, duration, and sequence is specific to each child and "correspond(s) to individual developmental needs at a particular time" (Murray, 2008, p. 11). Because of children's innate understanding of their own developmental needs, learning during these sensitive periods is optimized when it is self-directed through student choice of materials and activities within a carefully curated environment (Lillard, 2019; Rathunde & Csikszentmihalyi, 2005).

Lastly, a foundational idea of Montessori is that that cognition is linked to physical movement (Byun, Blair, & Pate, 2013; Lillard et al., 2017; Mallet & Schroeder, 2015). Montessori classrooms are distinctive for the degree of student movement that takes place within them, as children are free to walk about, select materials, and work where they choose, including at tables, on the floor, or in the outdoors. Many work choices available to students, such as sweeping, line-walking, or sorting, are specifically designed to develop gross and fine motor skills and to promote coordination, physical health, and spatial awareness. Perhaps most importantly, the didactic materials, central facets of the Montessori classroom and the training of teachers, are designed as embodiments of cognition as handling, manipulating, and sorting objects, as well as moving ones body through space has been shown to improve visual perception and social cognition in infants, as well as memory, literacy, and physical/spatial understanding in older children (Lillard, 2019).

Impact. Montessori teachers, leaders, and researchers describe the intended long-term impact of a holistic education as not mere academic achievement or college and career readiness, but rather "human flourishing." The broad and ambitious concept of flourishing is defined by some researchers as "the capacity to thrive socially, emotionally,

intellectually, and economically, to participate meaningfully in family, community, and civic life, and to live a life of curiosity, agency, and satisfaction" (NCMPS, 2019). Flourishing has also been characterized as the optimal and holistic development of the child (Marshall, 2017). To go to the source, Maria Montessori herself wrote that education should not consist of knowledge transmission, but instead be concerned with, "seeking the release of human potentialities" (Montessori, 1946/63). Because Montessori practitioners may be pursuing a quite different set of long-rang educational outcomes than those articulated within more traditional schools, they often express divergent understandings of several structures and processes leading up to those outcomes, including curriculum, instruction, and assessment (Block, 2015; Murray, 2005; NCMPS, 2019).

Inputs and resources. The inputs of a logic model include all resources deemed necessary for implementation of the model, and may include funding, staff, a physical plant, clientele, and materials (Patton, 2012). Marshall (2017) suggests that the "dynamic triad of child, teacher, and environment" is the raw material of which a Montessori school is comprised, and the literature dictates specific characteristics and requirements for each of these elements.

Children, for instance, should be assigned to classrooms in mixed-age groupings spanning three years once they pass the age of two (MPPI, 2015). Montessorians are not just comfortable with, but actively encourage, larger student to teacher ratios than those recommended in typical environments. It would not be uncommon, for instance, to see a classroom of 30 or more students staffed with a single credentialed teacher and an assistant.

Further, Culclasure et al. (2019) add that Montessori classrooms should be diverse, as the pedagogy's originated as a means for serving first developmentally disabled, and later impoverished children (Marshall, 2017). While shifting politics and historical events consigned the US movement predominantly to the private sector for nearly a century, many see the recent public sector expansion as an opportunity to return to Montessori's roots serving a diverse population of students (Whitescarver & Cossentino, 2008).

Montessori teachers, meanwhile, undergo a highly specialized credentialing process, administered by training centers, predominantly overseen by either AMS or AMI. Recently, AMS and MPPI have further stipulated that, for a school to be recognized or accredited, its teachers must have received training from a center that is MACTE accredited (MPPI, 2015). This is a rigorous requirement which has earned those teacher preparation programs recognition from the US Department of Education and, in some states, licensure equivalency for their trainees. It has also, however, effectively voided the credentials of some seasoned Montessori educators. Public sector Montessori teachers may or may not *also* hold a state teaching license, but this is an external requirement for employment in the public sector, not a qualification for consideration as a Montessori teacher. Despite these variations in specifics, however, there is wide consensus amongst practitioners and researchers that a crucial resource for Montessori schools is teachers with specialized and recognized credentials who receive ongoing, Montessori-specific professional development (Culclasure et al., 2019; MPPI, 2015).

The Montessori environment is the third element in Marshall's (2017) "dynamic triad." A Montessori classroom is to be specially arranged and maintained as a "prepared

environment," tailored to meet the developmental needs of the age group it serves (Culclasure et al., 2019; MPPI, 2015; Whitescarver & Cossentino, 2008). Principals of the prepared environment dictate the physical composition, size, arrangement, and amount of furniture and materials in order to allow for independent access, harmonious activity, and safe manipulation by children. Foremost amongst those dictates, the environment should be resourced with a full complement of the specialized, manipulative, didactic tools known as the Montessori materials. Although a cataloging of those is beyond the scope of this review, a study by Lillard (2011) examined practitioner understandings in order to identify those materials widely accepted as crucial to high-fidelity practice in an early-childhood environment, while highlighting others as either acceptable supplementary options or discouraged from use. Further research is needed to build consensus around materials lists for classrooms serving other age levels.

The final unique input for Montessori schools is the resource of time, as the pedagogy specifies that students should be allowed at least one daily, extended block of uninterrupted time, ideally three hours in length, to be spent in largely self-initiated work (Culclasure et al., 2019; Daoust, 2004; MPPI, 2015). This is known as the uninterrupted work period, and typically takes place in the morning (Murray, 2011). In many schools, at least some (if not all) afternoons also consist of uninterrupted work periods.

Activities. The learning activities within a Montessori classroom are characterized by a high degree of student freedom and choice (Murray, 2011; MPPI, 2015), including the freedom to move about the classroom and outdoor environment, to eat and rest at reasonable intervals, and to choose where, with whom, at what, and for how long one works. Student learning takes place largely through individual and

collaborative interaction with the didactic manipulatives, as well as with real-life tools and materials (Marshall, 2017). The mixed age classrooms and high student-teacher ratios are believed to facilitate a culture of peer-teaching and collaboration.

Lessons, which are brief and engaging, introduce students to a broad and interwoven curriculum, and are delivered to individual or small groups of students. They are tailored to the specific interests, curricular location, and developmental needs of the children present, who continue on to reinforce and expand upon presented concepts through self-paced follow-up practice with the materials. Importantly, lessons and work directed towards the creation of a positive emotional climate, including artistic and verbal self-expression, collective maintenance of an orderly environment, conflict-resolution, and community meetings are considered central teaching and learning activities, given equal weight alongside academic lessons.

Traditionally, assessment in a Montessori classroom takes place predominantly, if not exclusively, via careful teacher observation and record keeping of student activities and work products. Testing and letter grades are generally not incorporated into classroom practice, at least throughout the elementary years (Suchman, 2008), as assessment is implemented as a largely formative, rather than summative, practice. Recent research, however, notes that many Montessori schools are responding to accountability related pressures by increasing role which more formal, summative, and standardized assessment plays in their classroom practice (Block, 2015; Daoust, 2004; Scott, 2017; Suchman, 2008).

Outcomes. Despite the recent incorporation of testing in some schools, purported Montessori outcomes are holistic, and therefore Montessori practitioners and researchers

continue to assess student progress and achievement on a broader range of measures than typically employed in more traditional school environments. As Sklar (2007) writes, "Because the goals of Montessori education deal with the development of the whole child - intellectual, physical, social-emotional and spiritual, studies limited to achievement gains…may be missing more than they capture" (pp. 21-22). According to the logic model published by Culclasure et al. (2019), educators can evaluate the success of their programs by assessing for short term outcomes such as positive attitude towards school and positive classroom climate, engagement in purposeful work with focus, self-discipline, and intrinsic motivation, and displays of positive social capacities such as empathy, compassion, and meaningful community contribution. Montessori scholars, meanwhile, might conduct research around longer-term outcomes including executive function and self-regulation, creativity, motivation, social-emotional fluency, and academic performance. It is worth noting, when reading these lists of outcomes, that Culclasure et al. (2019) fairly conspicuously do *not* mention academic achievement as an outcome to be emphasized and assessed in the short-term, but rather as the eventual, natural result of a student's positive, engaged, and productive classroom experience.

A growing body of outcomes research has set about evaluating public Montessori programs (most of which serve highly diverse, high-poverty populations) on a broad array of measures believed to indicate "flourishing," to largely encouraging effect. Researchers, for instance, have consistently found significant positive effects on measures of executive functions (Diamond & Lee, 2011; Ervin, Wash, & Mecca, 2010; Lillard et al., 2017; Phillips-Silver & Daza, 2018) and social and emotional health and development (Lillard & Else-Quest, 2006; Lillard & Heise, 2017; Rathunde &

Csikszentmihalyi, 2005). Positive academic outcomes are also fairly consistently supported by research, including higher scores for Montessori students on tests of literacy (Rodriguez, et al., 2005), math (Dohrmann et al., 2007; Donabella & Rule, 2008), or both (Culclasure, Fleming, & Riga, 2017; East Dallas Community Schools, 2010; Lillard & Else-Quest, 2006; Lillard et al., 2017, Mallet & Schroeder, 2015; Moody & Riga, 2011). Once in high school, Montessori students were found to have higher GPAs than their counterparts (Dohrmann, 2003) and remarkably higher graduation and college attendance rates (EDCS, 2010).

Fidelity. More relevant to the central concern of this study, though, research suggests that fidelity of implementation is crucial to the model's success, and that instances in which schools selectively implement aspects of the model, or supplement it with more conventional materials and strategies, risk diluting or erasing its positive impacts (Lillard, 2012; Lillard & Heise, 2017; Lillard et al., 2017; Marshal, 2017). In fact, three studies by Lillard (2012), Lillard and Heise (2017), and Lillard et al. (2017) provide compelling evidence that fidelity of implementation is crucial for the model to deliver on intended outcomes. In the first of these, Lillard (2012) examined the school-year gains of 172 preschool aged children enrolled in high-fidelity Montessori, low-fidelity Montessori, and conventional school environments. Despite no advantages in the fall, students enrolled in high-fidelity Montessori programs showed significantly larger gains over the course of the school year, compared to the other two groups, on tests of executive function, reading, math, vocabulary, and social problem solving.

Next, Lillard and Heise (2017) designed and experimental study to test the hypothesis, suggested by previous findings, that a key variable impacting student

outcomes in Montessori environments was the proportion of time spent engaged in work with the didactic materials. In this case, the study's sample included 52 children enrolled in three classrooms at the same school. All three classrooms contained some materials identified as supplementary by prior research (Lillard, 2011), such as puzzles, worksheets, or instructional games. At midyear, the children were administered six tests which established no baseline variation between classrooms, and then all supplementary materials were removed from two of the three classrooms. Four months later, near the end of the school year, the tests were re-administered, and significantly higher gains in early reading and executive function were found amongst the treatment group. In addition, modest advantages were found in their math scores as well, although no difference was found between groups regarding gains in vocabulary, social knowledge, or social problem-solving skills.

The final study, Lillard et al. (2017), built on prior findings by examining student outcomes, again on a broad range of measures, in programs with established records of high-fidelity implementation. In this case, the researchers followed the longitudinal progress of 141 students, 70 of whom were winners of a district lottery and thereby gained admission to two public Montessori schools recently accredited by AMI, a recognition indicating the strictest level of implementation fidelity. The 71 students in the control group had entered the lottery but lost, subsequently enrolling in a variety of other local schools, both public and private. The students were tested 4 times across the span of 3 years, during which time the Montessori students made significantly larger gains in academic achievement, social understanding and mastery orientation, and reported higher preference for school-related tasks than their counterparts. Furthermore, and of crucial

importance, while overall outcomes were elevated in the Montessori schools, they were also equalized across socio-economic groups. Academic gains were greatest amongst the low-income Montessori students, and by test point number four, only statistically insignificant differences were found between those students and their high-income peers.

In contrast to those carefully designed studies, the handful of research finding no advantages for Montessori students (Laski, Vasilyeva, & Shiffman, 2006; Lopata, Wallace & Finn, 2005) has not typically controlled for fidelity. In fact, there is ample evidence in the site descriptions included in some articles that data was collected in objectively low fidelity environments (Lillard, 2012), which begs the question of whether variations in outcomes were attributable to variations in practice. This lack of control for divergent implementation is no doubt due, at least in part, to the conceptual ambiguity surrounding the term “Montessori” discussed earlier in this paper. This highlights the need for further work towards conceptual clarity by the Montessori community, as well as further research on Montessori outcomes that carefully controls for variability in implementation.

Taken together, the literature around conceptualization of Montessori and evaluations of its outcomes helps us to understand some important influences upon the perspectives with which Montessori school leaders may approach their work and their role in policy implementation. First, the purported end-goal of a Montessori education is to support the optimal development and holistic flourishing of children, not merely their academic advancement. To that end, the approach supplies both an overarching philosophical orientation and specific pedagogical strategies. Philosophically, practitioners of the method assume that humans are innately and intrinsically motivated

to learn, and that given an appropriate environment, and ample space and time for deep concentration, they have both the tools and desire to self-construct. Pedagogically, the logic model delineates a coherent design for all aspects of the learning environment, including physical space, key materials, preparation of teachers, curricular scope and sequence, appropriate learning activities, and usage of time. Evidence suggests that, when implemented with fidelity, the model is able to improve and equalize student performance on the broad range of social, emotional, psychological, and non-cognitive measures identified as its expected outcomes. But, as discussed above, close adherence to the model appears crucial to its success.

As Montessori schools expand within the public school system, then, a central concern for school leaders is how the theory of action on which they operate will interact with, or be impacted by, the policy context in which they must survive. In the following section, literature on school responses to standards-based accountability will be reviewed with the aim of better understanding that policy context and the ways it is known to impact educational strategies within schools. The intention here is that a side by side examination of the Montessori logic model and the documented effects of contemporary accountably reforms will facilitate a mapping of tensions predicted to demand principal attention and negotiation.

A Review of the Literature on School Responses to Accountability

Just a few studies examine the instructional or pedagogical impacts of standards-based accountability on Montessori schools specifically. That said, meaningful lessons can also be drawn from the broader literature on school responses to accountability in hopes of better understanding the lived experiences of practitioners as they interpret and

enact reform mandates. Research within Montessori contexts, therefore, has been combined with that from the broader K-12 field in this section of the review. The intention of this section is to first frame out the broad strategies and underlying theory of action on which standards-based reforms operate, and then review the literature examining school-level responses, both intended and unintended, to those reforms. Lastly, the position and role played by school leadership in shaping those responses is addressed, as research suggests that principals can substantially mediate the impacts of policy on classroom practice.

Core mandates of NCLB and ESSA. The standards-based reform movement, which has been gaining momentum in the United States for the past four decades, began at the level of individual states, such as Texas and Florida, implementing test-based accountability structures, but was codified into federal education policy in 2001 when the Elementary and Secondary Education act of 1965 was reauthorized as the No Child Left Behind Act (Nichols, Glass, & Berliner, 2015). Born out of concern over waning international competitiveness of the US educational system, as well as persistent and widening racial and socio-economic achievement gaps, NCLB greatly expanded the federal role in educational policy by linking disbursement of Title I monies to compliance with its accountability mandates. In broad strokes, the act shifted federal policy focus away from provision of supports and resources and towards a focus on measurable outcomes (Hanushek & Raymond, 2005). The law required that states publish annual, grade-based curricular standards for what every student should know or be able to do, test students against those standards at regular intervals, and publish the resultant data in disaggregated forms to foreground racial or socio-economic disparities in student

achievement. In addition, states were mandated to ensure a "highly qualified" teaching force and the even distribution of competent teachers to schools with high concentrations of poverty. Under the law, schools were required to demonstrate adequate yearly progress (AYP) towards the goal of bringing all students, including each subgroup, to proficiency on identified standards. Those that failed to do so faced a series of increasingly serious sanctions, from allowing inter-district student transfers to state takeover or even school closing (Klein, 2015; NCLB, 2002).

In 2015, the act was again amended and reauthorized, this time as the Every Student Succeeds Act (ESSA). ESSA revised NCLB in two crucial ways. First, it handed back to states much of the authority to specify the details of their accountability systems. As examples, states now have flexibility in defining the qualifications for an "effective teacher," as well as the autonomy to set their own broad accountability goals and subgoals. Details of each state's system must be submitted to, and authorized by, the federal Department of Education, but are designed at the state level. Secondly, ESSA establishes a broader range of measures as indicators of school quality and student achievement than did NCLB. Whereas NCLB relied primarily on standardized test data and graduation rates, ESSA requires states' accountability systems to include additional indicators of student growth, English language proficiency, as well as a holistic measure of choice, such as student engagement, participation in advanced coursework, or school climate and safety (ESSA, 2015; NASSP, 2019; Klein, 2016).

The theory of action behind standards-based reforms. While, under ESSA, one may predict increasing variation amongst states in the specific details of their accountability structures, the essential policy components of outcomes-focused standards,

coupled with a system of incentives and sanctions, remain quite similar to NCLBs iteration of the law. The essential theory of action at play is rooted in the belief that clarified expectations around student knowledge and skills will lead to a domino effect of supportive reforms and the mobilization of resources towards their realization (Darling-Hammond, 2004), and furthermore, that school leaders, teachers, and students will work harder and achieve better outcomes when motivated by negative consequences for underperformance (Nichols, Glass, & Berliner, 2012). Research into the realities of how that theory of action plays out within schools have examined both the intended and unintended impacts of standards-based accountability reforms.

Intended impacts. The two broad goals of the standards-based reform movement are to improve student outcomes as measured by standardized tests, and to eliminate the disparities in outcomes for minoritized and low SES students. ESSA's statement of purpose, states that it aims to "provide all children significant opportunity to receive a fair, equitable, and high-quality education and to close educational achievement gaps" (NASSP, 2019).

On the first of those goals, improving overall student outcomes, the evidence of success is fairly evenly mixed. Some researchers cite a clear, positive correlation between the enactment of these reforms and student test performance (de Wolf & Janssens, 2007; Hanushek & Raymond, 2005; Hess, 2007) while others find only a weak relationship exclusive to some subject areas, grade-levels, and student subgroups (Nicholas, Glass, & Berliner, 2015). Still others find discrepancies between data generated by states versus that released by the National Assessment of Educational Progress (NAEP), discrepancies

pronounced enough to complicate researchers' ability to draw conclusions (Fuller, Gesicki, Kang, & Wright, 2006).

Findings are more consistent, however, on research to the second goal, that of equalizing student outcomes across racial and socio-economic groups. Unfortunately, studies fairly consistently reveal that recent reforms have not succeeded in narrowing learning gaps between black and white students, and may even have widened them (de Wolf & Janssens, 2007; Hanushek & Raymond, 2005; Nichols, Glass, & Berliner, 2015).

Unintended impacts. Perhaps more relevant to the concern of this study, however, is a second thread of research on the outcomes of accountability policy which seeks to identify and measure the unintended impacts, or side effects, of particular accountability-related policy components. This literature helps us to understand common responses, strategic and otherwise, of teachers and school leaders as they navigate the implementation of accountability policy.

Listening to the signal. The broadest, and most consistent, finding from the literature was that schools and their teachers "listen to the signal," which is to say that they pay close attention to published standards and tested (vs. non-tested) material, and in response, make observable and sometimes substantial adjustments to their practice (Hancock & Kilpatrick, 2004). Pedulla, et al. (2003), for example, in their survey of 4,195 teachers from 47 states, documented common modifications to practice in response to accountability mandates, which included narrowing of curriculum, aligning curriculum and instructional practices with the assessment, and dedicating instructional time to explicit test preparation. Extending that research to the context of public Montessori schools, Suchman (2008) found evidence of each practice listed above in three schools

included in her comparative case study. In addition to those, however, she observed three additional responses: impacting the external environment, aligning of language/vocabulary with assessment, and the creation of “gap-filling” lessons.

Teaching to the standards or to the assessment? Many researchers, though, drew a distinction between the impacts to learning made by “teaching to the test” versus “teaching to the standards.” State standards tend to be broad, address most or all content areas, and clarify high expectations for the learning of all students. Teachers fairly consistently express positive opinions regarding the value of their state standards (Pedulla, et. al. 2003), and this pattern generally held for the Montessori administrators and teachers interviewed by Suchman (2008). As one Montessori principal expressed, “There are some pieces that the state is expecting that we [Montessori educators] really don’t teach... and, to be perfectly honest, most of those things are good things. They’re useful skills” (p. 50).

But while some Montessori educators may feel that state standards provide a helpful level of curricular guidance, many remain challenged to reconcile their training and experience with the mandate that students meet annual, grade-based outcomes. ESSA requires that students be tested every year between 3rd and 8th grade, and once more during high school, in reading and math (NAASP, 2019). It also requires students to be tested three times in science, once during each of three age bands that roughly correspond to later elementary school, middle school, and later high school. Furthermore, many states have supplemented the federally required testing schedule with additional reading tests, social studies tests, and/or college and career readiness exams (Mullen & Woods, 2018). While Montessori teachers are trained to look for student outcomes across the

course of several years (typically three) and at an individualized pace (Block, 2015; Suchman, 2008), researchers find that they often make substantial modification to curriculum sequence and/or instructional practice in an attempt to blend these multiple educational goals (Block, 2015; Scott, 2017).

And sanctions, of course, are tied specifically to test results and not to standard adherence. It is tests, therefore, that for many teachers, “become a primary vehicle for communicating what the standards really mean” (Hancock & Kilpatrick, 2004). This outsized emphasis on the test content was of concern to several researchers, as evidence suggests it leads to a narrowing of curriculum as well as a reduction in complexity and challenge of instructional activities.

Curriculum narrowing, in which schools shift instructional time away from untested subjects to allot more time for tested content, was a nearly unanimous finding in the literature (Berliner, 2011; Diamond & Spillane; Hancock & Kilpatrick, 2004; Suchman, 2008). Berliner (2011), for instance, argues that curriculum narrowing is “one quite rational but troubling way to accommodate to the pressures to obtain ever higher test scores from students” (p. 289). As evidence, he offers the statistic that students in states testing only math and English could expect to spend six additional weekly hours in those two subjects, at the expense of primarily social studies and science, but also of PE, recess, art, and music. Three Montessori-specific studies, meanwhile, explored the unique tension that curriculum narrowing creates for Montessori educators, as it is not considered a Montessori teacher’s role to determine the amount of time that a child spends on each content area over the course of the day. Pressures to “add time” to tested areas, therefore, may be experienced as particularly challenging to navigate in this

context, and require more significant modification to classroom structures and processes (Block, 2015; Scott, 2017; Suchman, 2008).

In addition to curricular scope, instructional strategies were also found to be impacted by the pressures of standardized testing. Hancock and Kilpatrick (2004), for instance, found that classroom activities are often designed to mirror the structure and format of the tests themselves. As many states' assessments are comprised of multiple-choice questions, and emphasize rote skill over higher order processes such as analytical thinking and problem solving, the same was found to be true of instructional practices in those locations. Suchman (2008) coded such instructional adjustments as, "aligning pedagogy with assessment," and found evidence of their appearance in two of the three Montessori schools she observed.

Teachers are also known to respond to testing pressures by adjusting the amount of direct, teacher-lead instruction in their classrooms. With the exception of those teachers working in states implementing tests with innovative designs, this most often consisted of an increase in direct instruction and a decrease in student-lead, small group, and collaborative classroom activities (Au, 2007; Pedulla et al., 2003; Suchman, 2012). This pattern has been found to hold in public Montessori classrooms (Block, 2015; Scott, 2017; Suchman, 2008). While most research into this subject is qualitative, involves very small sample sizes, and doesn't control for the impact of public school policy by comparing to practice in private schools, Daoust, Murray, & Chen (2019) support earlier finding through a cluster analysis of implementation practices in 183 Montessori schools, both public and private. They found that public Montessori schools most often fell into the "regulated Montessori" cluster, characterized by lower levels of student choice and

freedom, increased whole-group, teacher-led instruction, and more supplementation with classroom activities not recommended by the model. They were least likely, meanwhile, to fall into the "classic" cluster of schools in which students experienced the longest uninterrupted work periods, increased levels of freedom and choice, and the highest proportion of small group lessons. While frequent direct instruction may be the norm in many classrooms, public Montessori educators consistently expressed concern over this adjustment, as they felt pressured to teach in ways contrary to deeply held beliefs about learning and motivation (Block, 2015).

Lastly, researchers found that teachers almost universally respond to accountability pressures by engaging in explicit test preparation. In some schools, however, this results in the "regular curriculum virtually shutting down...for several weeks prior to the mandated, standardized test period, as teachers directly prepared their students for the coming text," which the researchers deemed "an obvious interruption and distraction from regular instruction" (Hancock & Kilpatrick, 2004, p.148). Suchman (2008) found all three of her public Montessori schools engaging in explicit test preparation, while Block (2015) noted that testing became an accepted mode of day-to-day classroom assessment in her case study school. This, of course, represents a marked departure from high-fidelity Montessori practice, in which assessment is carried out via careful teacher observation of students' regular learning activities and work with the didactic materials.

Inequitable impacts on instruction. The aforementioned effects (on both curriculum and instruction), furthermore, are not felt equitably in all schools and by all students. Nicholas, Glass, & Berliner (2015), for instance, found that a state's poverty

index positively correlates with the intensity of test-related pressures exerted on teachers and students, and furthermore, that such pressure results in negative effects on the academic achievement of economically disadvantaged students. Zooming in to individual schools, meanwhile, Diamond and Spillane (2004) found that low performing schools react quite differently to the pressures of accountability than do high performing schools. While high performing schools often leverage testing data for ongoing, school-wide instructional and curricular improvement, low performing schools are more likely to focus on doing whatever is necessary to avoid sanction. They may, for instance, direct energy and resources towards those classrooms serving students in tested grades, or may divest energy from very low performing students in order to focus on "borderline" students who can more readily be nudged past benchmarks. The researchers argue, therefore, that because low performing schools are disproportionately attended by low income and minority students, high-stakes testing "may exacerbate rather than reduce educational stratification" (p. 8). Hancock and Kilpatrick (2004) echo this concern when they demonstrate the ways in which teachers of low-income students dedicate substantially more time to explicit test preparation and to rote skill memorization than do the teachers of high SES children. This theme did not appear in the Montessori-specific literature, highlighting a potential opportunity for further research.

The location and role of the leader. While common patterns of response are quite clear in the literature, several studies point to the unique potential of school leaders to mediate the impacts that accountability-related pressures exert on teachers. Hancock and Kilpatrick (2004) note, for instance, that school leaders "will have a significant effect on whether and how assessments influence teachers and learning" (p. 155), while

Diamond and Spillane (2004) illustrate the patterns by which leaders from high versus low performing schools coordinate school level responses to testing data. Both Scott (2017) and Suchman (2008) note the important role of leadership of Montessori schools as they attempt to navigate the high-stakes environment. Scott (2017) examines a case study, for instance, in which a Montessori school undertook extended professional development in an effort to meld the disparate expectations communicated by the Montessori pedagogy and state math standards. Suchman (2008), meanwhile, explores the contexts in which public Montessori leaders are more likely to engage their schools in an effort to “bridge” the gap between the external, accountability-focused environment, versus those in which they are more likely to filter (or even actively resist) such external pressures.

Summary of findings. Notably, there was significant overlap in the findings related to public sector Montessori teachers and more traditional contexts when it came to school-level responses to accountability-related pressures. As hypothesized, though, Montessori leaders and teachers often expressed unique concerns, challenges, and sometimes resistance related to the pressure to modify their curriculum and instruction in response to accountability-related demands. The Montessori-specific literature, for instance, frequently highlighted the fact that, when Montessori teachers responded to testing pressures in ways that were common amongst all teachers, they often expressed that doing so was in direct opposition to their training and pedagogy. Additionally, some identified responses, such as the increase in direct, teacher-led instruction, or the use of testing as a form of classroom assessment, were difficult for Montessori teachers to make meaning of, but did not appear to cause a clear pattern of tension or conflict for teachers

or leaders from more traditional contexts. This is perhaps because those were already common and accepted classroom practice, and did not violate those educators' internalized theory of action the way it did for Montessori teachers and leaders.

Principal Sensemaking and Local Policy Enactment

Public Montessori leaders, it appears, experience a unique set of challenges as they navigate their schools through the unfamiliar territory of standards-based accountability policy. According to Meyer & Rowan (1977) the continued existence of organizations most often requires some degree of adherence to the prevailing norms of their field. This is demonstrably the case within the contemporary, high-stakes educational policy context, in which deviance from explicitly articulated norms can pose an existential threat to particular schools. Other researchers, however, warn that those organizations which too readily or indiscriminately conform to environmental demands, do so at risk to both their organizational integrity and to unique strategies for addressing client needs (Schmid, 2004; Spillane & Anderson, 2014). And therein lies the heart of the tension experienced by the leaders of public Montessori schools: how to adequately comply with accountability-related reforms, yet maintain their schools' integrity and Montessori identity defined by deeply constructivist and child-centered practice?

As they inhabit the role of middlemen between state and district policymakers and teachers, principals are responsible for negotiating a fit between policy demands and classroom practice (Schechter, Shaked, Ganon-Shilon, & Goldratt, 2018; Seashore Louis & Robinson, 2012; Spillane et al., 2002). Research shows that rather than passively receiving and implementing policy, principals are known to "enact" it, a process which may include ignoring, prioritizing, emphasizing, or rearranging (Spillane et al., 2002).

Policy enactment may take on unique importance and features in nontraditional environments like Montessori schools, where the organization's core task, strategies, outcomes, and measures are defined in ways quite divergent from institutionalized notions of schooling.

To understand policy interactions within Montessori schools, researchers must examine how and why reform does or does not make its way into Montessori classrooms, and how it is reshaped along the way. One micro-mechanism that may help illuminate the specific paths taken between policy and enacted practice is described by sensemaking theory as formulated by Karl Weick (1995). Sensemaking is the process through which individuals and organizations actively structure the unknown in order to create "sensible" environments, those which are more understandable, predictable, and actionable. Sensemaking is an inherently social process which consists of three recursive phases: one's "acting into" an ambiguous environment (most often discursively), selecting relevant cues arising from those enactments, and then retaining plausible interpretations as the basis for future action and subsequent rounds of sensemaking (Weick, 1995). The sense which principals make, of both Montessori philosophy and accountability-related policy messages, may be a key influence on their accountability policy related leadership behaviors. Guided by an understanding that principals are crucial players in the collective process of local policy enactment, this portion of the literature review seeks to understand how the sensemaking activities of school leaders influence the specific and unique forms which policies eventually assume within their buildings.

Policy enactment as a sensemaking opportunity. Sensemaking is triggered when the flow of activity within an organization is interrupted by shock or disturbance

(Weick, 1995). The sources of such interruption are many, but environments with high "information load," "complexity," and/or "turbulence" are more likely to demand sensemaking of organizations and their actors (Weick, 1995, p. 86). Certainly, that description fits the context of today's school leaders, who are "constantly flooded with mixed messages and overlapping, sometimes conflicting, policy advice" (Saltrick, 2010, p.326). Research indicates that policy messages interrupt the flow of leaders' work by opening a gap between espoused goals and enacted practice, demanding new behaviors and activities from principals (Schechter et al., 2018). The layers of federal, state, and local policy that comprise a school's environment provide rich and plentiful opportunities for sensemaking, then, as they demand changes to routine and challenge the status quo (Coburn, 2005; Ganon-Shilon & Shechter, 2017).

As would be expected given contemporary policy trends, standards and accountability-related mandates (those linking student achievement goals with rewards and sanctions) feature prominently in the literature as salient disruptions demanding principal attention. In keeping with institutionalist conceptions, researchers found that the understandings and priorities expressed by principals largely mirrored those communicated by accountability policy (Spillane et al., 2002). To illustrate, in a qualitative study of 21 principals in a Florida school district, researchers found that stated organizational priorities closely echoed those set forth by state and district accountability provisions (Ingle, Rutledge, & Bishop, 2011). Principals articulated their schools' goals in relation to adequate yearly progress (AYP) on standardized testing, for instance, and described their school communities in terms aligned with the racial and socioeconomic subpopulations designated for reporting. School leaders have also been found to echo the

notion, frequently communicated by state and district accountability measures, that math and reading comprise the core curriculum. As a result, they prioritize student progress on those two measures in reform activities (Burch & Spillane, 2003).

A subsection of the literature, meanwhile, identified the unique and sometimes unexpected interactions between accountability mandates and other initiatives as triggers for sensemaking. Jennings (2010), for instance, highlighted tension between school choice provisions in New York City and mandated performance targets. While the former aimed to empower parents in the school selection process, the latter incentivized principals to actively manage their student populations. Matsumura and Wang (2014), meanwhile, examined the interaction between a statewide initiative promoting dialogic literacy and district directives to align instruction with standardized test content. Their findings point to a "bedeviling influence of accountability policies on the implementation of instructional (coaching) reforms" (p. 26). As a third example, Russell and Bray (2013) identified conflict (which commanded leaders' attention) between the theories of teaching and learning put forth by No Child Left Behind (NCLB) and the Individuals with Disabilities Education Act (IDEA). In these three illustrations, the disruption triggering principal sensemaking was the convergence and interaction of multiple, sometimes contradictory, reforms.

Principals' sensemaking and policy enactments occur within a broader environmental context; they are shaped and constrained by forces originating there, rather than resulting from a purely subjective process. As Sandberg & Tsoukas (2015) put it, because principals enact their environments "does not mean that environments are fabricated at will" (p. 21). Instead, institutions enter the sensemaking process via the

policy stream, which provides a continuous source of change and ambiguity principals are compelled to navigate and make sense of (Spillane & Anderson, 2014). More specifically, under our nation's current policy regime, a significant portion of principals' attention is commanded by puzzles related to standards and outcome-based accountability.

At the same time, while localized policy enactments may be bounded by their policy contexts, they do not adhere to strict behaviorist models suggesting that principals passively receive and implement reforms. Instead, school leaders actively make sense of policy messages, initially through the selection and extraction of cues from the ongoing policy stream. They do so through activities such as gathering (Gawlik, 2015), noticing (Spillane et al., 2002), privileging (Schechter et al., 2018), selecting, ignoring (Jennings, 2010), and rejecting (Rigby, 2015). Due to these filtering mechanisms, only some messages are organizationally processed, interpreted, and enacted, while others are deflected at the outset.

In a qualitative case study of two Detroit charter schools, for example, Gawlik (2015) found that principals sought out information and ideas relevant to meeting the targets of NCLB. They did so by attending board meetings and networking events and by engaging with professional organizations. This strategy gathered a wider variety of messages from which principals could then select. Schechter et al. (2018), meanwhile, found that when presented with multiple simultaneous messages, leaders emphasized some while downplaying others. Israeli principals in their study, charged with implementation of the national "New Horizons" reform, focused on increased administrative demands rather than their expanded responsibilities as instructional

leaders. Lastly, some principals may filter policy messages to the extent of ignoring or rejecting clear directives. One such leader was described in Rigby's (2015) study of six first-year principals enacting a district-mandated teacher evaluation system. Presented with conflicting messages about teacher development originating from the both the district and his preparation program, he simply ignored the district's message and did not submit required documentation.

These examples illustrate that, although institutional forces exert strong regulative pressures on schools, principals exercise substantial agency in selecting those signals to which they will attend. By filtering and prioritizing, principals simplify their information load and make initial sense of policy interactions (Sandberg & Tsoukas, 2015; Schechter et al., 2018; Weick, 1995; Weick et al., 2005).

Influences on policy interpretation. Research shows that individual leaders respond in unique and divergent ways to similar policy contexts. This is due, in part, to the selection and filtering behaviors described above, but also to the diverse interpretations of policy which are individually and collectively formed as principals engage in social and discursive meaning-making processes. Interpretation, which involves placing extracted or "noticed" cues into pre-existing frameworks (Coburn, 2005; Weick, 1995), enables leaders to stabilize their environments (render them more sensible) and routinize future responses by categorizing events (Weick et al., 2005). To understand the sense principals make of policy, then, researchers must first examine the nature of those pre-existing frameworks which guide their sensemaking, as well as the ways those frameworks are shaped by social interactions, personal and collective identities, and emotion.

The role of social processes. Importantly, sensemaking is never a solitary activity, as social processes and human cognition are inextricably linked (Eddy Spicer, 2019; Weick, 1995). As Weick (1995) writes, "conduct is contingent on the conduct of others, whether those others are imagined or physically present" (p. 39). Much of the research into policy enactment, then, illustrates that interpretations are shaped through social connections and interactions. In the case of principals, who occupy a boundary-spanning role, influential relationships exist both within and outside of school walls.

Researchers found that principals leveraged networks, partnerships, and social connections from the external environment as sources of information and ideas (Jennings, 2010; Rigby, 2010; Spillane et al., 2002). Charter school principals, for instance, tapped into inter-organizational networks for policy guidance while navigating school choice and accountability policies (Jennings, 2010). Those networks influenced interpretation in one of two ways. Sometimes, they revealed opportunities to advantageously shape one's student population. Other times, they reinforced values and social commitments, in this case, those relating to equity and social justice. Rigby (2015) also found principals' policy interpretations to be shaped by external connections. This time, principals' understanding of their role within a district teacher evaluation process was strongly influenced by the viewpoints and support of leadership coaches and cohort members from their preparation programs.

Other researchers focused on social interactions internal to the school. Seashore Louis, Mayrowetz, Murphy, and Smylie (2013), for example, found that interpretation of a distributed leadership initiative was shaped through plentiful opportunities for leaders and teachers to talk about the reform and create shared meaning around it. Through social

processes, both leaders and teachers came to interpret the new initiative as an extension of PLCs, and therefore easy to merge with existing beliefs and strategies of the school. Similarly, Burch and Spillane (2003) found that leaders' views on instructional reform were shaped by their connections to teachers. Leaders in their study voiced widely shared beliefs that expertise was to be sought externally for math, but internally for literacy. However, those leaders who regularly and directly collaborated with teachers came to understand important internal contributions for math improvement and external ones for reading. These examples support Weick's (1995) claim that sense is socially constructed, extending it to policy enactment research and highlighting the principalship as a bridge between external and internal networks.

Principals' personal and professional identities. While principals' policy interpretations are socially shaped, research also suggests that leaders' own backgrounds provide a framework for understanding new demands (Coburn, 2005; Matsumura & Wang, 2014; Seashore Louis et al., 2013; Spillane et al., 2002). During enactment, principals draw "upon their own lived experiences, making meaning of these experiences and the incoming messages" (Ingle et al., 2011, p. 601). Educational background, training, and prior professional roles are commonly cited examples of such "lived experiences," and research highlights that relevant knowledge gained there, relating to both policy and curricular content, is particularly influential.

Exploring the influence of policy knowledge, for instance, Carraway and Young (2005) found that principal understanding of the Skillful Observation and Coaching Laboratory (SOCL), as well as prior experience with the Teacher Performance Appraisal Instrument (TPAI), both shaped interpretations during SOCL implementation. Principals

expressed a lack of confidence and comfort with those coaching models underemphasized during SOCL training, interpreting them as more complex and challenging due to insufficient prior knowledge and experience with them. Furthermore, principals frequently framed SOCL in terms of prior experience with TPAI, despite the fact that they were distinct interventions designed for different purposes.

Other research highlights the important influence on policy interpretations of principal content knowledge (Burch & Spillane; Coburn, 2005; Matsumura & Wang, 2014). Coburn (2005), for instance, in an embedded, cross-case analysis of two elementary schools amid a statewide reading reform, found that principals' interpretations of the reform were aligned with the prevailing educational paradigm at the time of their training to be teachers. Matsumura and Wang (2014), meanwhile, researched an urban district's implementation of the Content-Focused Coaching (CFC) model, which promotes ambitious reading instruction. Similar to Coburn's (2005) findings, they assert that principals' prior understanding of dialogic literacy instruction influenced their policy interpretations, in this case relating to the placement and use of coaches.

In addition to professional history and prior knowledge, personal beliefs and values also influence policy interpretation (Burch et al., 2010; Saltrick, 2010; Schechter et al., 2018; Spillane et al., 2002). Research suggests that "as important as what school leaders know are the views and beliefs that they carry into their work" (Burch et al., 2010, p. 356). While researching principals' responses to demographic change, for instance, Evans (2007) found that leaders' racialized beliefs influenced the degree of responsibility they felt to respond in new ways to the needs of a changing population of

students. Employing deficit or colorblind narratives, many reinforced the legitimacy of existing structures and practices in ways "which ultimately marginalized the academic, social, and political interests of African American students" (p. 183).

In a study of class size reduction (CSR) reforms in Wisconsin, meanwhile, researchers found that principals' values and beliefs shaped their policy interpretation in three important ways (Burch et al., 2010). First, while some principals leveraged CSR funds for space renovations, those who highly valued tradition did not, and therefore didn't consider moving classrooms to new spaces, sometimes even leaving valuable space unused. Secondly, some principals believed CSR to supersede SPED initiatives and produced interpretations that contradicted IDEA guidelines. Other leaders, though, worked creatively to find synergies at the policies' intersections. Third, some principals believed teachers should independently acquire the new skills necessary to implement CSR. Others, however, leveraged district PD opportunities and repurposed time towards fostering the instructional and collaborative skills necessary for implementation.

Taken together, this research suggests that principals' identities, including their educational and professional backgrounds, content and policy knowledge, and personally held beliefs and values, play a crucial role in the meanings they construct around policy initiatives. In other words, the degree to which a given reform "maps onto," or conflicts with, a principal's identity can have profound implications for the sense eventually made of it (Carraway & Young, 2015).

School context and collective identity. In addition to personal identity, collective identity also plays a role in leaders' policy interpretations (Burch et al., 2010; Schechter et al., 2018; Spillane et al., 2002; Spillane & Anderson, 2014). Spillane and Anderson

(2014) provide an illustration from their study examining novice leaders' understanding of the principalship. New principals interpreted their role in light of their schools' collective identity, which was in turn heavily shaped by accountability status and level of institutional threat. Principals of schools under probation, for instance, interpreted their role as outward-facing and concerned with repairing perceived legitimacy. In contrast, high performing schools were more committed to identity maintenance, given their relatively secure institutional status. In those cases, principals interpreted their role as inward-facing and focused on buffering the school from external demands to protect organizational integrity. Similarly, Schechter et al. (2018) found that principal descriptions of their role under a national reform were shaped in part by organizational values and culture. Depending on a given school's routines, relationships, and professional norms, principals' metaphors employed to describe their work ranged from those emphasizing empowerment to those highlighting loss of autonomy in a new, top-down decision-making structure.

Combined with findings related to personal identity, these studies help us to better understand the "inseparability of individual and social surround" (Eddy-Spicer, 2019, p. 95). While personal background and beliefs shape a principal's interpretation of reform demands, both institutional and social forces have a hand in shaping the experiences, values, and understandings that leaders bring with them to the sensemaking table.

Emotion. A final influence on policy interpretation, one mentioned but under-examined in the literature, is emotion. While studies from the broader field of organizational studies point to its role in triggering and shaping sensemaking (Maitlis & Christianson, 2014), emotion is only superficially mentioned in research specific to

educational policy enactment (Ganon-Shilon & Schechter, 2017). Interestingly, Carraway and Young (2015) observe that the positive emotions principals associated with SOCL appeared to foster collaboration and follow through. This finding may complicate suggestions from the broader literature implying that negative emotions are more likely to trigger sensemaking, while positive ones may not be powerful enough to force engagement with disruption (Maitlis & Christianson, 2014). Schechter et al. (2018) also reference the role of emotion, noting that principals feel responsible to manage the balance between teacher's emotions and the pace of reform. There remains a gap in the literature, however, for a thorough exploration of the complex and nuanced relationship between emotion and cognition and how that relationship plays out within cycles of sensemaking around educational reform.

Local policy enactment is shaped by the specific nature and features of the pre-existing frameworks into which practitioners place new policy messages in order to simplify and understand them. Those frameworks, in turn, are formed through social processes, individual and collective identity concerns, and emotion. These themes emerge from the literature as the key influences upon principal sensemaking and policy enactment, but what of its products and impacts? Sensemaking is distinguished by the centrality of action to its process (Thomson & Hall, 2011). As Weick (1995) writes, sensemaking "is about authoring as well as reading" (p. 7), so policy enactment involves launching action from a platform of understanding built during previous phases or cycles. Principal sensemaking around policy demands, then, can be understood as a generative process--something is *produced*, rather than simply absorbed or interpreted, through an interplay between principal enactment and reform. Indeed, according to some

interpretations, the impact of school leadership is located in the products of principal sensemaking.

Policy sensemaking and sensegiving as core leadership tasks. Research which relates sensemaking theory to local policy enactment examines the crucial role of school leadership in bridging the gap between policy and improved school performance (Rigby, 2016; Seashore Louis & Robinson, 2012). The specific actions of principals determine whether, how, and to what degree change happens within schools, as well as the degree to which that change positively impacts student achievement. Some authors, therefore, point to effective sensemaking, as well as facilitation and shaping of the sense made by others, as core tasks of leadership (Ganon-Shilon & Schechter, 2017). Others even define educational leadership as the daily practice of making individual sense, and then "constructing narratives, representations, and enactments" which ensure others' ability to make sense of their school's core purpose and strategies (Thomson & Hall, 2011, p.386). Leaders' own sensemaking processes, therefore, are translated to school improvement when leaders negotiate a fit between external reform mandates and internal goals and strategies, act as "sensegivers" for teachers, and mobilize organizational action around plausible policy interpretations.

Sensemaking as negotiation. Seeking to explain why policy often fails to make its way into classrooms, earlier policy implementation research tended to focus on either macro-level problems with policy "as-written," or on the micro-level, daily decision-making of teachers as they adopt, adapt, or subvert reforms (Coburn, 2005; März, Kelchtermans, & Dumay, 2016). Overlooked in these bodies of research was the crucial role of school leaders, who are situated in a boundary-spanning position between the

organization and its environment (Burch et al, 2010). As such, principals act as intermediaries between policymakers and teachers, negotiating and mediating between external and internal priorities (Schechter et al., 2018; Spillane et al., 2002). The ability to do so successfully lies in principals' capacity to access the external environment for relevant information, opportunities, constraints, and threats; to monitor the internal environment for current practices, structures, beliefs, and norms; and to work "like architects to construct coherence and consistency" between the two (Spillane & Anderson, 2014, p.11). The role of the principal in policy enactment, then, can be seen as one of negotiating a fit between environmental demands and organizational identity.

Leader as "sensegiver." In the process of crafting coherence between policy and practice, effective principals act as "sensegivers" within their organizations. Sensegiving is the process through which key actors in an organization shape the sensemaking and meaning construction of others, often by facilitating a shift in the understandings, beliefs, and assumptions underlying current practice (Wong, 2019). Researchers find that the meaning teachers make of policy messages is based on interpretations formed through formal and informal exchanges with both peers and leaders (Coburn, 2005; Seashore Louis et al., 2013). Leaders act as sensegivers, at least in part, by both fostering and participating in the social networks where such meaning-making exchanges take place (Brezicha, Bergmar, & Mitra, 2015).

Within those networks, principals actively shape teachers' policy understanding by filtering access to information (Coburn, 2005; Gawlik, 2015; Matsumura & Wang, 2014), allocating roles (Matsumura & Wang, 2014; Russell & Bray, 2013), fostering conditions for collective sensemaking (Coburn, 2005; Ganon-Shilon & Schechter, 2017;

Seashore Louis et al., 2013), contributing to social processes (Burch & Spillane, 2003; Coburn, 2005; Gawlik, 2015), developing distributed sensemaking capacity (Seashore Louis et al., 2013), and defining organizational identity (Thomson & Hall, 2011). A crucial factor influencing effective policy enactment, therefore, appears to be a principal's capacity to articulate a coherent interpretation, bring others to a place of understanding, and prepare their school for coordinated action (Ganon-Shilon & Schechter, 2017, p. 685). "Leadership," write Smircich and Morgan (1982), "lies in large part in generating a point of reference, against which a feeling of organization and direction can emerge" (as cited in Weick, 1995, p. 50).

Sensegiving as mobilization. That sense of organizational momentum, however, can lead in directions that are more or less positively impactful, depending on a handful of factors. If, for instance, a given policy either diverges too radically (Coburn, 2005) or aligns too closely (Seashore Louis & Robinson, 2012) with existing conditions, the primary product of enactment may be reinforcement of the status quo. This can happen when leaders reject or ignore mandates (Rigby, 2015), substantially reframe policy intentions they perceive as too disparate from current conditions (Matsumura & Wang, 2014), or characterize existing practice as already satisfying incoming mandates perceived as highly compatible, a practice referred to as "over-assimilation" (Seashore Louis & Robinson, 2012).

Alternately, leaders may earnestly work to guide teachers towards implementation of a policy and either do so with fidelity, or substantially reshape and reinterpret it, according to the needs of their specific context, as it is put into place (Rigby, 2015). While earlier research framed this as a "problem" attributable to lack of skill or

protection of personal interests, more recent studies understand it as an intrinsic part of organizational learning and change (Coburn, 2005). Policy assumes different forms in different contexts because, in order to enact, a leader must first make sense of the policy itself (Ganon-Shilon & Schechter, 2017; Rigby, 2016; Burch & Spillane, 2003), its dynamic interactions with other, converging mandates (Burch et al., 2010; Jennings, 2010; Matsumura & Wang, 2014, Russell & Bray, 2013), and its points of alignment and tension with internal priorities and structures (Burch et al., 2010; Seashore Louis et al., 2013).

Finally, some researchers highlight the potential for policy enactment, given the proper conditions, to catalyze a deeper and more sustained process of organizational change and improvement (Burch et al., 2010; Honig & Hatch, 2004; Seashore Louis et al., 2013; Louis & Robinson, 2012). When leaders internalize mandates, actively negotiate coherence with policymakers, and act as effective sensegivers for others within their school, the result can be policy leveraged as a powerful tool to advance school-defined goals and priorities (Seashore Louis & Robinson, 2012; Seashore Louis et al., 2013). Effective sensemaking and sensegiving, then, have the capacity to generate shared identity, a sense of direction, and norms for collaboration and collective learning (Thomson & Hall, 2011). As Saltrick (2010) writes, “Schools need leaders who can help the organization make sense of (policy) signals so that they are heard not as noise or distractions, but rather as messages that can help schools define their identity, build their purpose, and create meaning from their work” (p.11). From this perspective, mobilization around the products of individual and collective sensemaking is a powerful mechanism through which instructional leadership is exercised.

Conclusion

Effectively bridging policy mandates into the classroom requires leaders to filter and prioritize incoming messages, actively negotiate a fit between those and internal conditions, and then act as sensegivers by articulating a sense of organizational direction and mobilizing staff around the result. Acting collectively on shared sense, leaders and teachers then enact, rather than implement, policy. Enacted policy is policy "as practiced" within a specific environment, after filtering, reprioritizing, and molding via the mediating activities of principals and teachers. In reality, the eventual result may assume forms quite different from the initial intentions of policymakers (Carraway & Young, 2015, Matsumura & Wang, 2014), as well as from those which play out in other schools (Coburn, 2005; Gawlik, 2015). Depending on a host of influences, many discussed above, principal sensemaking and policy enactment may result in a wide variety of outcomes, ranging from maintenance of existing practices to transformational change.

SECTION THREE: METHODOLOGY

This study sought to examine how the principals of high-fidelity, public sector Montessori schools make sense of both the Montessori philosophy as a system of school organization and the standards-based accountability policy environment in which their schools operate. Further, it sought to better understand how local enactments of accountability policy shape the nature of Montessori implementation within their schools. This chapter provides an overview of my research methodology, including an account of my conceptual framework. Following that, I will describe and justify the research design formulated for the study, including choices made regarding selection of research sites and sampling of participants, sources of data, and intended methods of data analysis. Lastly, I will discuss issues of research ethics, including concerns for potential bias.

Conceptual Framework

The conceptual framework for this study integrates scholarship from multiple fields of research and theory to better understand how accountability-related policies are enacted within the context of public Montessori schools (see Figure 2). Broadly, this study is framed by a perspective drawn from new institutional theories (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 2008) that the external environment has very real and tangible impacts on structures and processes within schools as organizations. According to these theories, as innovative educational approaches like Montessori encounter the highly institutionalized field of public education, they may experience strong pressure to conform to existing schemas of "how education is done." The mechanisms of such isomorphic conformity can be mimetic, as is the case when schools imitate the structures and strategies of others perceived as successful, or

normative, when schools and practitioners adhere to professional standards widely acknowledged as legitimate. Some isomorphic pressures, however, are regulative or coercive, and arrive in the form of policy mandates. Failure to comply threatens perceived organizational legitimacy and poses an existential threat (DiMaggio & Powell, 1983, Scott, 2008).

To illustrate, as described previously, ample research conducted in K-12 public schools highlights the ways in which educational practice is shaped, often in unintended ways, by standards-based accountability policies originating at the federal, state, and district level (Berliner, 2011; Hancock & Kilpatrick, 2004; Pedulla et al., 2003). More narrowly, preliminary studies within public Montessori schools suggests that the regulatory pressures exerted by such policies give rise to unique tensions between incoming policy mandates and practitioners' understandings of the logic model upon which their schools operate. Sometimes, teachers and school leaders respond to these pressures and tensions by adapting school structures and processes in ways that conform with more traditional learning environments (Block, 2015; Scott, 2017; Suchman, 2008).

Such adaptations are important to practitioners, researchers, and policymakers alike, due to evidence that adherence to a high-fidelity version of the Montessori model more effectively delivers the improved student outcomes underlying Montessori's appeal as an alternative to conventional public-sector approaches (Lillard, 2012; Lillard & Heise, 2006; Lillard et al., 2017). The role of the school leader can be crucial here in

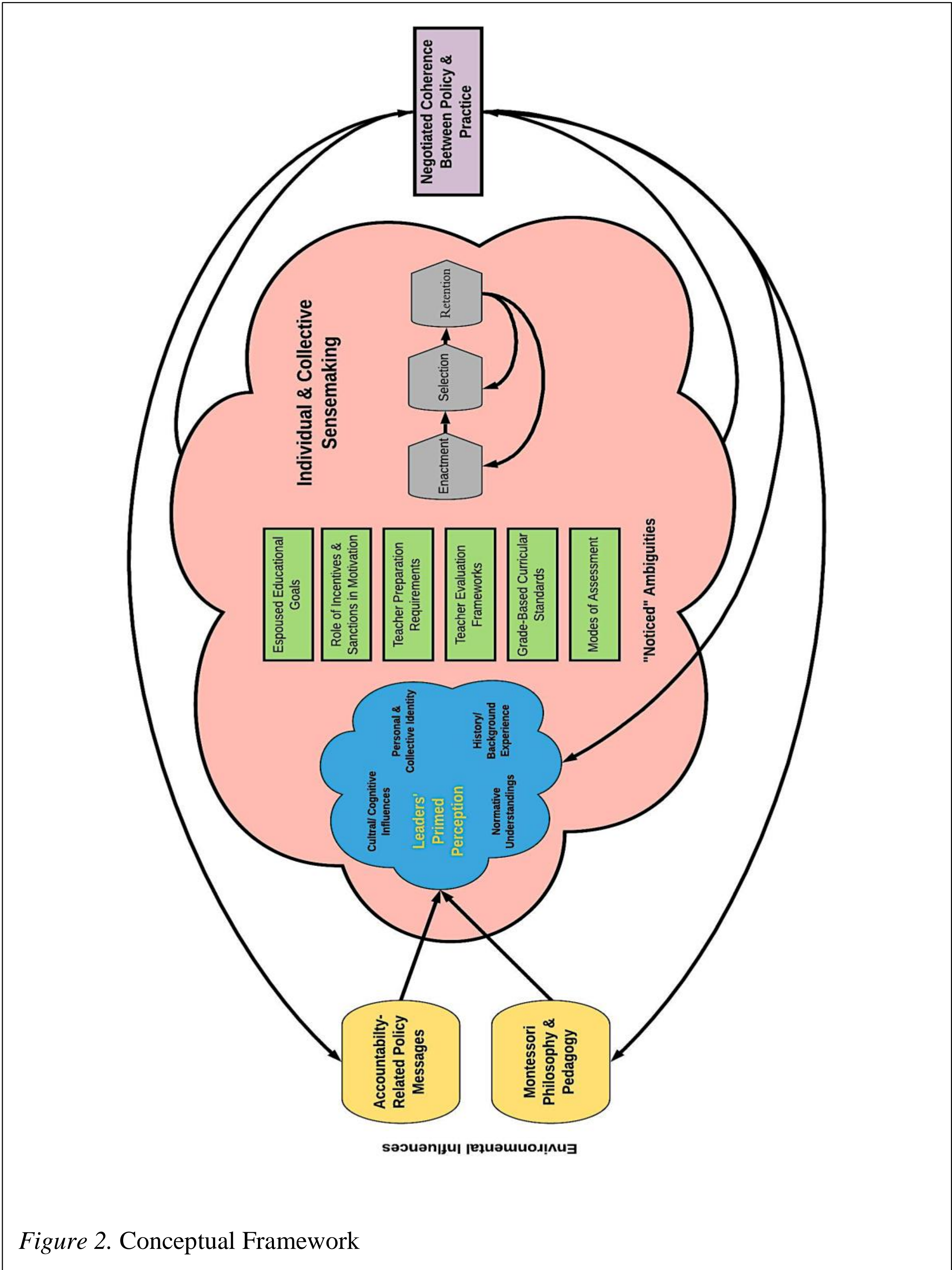

Figure 2. Conceptual Framework

mediating, via sensemaking and sensegiving activities, the ultimate impact that accountability mandates have on instructional practice. While very little is known about the how these activities are enacted by public Montessori school leadership, studies from the broader educational field illustrate that, during the process of local policy enactment, incoming messages are often substantially re-interpreted and reshaped by principals in an attempt to build coherence between external demands and the internal working of their schools (Burch, Theoharris, & Rauscher, 2010; Coburn, 2005; Seashore-Louis & Robinson, 2012; Spillane, Diamond, & Burch, 2002).

Relevance of sensemaking theory to the proposed study. While the new institutionalist perspective helps us to understand that activities within organizations are shaped and constrained by their policy environment, it neglects the mechanisms by which policy messages are "translated, maintained, or disrupted by actors and their (inter)actions at the organizational level" (März, Kelchtermans, & Dumay, 2016, p. 304). Sensemaking theory (Weick, 1995) bridges this conceptual gap by identifying actors and activities that connect macro-level processes to the daily, internal workings of schools (März et al., 2016; Weick, Sutcliffe, & Obstfeld, 2005). Sensemaking is defined as an ongoing, enacted social process through which individuals and organizations simplify and structure ambiguity and change. In the case of school reform, this involves school leaders' selection and framing of relevant messages from the policy stream in order to direct their interpretation and prepare an appropriate response (Weick, 1995). The choice of sensemaking as a framework for this study, therefore, provides a lens through which to examine the individual and collective processes occurring within Montessori schools in

an attempt to make coherent sense of the complex interactions between standards-based accountability policy and the Montessori method.

Definition of sensemaking. Weick (1995), working in the field of organizational theory, defined sensemaking as the process through which individuals and organizations actively structure the unknown in order to create "sensible" environments, those which are more understandable, predictable, and actionable. Further, he described sensemaking as being characterized by seven distinctive features, each explored to varying degrees in the literature. The process, he details, is "grounded in identity construction, retrospective, enactive of sensible environments, social, ongoing, focused on and extracted by cues, and driven by plausibility rather than accuracy" (Weick, 1995, p. 17). Over the past two decades, researchers have built out a body of literature examining sensemaking within educational contexts, and even more recently, the sensemaking of educational leaders, particularly in relation to reform, has been identified as an important avenue for research (Coburn, 2005; Russell & Bray, 2013; Seashore Louis & Robinson, 2012; Spillane, Reiser, & Reimer, 2002).

While Weick himself viewed schools as rich contexts for organizational theorizing (Weick, 1976, 1982; Orton & Weick, 1990), the findings of contemporary educational researchers extend the sensemaking construct into new and current contexts. The work of these scholars provides fresh and diverse illustrations of sensemaking as a situated, constructivist practice through which new information and demands are shaped into sensible, actionable forms through social processes. Four features from this definition are worth highlighting due to their prominence in educational research. The first is that sensemaking is a recursive process, consisting of distinct but interwoven

phases, in which the products of action become, in turn, elements of the surrounding environment and therefore available as raw material for subsequent rounds of sensemaking (Eddy-Spicer, 2019; Weick, 1995, Weick, Sutcliffe, & Obstfeld, 2005). The second is that sensemaking is triggered when actors notice changes, disruptions, or ambiguities within their environment (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). In the case of schools, that disruption often originates externally and arrives in the form of new federal, state or district mandates, and/or ambiguous policy interactions (Saltrick, 2010; Schechter et al., 2018). The third is that sensemaking is inherently a social activity; when constructing a policy interpretation, principals engage relationships and networks both within and outside of the school building in order to make both individual and collective sense of the work (Burch & Spillane, 2003; Evans, 2007; Jennings, 2010; Rigby, 2016; Spillane et al., 2002). Lastly, the process both consists of and is generative of action. Principals' roles demand that they act not just as sensemakers, but also sensegivers, and their sensegiving, or policy enactment, activities are key mechanisms through which they mobilize their organizations and guide the activities within them (Burch et al., 2010; Russell & Bray, 2013; Spillane & Anderson; Thomson & Hall, 2010).

Components of sensemaking. Researchers agree that sensemaking takes place in response to environmental disruption or ambiguity, and that it consists of three distinct, yet interwoven and recursive phases. At this point, however, it becomes necessary to address variations of interpretation amongst scholars regarding the specific nature of actors' response to such disruptions, as well as to the labels, characteristics, and sequence of the three phases.

Weick's (1995) original conceptualization of sensemaking was as a constructivist-discursive process in which the role of action is foregrounded (Eddy-Spicer, 2019). In this interpretation, individuals "act into" ambiguous environments in a nearly automatic fashion. Such action is typically discursive in nature, and concerned with talking out puzzles within a social context (Eddy-Spicer, 2019; Sandberg & Tsoukas, 2015). Theorists from this camp, then, would say that when encountering sensemaking triggers, individuals notice or "bracket" them in ways that fall below the level of conscious awareness and are socially primed (Weick, Sutcliffe, & Obstfeld, 2005). They then respond by taking discursive action, referred to as "enactment," which helps to build out a socially constructed interpretation of what is happening and what should come next. Weick (1995), then, referred to the three phases of sensemaking as enactment, selection, and retention, a conceptualization which foregrounds action and casts interpretation and organizational incorporation of meaning as retrospective activities.

Much of the recent sensemaking scholarship, however, particularly that examining educational contexts, has taken what Eddy-Spicer (2019) refers to as an "institutional-cognitivist" turn (p. 19). This view of the sensemaking process prioritizes the role of individual, conscious, interpretive processes over Weick's (1995) social, primed, linguistic enactment. The cognitivists, then, characterize actors' initial response to triggers, referred to as "creation," as an active, agentive process in which they select relevant cues from the environment for subsequent interpretation. These scholars identify the three phases of sensemaking as creation, interpretation, and enactment. Here, cognitive mapping and interpretation precede action, rendering the sensemaking process a more rational, intentional process than that described by Weick (1995) and other

constructivists. Scholarship such as that by Rigby (2015), Coburn (2005), Spillane, Reiser, and Reimer (2002), and Spillane et al. (2002), which applies this cognitivist framing of the sensemaking construct, comprises the bulk of literature on educational policy implementation and therefore features more prominently in this study.

Both theoretical branches, however, share a conceptualization of sensemaking as an ongoing and cyclical process involving the filtering (whether conscious or less so) of signals from the policy stream, their interpretation through discursive and social processes, and the launching of organizational action from the foundation of new understanding. Further, both emphasize that the policy enactments generated from one round of sensemaking become aspects of one's environmental context, and therefore available material for future sensemaking cycles.

Very little, if anything at all, is known about how these processes play out within public Montessori schools as they navigate their accountability-driven environments. This study, then, seeks to apply a sensemaking frame to an examination of the local policy enactments of public Montessori principals. It seeks to understand, primarily, how principals understand and interpret both the Montessori model and the particular accountability contexts in which their schools operate, as well as how the actions stemming from those understandings shape enactment of both policy and pedagogy within their schools.

Research Design

This study was phenomenological in nature, as it aimed to understand the lived experiences of individuals in relation to a particular phenomenon (Hays & Singh, 2012). Specifically, it examined the personal experiences and leadership behaviors of

Montessori principals and sought to discover commonality and/or divergence between participants as they engaged with the phenomenon of local policy enactment. The research design was mixed-methods, based on both a teacher practice survey and an in-depth, semi-structured interview series with the principals of three high-fidelity public Montessori schools. All research sites were located within South Carolina, a state chosen for this study due to its wide implementation of Montessori in its public schools.

Research questions. As mentioned previously, the central question of this study was: In what ways do principals make sense of the Montessori model (as a whole school approach) within the specific accountability contexts in which their schools are located? Sub questions are as follows:

1. What are the personal histories and professional or educational experiences described by principals leading high fidelity public Montessori schools?
2. How do these leaders make sense of the Montessori approach as a pedagogy and organizational philosophy?
3. How do these leaders make sense of the specific federal, state, and district accountability context in which their schools are located?
4. In what ways, if any, do they identify conflict or congruence between their understandings of both the Montessori approach and their schools' accountability context?
5. How do these principals define their role as organizational sensegivers? How do they influence the sensemaking and meaning construction of

others in their school around issues of accountability-related policy enactment within a Montessori context?

Sampling. As mentioned previously, data for this study was collected from public Montessori elementary schools located within the state of South Carolina. South Carolina recently surpassed California to become the state with the widest implementation of Montessori in its public school system. Almost 9,000 students are now served in South Carolina's public Montessori schools by approximately 45 programs operating across 24 districts. Most of these schools serve highly diverse populations of students, and most are designated as "Title I" schools, indicating that at least 40% of their students belong to low-income families.

Many of the accountability policies that Montessori practitioners report as causing tensions with their pedagogy, such as teacher certification requirements and annual, grade-based curricular standards, arise at the state level. Locating research sites within the same state, therefore, allowed for the relevant policy context to be held somewhat constant across sites while examining variations in individual principal response to that context. The selection of South Carolina, specifically, provided the largest pool of potential participant sites from which to select those meeting sampling criteria. The choice of this state provided another interesting opportunity, as the state has been implementing public Montessori for 25 years and is now doing so on a wide scale. Principals working within that state, therefore, provide unique insights into how coherence between accountability policies and nontraditional schools, which operate on a seemingly divergent theory of action is, or is not, negotiated over time.

Only principals overseeing elementary programs were selected as participants. Typically, in a Montessori school, an elementary program consists of two “levels,” one (lower elementary, or LE) serving 6-9-year-olds, and another (upper elementary, or UE) serving 9-12-year-olds. This choice was due to the fact that the Montessori method is most thoroughly conceptualized at the early childhood and elementary levels. Secondary Montessori schools, both middle and high, do exist, but have significantly less to go on from Montessori’s writings and trainings in regards to the coherence of their school designs. Montessori early childhood classrooms, meanwhile, do experience unique and interesting puzzles related to policy implementation, but that policy tends to originate from the Department of Health and Human Services, rather than the Department of Education, and be concerned with quality and safety standards for the operation of day cares. Elementary programs, therefore, are the context in which interactions and tensions between the Montessori logic model and accountability policy are the most pronounced.

Participant selection was further delimited by restricting research to schools with a Title I designation. This choice was related to the suggestion from research that leaders’ sensemaking around enactment of accountability reforms is shaped by both school identity and institutional forces. Specifically, schools serving high poverty populations have lower student test scores, on average, and therefore experience considerably higher levels of accountability-related pressure. According to Spillane and Anderson (2014) leaders facing higher levels of such pressure are more likely to concentrate their leadership activities around concerns of public legitimacy rather than internal organizational integrity. Further, Seashore Louis and Robinson (2012) suggest that the leaders of high poverty schools may have more positive attitudes towards state and

district accountability policies and exert more instructional leadership to bridge that policy into classrooms. In the context of this study, these findings suggest that the leaders of high poverty Montessori schools serve as particularly salient examples of the phenomenon in question, as experience higher levels of pressure to adapt the method in order to meet external, test-centered accountability demands.

From the pool of approximately 35 of South Carolina's public Montessori programs which host elementary classrooms, initial investigation indicated that 23 met the delimitations described above. Expert opinion was solicited for help in selecting appropriate research sites from that list of 23 schools. Montessori scholars who have conducted research related to fidelity and outcomes within the state, the Montessori Consultant who recently served in the South Carolina Department of Education's Office of Personalized Learning, and the state's Montessori advocacy organization, The South Carolina Montessori Alliance (SCMA), were consulted in order to generate a list of schools which met the following characteristics:

- The school is a district (non-charter) school that offers elementary programming
- The school has offered Montessori programming (or been a Montessori school) for a minimum of 5 years
- The principal has been in service for at least 2 years
- The school is designated as a Title I school
- The school is perceived as fully implementing Montessori practice within its classrooms

This process led to the identification of a short list of potential sites, and from that list, three were willing, and granted district permission, to participate. The degree to which those three schools satisfied listed criteria was then triangulated via the administration, to lead teachers of elementary classrooms within those schools, of a recently published survey instrument known as "The Teacher Questionnaire of Montessori Practices: Elementary" (Murray, Chen & Daoust, 2019). The survey was designed to gauge fidelity of implementation via teacher responses to 33 items each rated on a 4-point Likert scale. Individual items are designed to address adherence to both structural and process components widely considered as critical aspects of Montessori practice and are aligned conceptually with the Montessori logic model inputs described by Culclasure et al. (2019). The instrument has been reviewed and refined by a panel of expert Montessori teacher trainers, and shared publicly to encourage further validation through use by Montessori researchers (see Appendix B).

Selected sites. The three schools selected for participation in this study are public Montessori elementary schools located in the state of South Carolina. All have been offering Montessori programming for a minimum of three years, and all are designated as Title I due to the high poverty rate of the students and families they serve. The schools vary, however, in important and significant ways, including location, size of district, racial demographics, ages and numbers of students served, and whether they operate on a dual-track or whole-school model, to name just a few. Below, I will introduce each participating school and outline a few crucial characteristics which were found to play in to the findings presented in Chapter Four of this study.

Baldwin Elementary. Baldwin Elementary, which has been led for the past two school years by Principal Bryant, is a rural elementary school serving 546 students in grades PK through 5th grade. It is the only of the three participating schools that is currently "dual-track," meaning that its Montessori program operates as a school within a school. Baldwin's elementary program consists of 4 lower elementary (LE) classrooms that serve grades 1-3, and 3 upper elementary (UE) classrooms that, in this case, serve grades 4 and 5, but not grade 6 as would be typical of a Montessori UE program, as the district transitions students to middle school at that point. At Baldwin, the survey response rate was 100%, with all 8 of the school's Montessori teachers completing the questionnaire.

Approximately 200 of the school's 546 students, about 37% of the enrollment, are served by Montessori programming offered in grades 3K through 5th. The remaining 63% are enrolled in traditionally structured, single-grade classrooms, referred to "scholarly" programming. One of six elementary options in the district, Baldwin's mission is "to empower and inspire all to be educated and informed."

The school holds a Title I designation, as do all three schools included in this study, with 74% of its students qualifying to receive free or reduced-price lunch (FRPL) through the National School Lunch Program. The student body is 50% African-American, 42% White, and 3% Hispanic. On its state report card for the 2018-19 school year, Baldwin scored a rating of 34 (out of 100), which earned the school a classification of "in jeopardy" of not meeting state accountability requirements. In that year, 29% of students in the school met or exceeded ELA expectations for grade-level performance,

while 18.6% met or exceeded math expectations. These percentages are significantly below district averages, and even further below state averages.

Shady Hill Montessori. Shady Hill Montessori School, under the leadership of Principal Schmidt for the past decade, is a suburban elementary and middle school serving 326 students in grades PK through 8. The school is part of a large, urban district comprised of 52 elementary schools. Three years ago, the school completed its transition from dual-track to full-school Montessori, and its elementary program now includes five LE and 3 UE classrooms. All classrooms at both elementary levels serve a full three-year mixed age group, making it the only school participating in this study for which that is the case. At Shady Hill, the teacher survey response rate was 100%, with all 8 of the schools' elementary teachers completing the questionnaire.

Shady Hill falls in the "mid-high" range on its poverty index, with 63% of its students qualifying for FRPL. Forty-three percent of the student body identifies as Black, 40% as White, and 11% as Hispanic. With 34% of its students reaching ELA proficiency, and 27% meeting math proficiency, the school earned an "average" rating of 46 (out of 100) on last year's report card and was deemed to be satisfactorily meeting statewide accountability criteria.

Mountainside Elementary. Mountainside Elementary, is the only elementary school located in its rural district which covers 90 square miles and serves a population of approximately 7,000 people. The school has been under the leadership of Principal Morris for the past 14 years. Mountainside serves 661 children in grades PK through 4th. Because middle school begins in 5th grade in its district, Mountainside operates on a whole-school Montessori model with the exception of its 4th grade classrooms. Those are

structured as stand-alone, single-age, non-Montessori rooms, intended to help transition students into the more traditional district middle school that they will attend the following year. The Montessori elementary program at Mountainside, therefore, consists of 12 LE classrooms serving children in 1st through 3rd grades. Twelve of Mountainside's 15 Montessori teachers completed the survey, for a response rate of 80%. I did not administer the survey to 4th grade teachers because the school does not consider nor promote those as Montessori classrooms.

Seventy-three percent of Mountainside students qualify for FRPL; 55 % identify as White, 36% as African-American, and 3% as Hispanic. With a state report card score of 51 (out of 100), Mountainside scored in the high-average range, and is on the cusp of a "good" rating. Forty-one percent of students reached grade-level proficiency in ELA last year. and 48% reached state mandated math expectations. Perhaps worth noting, this last number (Mountainside's score of 48% math proficiency) represents the only instance of a participant school scoring above the state average on an academic accountability measure for the school year 2018/19. Two years ago, Principal Morris completed the process (initiated six years prior) of guiding the school through its transition from fully traditional to whole-school Montessori.

Data sources. The first source of data for this study was the Teacher Questionnaire of Montessori Practices: Elementary (Murray, Chen & Daoust, 2019), which was administered to all lead Montessori teachers of elementary classrooms in the three participant schools. This survey was designed to help researchers measure and describe the degree of fidelity to the Montessori model being practiced within classrooms, and its conceptualization of the term is closely aligned with that described by

the Logic Model for Montessori Education published by Culclasure et al. (2019). The survey follows the common convention of categorizing aspects of instructional practice into structural and process components, but has further divided the process construct into two subcomponents: curriculum and freedom. This was done because, through the pooling of prior research, along with thorough reviews of both the fidelity literature, and that on Montessori philosophy and practice, the researchers determined that, "freedom represents a fundamental aspect of Montessori education that could be conceptualized as functioning differently than other elements" (Murray, Chen, & Daoust, 2019, p. 54). The three broad components (structure, curriculum, and freedom) are then measured via 33 individual indicators which ask teachers to specify their level of agreement (on a four-point Likert scale) with statements describing their classroom structures and practices (see Appendix B). Examples of indicator statements include, "Children give lessons to one another," and, "Children record activities in work journals."

In addition to the 33 indicators comprising the original instrument, I added two questions which gathered data regarding teacher training and preparation, as the Logic Model for Montessori Education (Culclasure et al, 2019) lists Montessori credentialed teachers as a critical component to fidelity practice, but that information is not collected by the existing Teacher Questionnaire. I also added one question specifying grade levels served in each classroom, as the existing Questionnaire asked teachers to indicate whether or not "at least three" grades were included in their classroom, but did not collect details regarding *which* were included. Survey participation was requested of a total of 31 teachers across the three schools, 27 of which completed it, for a total response rate of 87%. The survey served to triangulate expert opinion that the Montessori model is being

fully implemented within these schools, but also to provide context describing the environment within which each leaders' sensemaking is taking place.

The primary data source for the proposed study, however, was a series of three in-depth, semi-structured interviews with each of the three principals identified above. Each of the interviews was 90 minutes in length, with the focus of questioning modeled after the three-interview series proposed by Seidman (2019). The protocol for interview one elicits a focused life history from participants. It is designed to put the principals' lived experience and policy enactments into context by asking "how" (rather than "why") questions aimed at establishing their past relationship to Montessori education and accountability policy up to the current day (See Appendix C). This first interview corresponds largely to the portion of this study's conceptual framework, colored blue, which relates to the priming of leaders' perception through past experience and personal history. The protocol for interview two is concerned with eliciting stories describing principals' daily experiences as they negotiate the interaction between accountability and the Montessori model. This interview focuses on present-day policy encounters and involves reconstruction of typical days and descriptions of participants' relationships and interactions with others in their school community as they navigate policy tensions (See Appendix C). This interview largely aligns with the green portion of this study's conceptual framework, which details "noticed ambiguities" that leaders may encounter in their work. As sensemaking cycles are recursive, however, and their stages intertwined, I anticipate that portions of the pink "individual and collective sensemaking" element of the framework will be processed during interview two as well. The third and final interview invites participants to reflect on the meaning of content from interviews one

and two. It addresses the emotional and intellectual connections between participants' identities and personal/professional histories, and their interpretations of the interaction between Montessori fidelity and accountability policy. Interview three asks questions which prompt participants to consider how they came to the particular policy enactments occurring within their schools, the sense they make of them, and what might be done in the future (See Appendix C). This final interview, then, maps onto the last two segments of this study's conceptual framework (pink and purple) which address the individual and collective sense made of policy interactions within Montessori schools and the impact which those interpretations have on the nature of Montessori implementation in their classrooms.

Data analysis. All interviews were recorded, with both Zoom and a handheld MP3 recorder, and accompanied by detailed field notes (Hays & Singh, 2012). Immediately following interview completion, I conducted an initial analysis and interpretation by typing up within-field notes and listening back to the interviews' audio file. In the interim between interviews, I completed initial transcriptions of audio files using Temi© transcription software, with accuracy checks and copy editing conducted by hand while re-listening to interview recordings. Transcripts were reviewed, at this stage, for the purposes of memoing another round of initial impressions, conducting preliminary coding, and identifying any findings that informed the approach to upcoming interviews. I invited participants to review their completed interview transcripts for accuracy. Once all three interviews from a given participant were completed, I carried out recursive cycles of transcript review and coding, using NVivo©, in order to identify themes within, and patterns between, interview responses (Hayes & Singh, 2012). The preliminary code

book for interview analysis (see Appendix D) catalogues and defines deductive coding themes brought to analysis from the bodies of literature reviewed in the previous chapter, as well as from this study's research questions, interview protocol questions, and conceptual framework. These themes were selected to address areas of inquiry related to participants' sensemaking of Montessori, accountability reforms, interactions between the two, and their roles as organizational sensegivers in orchestrating coherent policy enactments within their schools. In addition, however, care was taken to remain attentive for new and unforeseen themes which emerged inductively during coding and analysis.

Limitations

As mentioned previously, generalizability of this study is significantly limited due to very small sample size, specific policy context of the state and districts in which participant schools are located, and the study's focus on the lived experiences and micro-activities of individual actors. Transferability, then, rather than generalizability, was a more appropriate goal for the trustworthiness of results and findings. Transferability is defined as the degree to which research findings may be judged by the reader as applicable to another specific work or research setting. Throughout the course of data collection, I aimed to provide rich enough descriptions of settings, participants, and other important elements of my research process, to enable readers to make informed judgements as to the transferability of my findings to other settings. According to Yin (2017), a particular strength of the case study method is its contribution to theory building by enabling analytic generalizations that can be applied across other, similar settings in this way.

In addition to limits on generalizability, however, the internal validity, or "believability" of this study rests on a couple of key assumptions that warrant surfacing here. The first is that it is possible to clearly define the construct of "high-fidelity" Montessori, and that recent efforts to do so are moving in the direction of a more thorough and reliable framing of the model. This study purports to examine leadership behaviors within "high-fidelity" schools, but it must be acknowledged that that term has, historically, been highly contested, and has only recently become subject to collaborative, inter-organizational efforts to clearly define and rigorously test its logic model. A central construct of this study, therefore, is one that is still in the process of validation by Montessori researchers.

A second assumption of this study is that participating principals are acting as both sensegivers around issues of local policy enactment and instructional leaders within their schools. It assumes that principals are aware of the instructional practices within their classrooms, and that their sensemaking and sensegiving behaviors influence the specific form that accountability policies assume. Again, because the study sought to examine the impact of a specific subset of leadership behaviors on policy coherence within Montessori schools, its central premise rests on the assumption that such an impact exists.

Research Ethics

All appropriate steps were taken to minimize harm through ethical research practices. My research protocol was reviewed and approved by the University of Virginia Institutional Review Board as well as by the district research committees of all three research sites. All participants were made aware of my role as a researcher as well as of

the general nature of my research interest. I obtained written informed consent from all subjects, which included consent to record interviews and the clearly communicated right for any participant to withdraw from the study at any time. Participants were given the opportunity to review interview transcripts for accuracy. Lastly, all appropriate steps were taken to conceal the identity and protect the confidentiality of all participants.

Researcher Bias

Tufford and Newman (2012) describe the conversational encounters often at the heart of qualitative research as "inherently subjective endeavor(s)" (p. 2). Therefore, they argue, foregrounding or bracketing researcher bias can increase the rigor of one's project by minimizing the negative impacts of unacknowledged prejudice and/or emotion, allowing scholars to reach "deeper levels of reflection across all stages of qualitative research" (p. 2).

As previously mentioned, I am a veteran Montessori teacher and administrator. Although as a child I attended only public schools and my parents were both public school teachers, the entirety of my professional experience as an educator has taken place within the context of a private Montessori school. My work experiences have shaped my belief that Montessori is an effective method of education that delivers promising academic outcomes while helping children develop skills of concentration and focus as well as a deep sense of independence, intrinsic motivation and the love of learning. I am disappointed and saddened by the fact that, in this country, Montessori schools serve predominantly white, upper middle-class children and their families, and am driven by a desire to change that fact.

I suspect that the variation in Montessori outcomes data that sometimes hinders the method's uptake in the public sector is largely related to divergent implementation weakening the model's effects. I have personally witnessed principal leadership in public Montessori contexts, however, which strongly advocated for the protection of high-fidelity practice within a given school, but also for the adaptation of policy mandates in ways that would better support non-traditional educational approaches. My assumption, therefore, is that particular leadership stances facilitate more positively impactful implementation of the Montessori model within the public sector, and that they may do so primarily by protecting crucial elements of its logic model from adaptation in response to policy-related pressures.

All efforts, however, have been made to minimize the effect of researcher bias in this study through careful research design. For instance, the use of a semi-structured interview protocol, subject to peer review through the proposal process, predetermined the line of questioning during interviews and minimized leading questions and the pursuit of prejudiced lines of inquiry. Furthermore, the selection of research sites in a state other than that in which I live meant that I did not have prior personal or work relationships with any of the participating principals. Furthermore, participant selection via purposive sampling, in which criterion for inclusion have been determined prior to entering the field served to minimized or eliminate sample bias. Lastly, my data analysis and interpretations were reviewed by critical friends and colleagues throughout the process of analysis and final preparation of my Capstone.

Conclusion

This study has been structured around a conceptual framework which foregrounds principals' sensemaking during the process of enacting standards-based accountability reforms within high-fidelity public Montessori schools. The study sought to contribute to the prior research base on the role of leadership in policy implementation by extending existing threads of inquiry into a non-traditional educational context. Employing a qualitative design, this study enlisted expert consultation to identify three appropriate sites for research amongst the pool of South Carolina's public Montessori elementary programs. Appropriateness for participation was triangulated via administration of a teacher survey modified slightly from an existing fidelity instrument. The principals of the three selected schools were invited to participate in a three-interview series modeled after that proposed by Seidman (2019). Findings from interview data, detailed in the following chapter, describe how standards-based accountability reforms are interpreted and enacted within Montessori schools, how leaders perceive and embody their role in policy enactment, and how they act as sensegivers within their building around this problem of practice.

SECTION FOUR: FINDINGS

This study explored how the principals of three public Montessori elementary schools, all located in the state of South Carolina, made sense of and enacted state and district accountability policy within the contexts of their non-traditional schools. In this section, I present and analyze findings from two phases of data collection, teacher surveys and principal interviews, in order to address the five research questions that inform this study. For each of three cases, I present findings related to those five questions, followed by a cross-case analysis describing patterns and themes arising between schools. Cases will be presented in order of each principal's years of experience as a Montessori leader, reflecting in various ways the developmental arc of leadership among the three participants.

Within each individual case, I begin by providing context for principal sensemaking activities by describing the nature of classroom practice at that site through a presentation of findings from the Teacher Questionnaire of Montessori Practices (Murray, Chen & Daoust, 2019). This survey was administered to all lead teachers of Montessori elementary classrooms in participant schools. Responses to the Teacher Questionnaire offer one perspective on the degree of fidelity of implementation within each school by describing points at which teachers self-report adherence with, or divergence from, the Logic Model of Montessori Education (Culclasure et al., 2019), and therefore provide a broader context for the issues described by principals during interviews. Next, I describe and analyze principal interview data in order to address my primary research question through engagement with my five sub-questions.

Research question one asks about principals' personal histories, including professional and educational experiences. As noted in Chapter 2, research on local policy enactment suggests that the educational backgrounds and prior professional roles of principals provide a framework for understanding new demands (Coburn, 2005; Matsumura & Wang, 2014; Seashore Louis et al., 2013; Spillane et al., 2002). For that reason, participants' responses addressing their background and prior experiences provide a helpful context for understanding how their personal and professional histories are brought to bear on the sense they make of multiple, sometimes conflicting demands. All three principals profiled in this study assumed leadership roles in public Montessori schools with all prior professional experience having taken place within the context of traditional environments. Understandably, they described significant struggles, particularly during the early years of their principalship, related to the gap between their background preparation and the demands of their current roles.

Questions two and three ask how principals make sense of the Montessori pedagogy and their schools' specific accountability contexts. This study's conceptual framework highlights the ways in which leaders simplify complex and sometimes contradictory policy demands by actively filtering incoming messages and framing them according to prior experiences and understandings. Principals then make sense of that filtered and framed information by engaging in social processes, such as conversations and learning experiences, available both within and outside of their school. In discussing findings related to these two research questions, therefore, I describe both the sensemaking processes of these leaders and the nature of their individual interpretations. This study found that the sensemaking of participants around issues of accountability policy was

significantly constrained by regulative pressures arising from their states and districts. In contrast, they were provided little in the way of requirements, guidance, resources, or supports to shape their sensemaking of Montessori pedagogy. Instead, these leaders devoted significant time and effort to self-constructing a series of learning experiences and social supports in service of their understanding of the Montessori method.

Question four asks whether and how leaders identify conflict and/or congruence between their understandings of Montessori and the demands of accountability policy. The conceptual framework of this study explains that principal sensemaking is triggered when leaders recognize ambiguities or tensions between policy and practice. Sense must be made between conflicting messages in order for organizational work to flow smoothly. Findings related to question four, therefore, foreground the ways in which principals' personal backgrounds and individual policy interpretations (discussed in RQs 1 through 3) shape their identification of points of fit and/or tension between their schools' Montessori identity and their surrounding policy environments.

The fifth and final question asks how principals influence the sensemaking and meaning construction of others in their school around issues of accountability-related policy enactment within a Montessori environment. The conceptual framework of this study suggests that once leaders have made individual sense of the interactions between policy and practice, sensegiving is a key mechanism through which they mobilize their organizations towards change and school improvement. The findings from question five, therefore, explore the specific contextual characteristics which enabled these principals to meet the demands of federal, state, and district accountability measures while intending to preserve the unique philosophy and strategies which define a Montessori school.

Specifically, leaders appeared to work most effectively as sensegivers after the point at which they had developed a balanced enough understanding between the logic models of accountability and Montessori that they could successfully predict policy tensions and proactively negotiate policy "fit" within their unique contexts.

The progression through each of these five research questions serves to address the primary research question of this study, which asks how the leaders of high-fidelity public Montessori schools make sense of accountability demands within the context of their particular environments. Taken together, the findings from sub questions one through four reveal that the particular experiences, social connections, resources, and supports available to participating principals, or selected by them, had substantive influence on their understanding of the Montessori model. Further, the specific understanding at which each arrived influenced the degree to which they were committed to implementing with fidelity or accepting of accountability-driven compromises. After addressing the findings specific to each of my three participant schools and leaders, I will engage in a cross-case analysis in order to compare, contrast, and synthesize findings between sites.

Principal Bryant and Baldwin Elementary

Baldwin Elementary is one of six elementary schools in its rural district, serving 546 students in grades PK through 5th grade. Baldwin is the only of the three schools participating in this study which remains "dual-track," meaning just under 40% of its students are enrolled in Montessori classrooms, while the others engage in a more traditional curriculum referred to as the "scholarly" program. Principal Bryant has just completed his second year in leadership of the school. Baldwin, with a state report card

rating of 34 last year, fell into the “below average” range, and is under the most significant accountability-related pressure of participating schools.

Nature of practice at Baldwin. Teacher survey results (see Appendix E) describe Baldwin as a school that adheres to the majority of structures and curricular elements recommended of Montessori schools. Of the seven Baldwin survey respondents, five hold a full Montessori credential, one is a state-certified teacher without Montessori training, and one is currently undergoing Montessori training. While clearly not a widespread phenomenon in the school, Baldwin is the only site in this study that currently has any uncredentialled teachers leading a Montessori classroom.

Montessori’s three-year age span is kept intact at Baldwin at the Lower Elementary (LE) level, but not at the Upper Elementary (UE) level. Baldwin hosts 4 LE classrooms, all of which serve a full, three-year age span. In Baldwin’s district, however, students move to middle school in 6th grade, so the school’s three UE classrooms serve a two-year span (4th and 5th), rather than the three prescribed by the Montessori model.

While the majority of Baldwin’s structures and curriculum are described by teachers as adhering to the Montessori model, there are a few noteworthy exceptions which I have grouped into two general categories. The first of those are indicators describing the broad nature of the Montessori curriculum, which addresses content not typically deemed as “core” in today’s accountability environment. Teachers at Baldwin disagreed, for instance, that their classrooms were outfitted with a full set of large geography charts, and that their students utilized the human fundamental needs chart. These particular materials are designed to spark student-led exploration into broad and diverse curricular content including physics, geology, human geography, and

chemistry—none of which will appear on these students' end-of-year state test. The second category of disagreement was made up of indicators describing what might be considered "non-academic" usages of time. In this case, teachers disagreed that students engaged in "going out" trips, or that they regularly prepared food in the classroom. Where Baldwin diverges more markedly from the model, however, is when it comes to the level of freedom and choice afforded students in their classrooms. As shown in Table 1, related teacher responses fell squarely into the "disagree" range, and Baldwin's composite score on the survey's freedom component was significantly lower than its averages on the survey's other two components and, as will be discussed later, significantly lower than those of the other two participating schools.

Table 1

Composite Scores on Teacher Questionnaire of Montessori Practices: Baldwin

	Mean Score
	N=7
Structure Component Composite:	**3.02**
Curriculum Component Composite:	**3.13**
Freedom Component Composite:	**2.83**

Note. This table provides the mean composite score for each of the three survey components. The scale is 1 (strongly disagree) to 4 (strongly agree). Scores that fell below the threshold of 3 (agree) are highlighted in yellow.

Personal background (RQ 1). As the only novice principal included in the study, new to the role, to his school, to elementary education, and to the Montessori approach, Principal Bryant's experience serves to highlight the sensemaking challenges that similarly positioned school leaders may face during their early years on the job. Bryant

identifies as a white male and is in his 40s with 15 years of experience as an educator. Prior to his current role, he taught 7th grade Social Studies for four years in a traditional middle school. During that time, he pursued his administrative certification, enabling a transition into the role of Assistant Principal at that school. After three years in that position, he was transferred to his current district to serve as an AP at a Montessori middle school. He began his doctorate in educational leadership at that point and is currently preparing to defend. Bryant was then offered the principalship of Baldwin Elementary in 2018, and has served for two years in leadership of the school.

Bryant had no familiarity or experience with Montessori education before his placement as a Montessori middle school AP. At that point, in the summer before assuming his new position, the district provided a one-day training which served as an overview of the philosophy and pedagogy. When, three years later, he transitioned into the principalship of his current school, he encountered Montessori elementary for the first time. Throughout our interviews, Bryant repeatedly stressed his own strongly felt sense that he arrived in an administrative role lacking the Montessori-specific background and pedagogical knowledge crucial to provide effective instructional leadership to Montessori teachers. Speaking of a former Montessori instructional coach of his, now a principal, he described her ability to engage in specific and detailed instructional conversations with Montessori teachers. When, for instance, testing data flagged a particular classroom as missing benchmarks, Bryant explains that “She has the depth of knowledge to say…you’re not really doing [Montessori] as effectively as you could.” The instructional coach was able to provide Montessori-compatible suggestions and interventions—something Bryant feels unprepared to do. “I don’t necessarily have that,” he says, “I just

know that what [a teacher's] doing right now is not working." In stories such as this one, one can hear Bryant striving to make sense between the outcome demands of accountability policies and the process demands of Montessori practice. In saying that some aspect of instructional practice is "not working," Bryant is implicitly pointing to expectations around students' academic performance, but without the understanding of Montessori necessary to make sense between those expectations and current practice, he struggles to find ways to help teachers leverage Montessori practices in service of accountability demands.

Making sense of Montessori (RQ2). Given the lack of tailored preparation provided for, or required of, Montessori principals, Bryant has, over the past two years, engaged in a number of self-directed strategies, largely informal and job-embedded, intended to gather information and strengthen his understanding of the Montessori philosophy and method. Through those experiences, he reports that he has gained a deep appreciation for the approach, which he describes as "very much about the child," holistic, and, when implemented correctly, "like magic," according to Bryant.

Strategies for making sense of Montessori. Aside from the one-day training described above, Bryant has not yet engaged in any formal trainings or certifications tailored towards Montessori educators. Just two years into his current role, he is not only relatively new to Montessori, but also to the principalship and to elementary education. In addition, at the time of our interviews, he was preparing to defend his doctoral dissertation. He was very frank about the fact that, while he feels both a strong desire and a sense of responsibility to learn more about Montessori, he has reached the limits of his current bandwidth:

> This is totally an excuse and I know that, but…I am…at the tail end of my PhD program, and just coming to work and doing my PhD program is about all I can handle right now. Once I get through…I really want to dive into…how is Montessori and scholarly similar? How are they different? That's one thing I certainly want to get involved in.

In the absence of formal educational experiences (such as Montessori teacher training, administrative credentialing, or graduate coursework), Bryant has focused on informal, job-embedded sensemaking strategies which leverage the resources and expertise available to him within his school building and school day. In particular, he relies heavily on classroom observation to gather information, and then social engagement with seasoned Montessori teachers and instructional coaches to help him interpret what he has seen.

Observation. Principal Bryant explained that much of what he has learned thus far has been gained through classroom observation, particularly during his days as an AP when he was brand new to Montessori and without a frame of reference to make sense of what was happening in his school's Montessori classrooms:

> I would go in and just hang out and try to figure out what was going on, and why is that happening over there? And just kind of ask as much as I could without giving away the fact that I knew nothing. You know, I wanted it to look like I knew a *little* something, but in reality, I knew nothing. I had to be careful about how much I asked. And then I would go to the instructional coach and get some more information from her as far as trying to build my knowledge while I was in the seat.

Here, Bryant highlights the need to gather foundational knowledge while "in the seat." Without experience in a Montessori classroom, and without bandwidth to address that gap through formal pathways, Bryant needed to find job-embedded pathways towards growing his understanding. Because classroom observations were already required of him as an AP, he became more intentional about that time, repurposing it to serve as an opportunity to familiarize himself with the structures and processes of a Montessori classroom.

Currently, Bryant explains that he checks posted classroom schedules in order to align his observations with math and ELA instructional times. By doing so, he selects from the broad range of classroom activity the information that relates directly to state standards and tested material. Even so, these observations provide him with other categories of valuable information which are widening his understanding of the Montessori model. "Every time I go into a really successful Montessori classroom," he explains, "I learn more about it. Like there is a little bit more of the puzzle that I see."

Interaction with experienced Montessorians. Bryant relies heavily upon his seasoned teachers for expertise and information. After gathering raw information through observations, Bryant engages these internal experts for help interpreting what he has seen. The range and variety of interpretations available to him, however, appears somewhat narrowed by a dearth of external supports and sensemaking opportunities provided him by his state and district.

Bryant expressed frequently that the philosophy or intent behind observed instructional activity remains a bit opaque to him, and attributes this to his lack of Montessori teaching experience. To illustrate, he says of that same former instructional

coach (now principal) discussed previously, "She's done it, and now she's observing what she's done, you know? I'm not observing what I've done. I'm observing something that I have only learned as an observer." To help him process and interpret what he sees during classroom observations, then, he relies on interactions with his more seasoned teachers and instructional coaches. While observations help familiarize him with what a Montessori classroom should look and feel like, it is through dialogue with trained and experienced staff members that he makes meaning from what he sees. Otherwise, he says, "I didn't understand the philosophy behind it. I didn't understand the intent."

Importantly, Bryant expresses that he is most drawn to the coaching and expertise of those staff members with extensive public school experience, who are more accepting of modifications to Montessori practice which they perceive as necessary for success in the public sector. Speaking of one such instructional coach, he said:

> She would very much tell me, "Well this is what Montessori, the philosophy, says, and then here's how it looks in reality." She was very open about the difference between, "Well, in a private school, this is what they would do, and here's what we do in a public school." She was very much someone I leaned on in terms of learning…the point behind what I was seeing in the classrooms.

Earlier, I identified Bryant's intentional choice of classroom observation times as an instance of selecting information from the Montessori environment that relates directly to accountability requirements. A similar choice is described in this quote, as it provides an example of Bryant privileging sources of information that align with his accountability concerns.

In contrast to the other two leaders featured in this study, Bryant did not describe engagement in social sensemaking about Montessori with contacts outside of his school. His district provides no Montessori coordinator, and while there used to be a Montessori Consultant seated at the South Carolina DoE, she retired recently and the position has not since been filled. While, according to Bryant, there were previously several Montessori programs in his district, those classrooms were recently consolidated, leaving no network of Montessori principals for him to call upon. Given that context, Bryant's primary resources for collaborative sensemaking of the Montessori model are found within his building.

Individual pedagogical interpretations. Through classroom observations and engagement with Montessori experts within his school, Bryant has developed a deep respect, almost awe, for Montessori instructional strategies and the teachers who implement them effectively. He describes Montessori as a beautiful, if somewhat mysterious, approach to education which is "very much about the child," leverages the benefits of mixed-age groupings successfully, and fully integrates social-emotional learning into the daily life of the classroom. Bryant frequently uses words like "inspiring" and "magic" to describe the individualized flow of work he observes in the classrooms of experienced Montessori educators.

Beyond those broader philosophical strokes, however, Bryant is transparent about the fact that he has not yet made full and detailed sense of the model. Montessori is very open to the individual interpretations of teachers, he believes, so while there are classrooms in his school that he describes as a beautiful mix of productive and orderly freedom, he describes others as "a mess" or "chaotic." "It seems very hard," he says, "It

seems very easy to do wrong, but man, when it's done right, it's so inspiring and neat to see." Montessori teachers need a specific set of skills, Bryant believes, in order to be successful in a public school context. They need to be able to, as he puts it, "bob and weave" between two sets of expectations that don't always align philosophically. He is not yet able to clarify, though, what that skill set consists of, or which instructional variables lead to "inspiring" vs. "chaotic" classrooms. Bryant remains a bit at a loss regarding how to provide instructional support or feedback for his struggling Montessori teachers, saying he isn't overly committed to specific strategies for solving the problem, but that, "[he] just know(s) these scores aren't good."

Making sense of accountability policy (RQ3). When describing his understanding of accountability-related demands, Bryant expresses much more clarity regarding expectations, as well as confidence in his own role definition than was present in his discussions of Montessori pedagogy.

Environmental pressure. It is important to note that, of the three schools included in this study, Baldwin is currently under the most accountability-related pressure due to the prevalence of the school's 3rd graders who scored below grade level on the last round of state testing. Because of this, Bryant is required to attend a series of trainings targeting improvement in those areas. "So, that really frames my reaction and my planning for the entire year," he said in regard to that particular sanction, "It *really* does." Given this significant environmental pressure, combined with Bryant's personal background, his policy interpretations echo the messages he received from administration during his teaching days and continues to receive from his state and district. Bryant describes his early teaching experiences as "very much about accountability, about test scores," and

describes those early experiences as highly influential on his current priorities, goals, beliefs, and behaviors as a leader. So now, when he checks in with teachers about how things are going in their classrooms, he explains that what he "really means" is, "Let's talk about your data, 'cause that's what it's really about…I can't look the teachers in the eye and say, 'Well, you know, it's really not about test scores,' 'cause it is! I mean the whole thing is test scores." Here, Bryant foregrounds his sense that he is not able to freely interpret policy and enact it at will. Rather, he highlights the ways that his understanding and activities are constrained by the regulative pressures related to his state's accountability policies. Compared to his sensemaking around Montessori, Bryant perceives himself as having significantly less autonomy over how he makes sense of accountability. Instead, due to the incentives and sanctions attached to outcome expectations, his interpretations of policy are predetermined by state requirements and the school's position in a context of high-stakes accountability.

Strategies for making sense. Bryant's relative clarity regarding the demands of, and appropriate responses to, accountability policy appears related to their explicit and persistent articulation by his state and district (discussed above), as well as to a coherent system of supports and resources aligned towards the goals of elevating specific scores in specific grade levels. When policies arise or are modified, then, Bryant makes sense of them first by listening to those policy signals which are most directly relevant to his school's accountability status (test content and format), and then engaging with internal and external networks in order to interpret and enact that policy within his school.

Listening to the signal. When discussing where he looked to understand what was expected of him by accountability policy, and what it meant for his work, Bryant

explained, "The simplest way is the state department has samples of the types of questions that will be expected in third, fourth, and fifth grade on their website. So, we'll look at them and then compare that with what we're seeing in the classrooms and try to address any disparity we see." Simply put, Bryant looks to the sample test questions, and then works to align classroom instruction accordingly.

Social processes. When making sense of Montessori pedagogy, it seems that Bryant looks largely internally, specifically to experienced Montessori teachers, and lacks access to relevant external supports or sensemaking opportunities. When it came to accountability messages, however, he described engaging with social networks both within and outside of his building that help him interpret and enact policy. For instance, when asked to identify the "we" referred to above (who scans the state website for test content), Bryant emphasized the importance of Baldwin's leadership team, consisting of himself, his AP, and his instructional coaches. "I rely heavily on my instructional coaches," he explains, "One has a lower Montessori background, and the other one has taught a myriad of grade levels from K through eight. So, as a principal with two years' experience…I need their help."

Meanwhile, while Bryant did not mention engagement of external Montessori resources, he readily identified several sources of external support, guidance, and expertise provided him by his state and district when it came to understanding and implementing accountability measures. For instance, as a result of being identified as a "tier two" school due to last year's scores, he received the services of a state specialist to help design and implement Baldwin's reading plan, as well as a district level ELA specialist who has provided relevant knowledge, resources, and supports. When

insufficient progress was being made on math scores, Bryant called upon the district math coordinator. She paid repeated visits to the school, participating directly in the PLC process alongside teachers. Bryant described his state and district as working to guide principal interpretation and enactment of accountability policy through a fairly structured system of resources and information aligned with their policy messages.

Individual policy interpretations. As mentioned above, Bryant speaks with clarity and specific, directional focus when it comes to his understanding of policy expectations. When asked to describe what is expected of him and his school, he clearly articulates the sense that it all boils down to test scores. “It all comes down to that one state assessment at the end of the year that determines your grade (on the state-published school report card),” he explains, “That’s used by the community. That’s used to say, ‘all right, this is a good school, or this is not a good school,’ you know? So, it carries so much weight.” Parents and the public at large have little to go on for judging school quality outside of the report card, Bryant feels, expressing that his own and his school’s “whole public value is on an assessment score.” Moreover, because 50% of the state report card consists of 3rd -5th grade scores for math and ELA, Bryant’s attention is further narrowed to home in on those specific subjects and grades that will directly impact his school’s score. “It’s ELA and math,” he says, “And if you’re good at that, you’re going to have a great report card.” While Bryant expressed some degree of disorientation and mixed messaging when it came to his understanding of Montessori, no such ambiguity is present in his synopsis of accountability policy. “It really is about test scores,” he declares, “That’s the bottom line. And when you get into those conversations behind closed doors, it is about test scores, because that’s how the state judges you.”

Identified conflict and congruence (RQ4). Given his sense that Montessori is "very much about the child," while accountability policy is "all about test scores," Principal Bryant perceives a core philosophical conflict between the two. His nascent understanding of Montessori practice, however, makes it challenging at times for him to pinpoint the specific ways in which that core tension plays out. Interestingly, Bryant also identifies a handful of promising synergies, including data usage and his state and district's current emphases on personalized learning and social/emotional initiatives.

Identified conflicts. As mentioned above, Bryant describes a core philosophical tension between Montessori and the accountability-related context it encounters in public schools. "Well, Montessori says you 'follow the child' where they are," he explains, "but in a public school, we gotta get you this particular score. We…gotta push kids more than maybe the philosophy would have you do if you didn't have that accountability hanging over your head." Understandably, making sense of this philosophical conflict appears to present the most substantive challenge for Bryant, as it requires him to resolve dual messaging about the core goals and strategies of education.

When Bryant describes his daily experiences, however, his stories sometimes reveal that the specific manifestations of that core tension, usually brought to his attention by teachers, he is not always able to foresee or fully understand. A few examples which serve to illustrate this pattern are three district or school-level initiatives Bryant spoke of—one related to character education, one to social-emotional learning, and another which undertook to create school-wide common assessments. In each case, he received some degree of questioning or resistance, either from teachers or from Montessori trainers observing their graduates' classrooms, and in each case, Bryant expressed feeling

a bit baffled as to why that would be the case. “I wasn’t expecting that,” he says, recounting an instance in which a teacher shared her trainer’s concerns about the weekly requirement to play a character education video, “I don’t know if it was just a word that didn’t fit into what the observer saw as Montessori, or what.”

To complicate things further, the tensions described above appear to be heightened by the dual track nature of Baldwin’s programming. Driven by his strong commitment to equity, as well as to his desire to act as a unifying force between the two programs under one roof, Bryant is torn between his desire to allow Montessori teachers the autonomy and accommodations they feel they need in order to fully implement their pedagogy, and his sense that doing so is unfair and expresses favoritism. “It’s a tricky skill,” he explains, “because I want to unite the school…but I also want to respect the boundaries of the two different tracks.” An additional conflict identified by Bryant, then, is that Montessori programs have specific needs, including classroom assistants, homelike furniture and rugs, “going out” trips, social celebrations, or (perhaps most relevant to this study) policy accommodations, that he can’t fulfill in a way that feels fair and equitable to members of his scholarly community. This is of particular concern to Bryant due to what he perceives as a racial and socioeconomic divide between the two programs, with many in the community viewing Montessori as being for “the haves” and scholarly for the “have nots”:

> I feel a certain way when I walk into a classroom where I don’t see a good representation of my community…I mean everybody who lives around this neighborhood. And you walk into a Montessori classroom and there’s carpets and…it’s nice and there’s a

> bathroom, and then you walk into the scholarly classroom…and there's….an obvious difference, you know? And me being in charge of that, I'm going to try to alter that as much as I can.

On the one hand, Bryant sees the importance of differentiating his enactments to serve the unique needs of the two programs. As he says it, "I've certainly learned that there's not one glove that fits both hands." On the other hand, he feels that allowing all of the modifications requested by his Montessori programs would, in essence, perpetuate the racial and socioeconomic inequities he feels it is his role to dismantle. Here, the tasks of clarifying a leadership stance and clearly articulating organizational priorities appear to be rendered more complicated by Baldwin's dual track structure.

Identified congruence. Bryant often repeats the sentiment that successful implementation of Montessori, particularly in the public sector, is "difficult to get right," due to the complex and unique demands it puts on teachers. When pressed to describe what he sees as Montessori "done right," Bryant tells stories of teachers who are able to successfully integrate data-driven decision-making into classrooms that maintain the flow, choice, and individualization of the Montessori model:

> I have a teacher in lower Montessori who is Montessori *to a "T."* I mean, it's such a beautiful classroom to walk into. It's quiet. Kids are normalized. It's all based on kindness and respect for each other. A kid hands you a water bottle and a piece of peppermint. I mean, it's like you feel you're on candid camera, it's so perfect. But at the same time, this teacher is so good at using data. She'll use MAP data, she'll use those midyear assessment data, and she takes those data points and tailors what

> she is doing for all of these kids individually based on their own data points. So, she's using the Montessori philosophy, but she's also saying, "Alright, I got to get this child from…124 to 148, what am I going to do to get there?" And you never see her…*nothing* about what she does looks traditional, it's totally Montessori.

For Bryant, then, the ideal educational context is fully-implemented Montessori that uses accountability-derived data to structure its individualized approach. While Bryant cannot identify the specific means through which his more seasoned teachers accomplish this synergy, he is awestruck by those that manage it, and intrigued by their ability to make coherent sense of seemingly disparate messages within their classrooms. Speaking of one such teacher, he says, "She just weaves the two together…she's figured out how to do both without it being a contradiction. She doesn't see it as a contradiction. She sees it as, 'Well, this is how you got to do it in a public school.' So that's interesting to me."

Bryant also describes congruence between Montessori and certain state and district initiatives currently in effect. The state of South Carolina, for instance, is promoting personalized learning, which Bryant sees as already fully in effect in his Montessori classrooms. "So, they're sending us to all these trainings," he explains, "All it is, is Montessori without a name. That's all it is." So, while he and his scholarly-track teachers are struggling to wrap their minds around personalized learning and how to implement it in their classrooms, he says, "the Montessori teachers are like, 'Oh, we already do that.'" Bryant tells a similar story in regards to a district-driven social/emotional learning initiative. Because he sees social/emotional learning as integrated into the daily practice of his Montessori classrooms, he told those teachers to

simply put the poster on the wall “and keep doing what you’re doing.” Because he feels he has resident experts in practices the state and district are now promoting, Bryant is able to leverage that expertise to help his scholarly teachers makes sense of the new initiatives. He assigned a novice scholarly teacher to a seasoned Montessori teacher as a mentor, for instance, telling the mentor, “You’re already doing personalized learning. You already have social/emotional learning. So, I want you just to not even think about you’re a Montessori teacher and she’s a scholarly teacher, just show her how you run your classroom.” Interestingly, while earlier Bryant expressed concern over how to reconcile intrinsic tensions within a Montessori public school, he also identifies several important opportunities for mutual reinforcement or synergy between the two.

Sensegiving and organizational mobilization (RQ5). Bryant is in the early stages of both his Montessori and school leadership careers. He is open and transparent about the fact that he has not fully made sense of either the Montessori model or how to enact it coherently alongside accountability mandates. Bryant identifies a core philosophical tension between the two organizing philosophies, but because he struggles with the specifics of how that tension plays out in the daily work of his teachers, he is challenged to articulate policy interpretations that are received as coherent by his staff, and around which they are able to effectively mobilize. Bryant’s case, then, serves to highlight some of the sensemaking and sensegiving challenges that similarly situated public Montessori principals must confront and overcome in order to provide effective instructional leadership within their schools.

Role definition. Central to the direction a principal sets for a school is the direction they set for themselves by defining their organizational role. Bryant describes

his role as being largely concerned with receiving and fairly directly implement accountability policy. “My number one job is to be an insister,” he explains, “My main goal is assessment scores. And I say that because that’s what I’m held accountable for.” Bryant speaks passionately about this role, framing the work of an “insister” in terms of uniting the two tracks within his school, being a voice for equity, and building a bridge between the school and the larger community.

Crafted coherence. Bryant clearly articulates his core goals in terms of delivering on accountability mandates. As previously discussed during the analysis of teacher survey data, Baldwin’s teachers identify several features of their classroom structures and processes that they feel do not adhere to Montessori practice. In fact, Baldwin was the only participating school in which an entire component—student freedom—fell into the “disagree” range. Importantly, though, Bryant did not mention issues of fidelity when discussing his priorities or goals for Baldwin. Instead, he frames his school’s priorities, and his role in advancing them, in terms of standardized test scores and the state report card. This prioritization, coupled with a lack of granular instructional understanding, appears to make it difficult for Bryant to articulate a sense of organizational direction in ways that make sense within his Montessori teachers’ frames of reference. To illustrate, Bryant described the following interaction with two Upper Elementary teachers, fresh out of training:

> I told them the assessment results aren’t good. So, what do we do to change them? I told them, I’m not saying you have to do scholarly. I’m not saying you have to do any particular way, but what are you going to do

> differently than what we did before? Because what we did before is not working.

Note that here, Bryant falls short of coherently braiding an accountability goal into the teachers' instructional practice. He knows they need to improve their MAP scores, but cannot propose specific, Montessori-aligned strategies, such as aligning a didactic material with a failed standard, for instance, or better leveraging their observational practice to monitor progress. Bryant's declaration that the teachers don't have to solve the problem "any particular way," which was seemingly intended to be reassuring and respectful of their autonomy, may have been received as disorienting or even alienating. So, while Bryant, acting in his role as "insister," clearly and consistently articulates accountability-related goals for his school, he has not yet landed on effective strategies to frame or translate those goals in ways that consistently make sense to his Montessori-trained staff.

Mobilization. Bryant, as previously discussed, is both self-aware and transparent about his current struggles to make individual sense, and then act as a sensegiver, around issues of Montessori instruction. With that in mind, he has developed a set of interim strategies that serve to maintain the momentum of his Montessori programs while buying him the necessary time to develop his knowledge-base. Those strategies consist of providing autonomy and identifying teacher leadership.

Recognizing that his Montessori teachers are aware that he does not fully understand their pedagogy, Bryant responds by allowing them as much autonomy as possible. "As much as you can let Montessori teachers do Montessori," he says, "that's what you have to do…you've got to put parameters in place that protect them from things that don't allow them to be Montessori." In other words, Bryant avoids inserting himself or making specific instructional

requests unless prompted to do so by either low test scores or by teachers' identification of a policy tension. Instead, he provides space for his Montessori teachers to do what they have been trained to do, and defers to internal expertise whenever possible.

Beyond that, Bryant actively endorses those more seasoned teachers who he identifies as successfully "bobbing and weaving" between the worlds of accountability and Montessori. He has designated such teachers as level leaders and assigned them as mentors to both scholarly and Montessori novices, so as to highlight their practice as the model for others to emulate. While this helps to clarify the instructional vision Bryant desires for the school, he acknowledges that it has had limited success changing the beliefs and behaviors of his new or struggling teachers. "I was hoping that would kind of steer [others] towards her," he says of one such endorsed teacher, "but I think it just made them dig their heels in."

Case summary. Bryant is early in his career as a principal, having just completed his second year at Baldwin. He is new not only to the principalship, but to both elementary and Montessori education. He is a dedicated and driven leader who clearly and emphatically voices respect for his teachers and for the Montessori method, and who is striving to achieve excellence and equity in his school building. His efforts are complicated, however, by the multiple overlapping demands of integrating into a new school, familiarizing himself with the curriculum and instruction of elementary education, developing his knowledge of a pedagogical approach which differs substantively from that in which he was trained and taught, and providing leadership for two independent programs under one school roof.

Teacher survey data highlight some aspects of the Montessori program at Baldwin that diverge from the approach's logic model. Under some circumstances, tensions such as these might present rich opportunities for a leader to foster collective sensemaking and to mobilize the

school community in service of Montessori-relevant goals and strategies. For Bryant, though, accountability-related messages are persistent, their expectations are clearly delineated, and they are enforced through incentives and sanctions of very real consequence to himself and his school. He has not undergone formal or immersive Montessori learning experiences, and the accountability logic of standardization and outcomes was foregrounded in his discussions of future directions for his school. Given all of this, it is not likely that issues of fidelity will be highlighted as organizational priorities any time soon.

Bryant's experience serves as an illuminating case which highlights some of the challenges public Montessori principals may face, especially in the earlier years of their career. His reflections help us to understand the tensions and frictions encountered by educators with traditional educational and professional backgrounds who are assigned to lead innovative schools, but also serves to foreground some of the initial strategies that such principals may engage in order to make sense of their complex environments. In summary, Bryant highlights the ways in which principals in contexts similar to his are arriving to their roles underprepared and under-supported to meet the immediate leadership demand of serving as effective sensegivers for Montessori programs.

Principal Schmidt and Shady Hill Montessori

Shady Hill is a whole-school Montessori program that serves 326 students in PK through 8th grade. It is located in a large urban district comprised of 52 elementary schools, five of which offer Montessori programming. Principal Schmidt has been serving as principal of Shady Hill for 10 years. With a state report card of 46, Shady Hill received a rating in the "average" range last year, and is assessed to be meeting accountability standards at acceptable rates.

Nature of practice at Shady Hill. Teacher survey results (see Appendix F) suggest fairly strong teacher agreement that structures and practices at Shady Hill align with high-fidelity versions of the Montessori model. All eight respondents (100% of the school's elementary teachers) are fully certified with a Montessori elementary credential. Shady Hill hosts eight elementary classrooms, five of which serve LE and three of which serve UE students. All eight classrooms serve the full three-year age spans recommended by Montessori practice, making Shady Hill the only of three participating schools where that is the case. Note that Shady Hill serves students through middle school, so they are not transferred out mid-cycle, as they are at both Baldwin and Mountainside.

Survey data highlights that Shady Hill appears particularly strong when it comes to structuring its classroom space and time in pedagogically appropriate ways, and in delivering a broad and engaging Montessori curriculum. While classroom processes which allow for student freedom and choice appear a bit weaker relative to other within-school components, the aggregated survey scores shown in Table 2 suggest that Shady Hill teachers promote student autonomy in the majority of ways prescribed by the Montessori model.

Table 2

Composite Scores on Teacher Questionnaire of Montessori Practices: Shady Hill

	Mean Score
	N=8
Structure Component Composite:	**3.41**
Curriculum Component Composite:	**3.49**
Freedom Component Composite:	**3.22**

Note. This table provides the mean composite score for each of the three survey components. The scale is 1 (strongly disagree) to 4 (strongly agree). Scores that fell below the threshold of 3 (agree) would be highlighted in yellow.

Personal background (RQ1). Principal Schmidt identifies as a white man in his 40s and has 21 years of experience as an educator. He has a BA in elementary education and taught for six years in elementary schools, three as a 4th grade teacher in a traditional school and 3 as a 6th grade teacher at a magnet school for the creative arts. During those years, Schmidt pursued his Master's in Administration, enabling him to transfer into an AP role. He served as an elementary AP for five years and completed his EdD simultaneously. At that point, he was offered the principalship of Shady Hill Montessori, where he has served for 10 years.

Schmidt was unfamiliar with Montessori education when he interviewed to become principal of Shady Hill. In fact, it was not explicit in the job posting that Shady Hill was a Montessori program, as the add simply stated, "dual-track school." He recalls, "I interviewed…and they offered me the job and I was like, 'Oh, great! Now I guess I need to figure out what all this Montessori stuff means!'" Schmidt expressed his strong sense of obligation during those early years to develop expertise as a Montessorian so that he could effectively serve constituents seeking an authentic alternative model of schooling:

> At the time when I first took over, we only had maybe a hundred students in the Montessori program, and now we're over 400. When…your people are wanting to come there, and you're a choice school, and students are

applying, you want to make sure that you have as much knowledge…as possible to lead that program effectively.

Making Sense of Montessori (RQ 2). As was the case with Bryant, Schmidt was not provided with preparation requirements for the Montessori aspect of his new role. He has demonstrated strong initiative, however, to seek out various learning experiences, both formal and informal, for the purpose of building role-appropriate levels of instructional and pedagogical knowledge. Those experiences available to him, as well as the specific ones he selected to engage in, have shaped his role definition, pedagogical interpretations, and policy enactments in important ways.

Strategies for making sense of Montessori. Principal Schmidt has focused his sensemaking strategies primarily around learning experiences designed specifically for the administrators of Montessori schools. He has cast a wide net in this endeavor, undertaking formal and informal learning experiences and engaging with social networks both within and outside of his school.

Principal Schmidt did not mention undertaking formal, Montessori-related learning experiences during his first couple of years in the principalship of Shady Hill. About two years in to his role, however, a community-wide process led to a decision for the school to convert from a dual-track to a whole-school Montessori model. To Schmidt, this revealed a community mandate for development and expansion of Montessori programming, and he felt urged to seek the professional development needed to effectively guide Shady Hill through that transition. He recounts a conversation with his assistant superintendent at the time:

> Hey, this is something we need to do. If we're going to be a full Montessori school, you need to be credentialed as an AMS administrator. I knew the direction we were going. I could see that this school was going to be growing and getting larger over time. It's something that the folks in the area really like and want, so I knew that I needed to make sure that I was fully trained and prepared to lead that program down the road.

Shortly thereafter, Schmidt undertook the AMS Montessori Administrator's credential offered by the Houston Montessori Center. This is a rigorous and intensive two-summer course with modules available to differentiate content for those with or without Montessori teaching credentials and classroom experience. A school-year practicum between summer modules involves site visits by trainers and detailed documentation of best practices.

Not long after completing that program, Schmidt enrolled in a 3-credit "Montessori 101" graduate course offered by the state to the principals of public Montessori schools. This course was led by the DoE's Montessori Consultant, and provided both formal and informal learning opportunities, as a key aspect of the course was discussion and collaboration with other Montessori principals. "I think the biggest takeaway," Schmidt reflects, "was seeing how other principals in the state are addressing state mandates and state accountability, and how we are making sure that fits the Montessori mold." Schmidt's phrasing of that statement is noteworthy, as rather than adapting Montessori to satisfy the public policy context, he emphasizes learning how to ensure that mandates were enacted in ways that "fit the Montessori mold."

Schmidt has invested time and effort into formal, credit or credential-bearing learning experiences in order to strengthen his Montessori understanding. Particularly in his earlier years as principal, much of his knowledge was built via engagement with social networks both internal and external to his school. This is a strategy that Schmidt pursued to address the steep learning curve of his first few years on the job, but which he continues to engage in to this day.

Observation. When asked to name and describe his key, Montessori-relevant learning experiences, Principal Schmidt spoke about the high value he placed on prolonged and repeated classroom observations:

> That first year I spent a lot of time in the Montessori classrooms, just observing, just trying to understand and learn and see it myself. The first thing was just getting in those classrooms and observing and realizing, "Wow, this is a completely different way of learning!" And realizing that we've seen good results from it. When I first got in I was blown away, I kept thinking to myself, "This is really ideal. This is what we think about, like one-on-one or independent learning.' This is truly it."

Observations, it seems, helped convince Principal Schmidt of the relevance and effectiveness of the method and provided the evidence he needed to serve as an advocate for Montessori programming at his school.

Interaction with experienced Montessorians. Like Bryant, Schmidt collects general impressions and raw data via observation, and then through direct engagement with teachers, participates in collective sensemaking for help interpreting what he has seen. Schmidt mentioned several formalized structures for collaborative meaning making

in his school, explaining that level-based PLCs meet weekly, and that multiple members of the leadership team attend each meeting. In addition, the leadership team itself meets weekly, and included on that team are teacher representatives from each level. Routines have been clarified by which issues and questions are gathered from staff members and funneled up to leadership meetings for processing. When asked to give advice to other principals trying to make sense of Montessori in the public sector, Schmidt emphasized the need for administration to learn through such engagement with teachers, saying, "Those folks are experts… So, I think one piece of advice is making sure you're definitely listening to your teachers and involving them in decisions, for sure." Despite the ample formal learning experiences he has undertaken, Schmidt recognizes that he did not train to be a teacher, nor teach in a Montessori classroom. Given that context, deferring to teacher expertise and positioning himself as a learner is an effective strategy to ensure that his interpretations of the pedagogy are coherent and aligned with those of his staff.

Observation and direct engagement with teachers were the primary strategies Schmidt described for learning via internal networks. Additionally, however, he engages with outside experts and learning networks to help him make sense of Montessori. The number and variety of sources from which he described gathering information was, in fact, quite striking. He recalled, for instance, frequently engaging his district's Montessori Coordinator to help guide his sensemaking around those early classroom observations. Sometimes, they would observe the same room together and then debrief to compare what they had seen and how they understood it. He described this support as crucial to building his capacity as an instructional leader, reflecting that through his

engagement with the coordinator, he “learned a lot about what the Montessori classroom should look like and what you should see from an observation.” That same coordinator organized a district-wide Montessori Principal’s Network, and Schmidt attended (and still attends) their monthly meetings. He emphasized the value of the access, provided by that network, to more seasoned, experienced Montessori leaders, explaining that he was often able to mine their expertise for Montessori-appropriate ideas and solutions as new policy challenges arose. Connections built through that group gave rise to site visits to the schools of colleagues, where Schmidt gathered improvement ideas for Shady Hill. In these examples and others, Schmidt repeatedly emphasized that gathering from diverse external sources is key to his sensemaking process.

Founding or expanding Montessori programming. Another process that Schmidt described as crucial to developing his understanding was undergoing the expansion of Montessori programming at Shady Hill and leading the school through the transition from dual-track to whole-school Montessori. Whereas before that initiative, a broad-strokes grasp on the model may have been sufficient to support well-established classrooms, when it came time to convert all existing classrooms and expand Montessori programming into the UE and middle school levels, it was clear that a more in-depth, granular level of understanding would be necessary. “We implemented an Upper El class,” he recalled, “That was a big learning experience, making sure we went and observed other Montessori schools and realized, how do we want to build this UE class?” Schmidt describes this process, involving close collaboration and joint decision-making with teachers and his leadership team, as a rich learning experience which urged him towards a deeper understanding of both the philosophy and the detailed inner workings of

a Montessori classroom. It was, in the end, the process of expanding Montessori programming at Shady Hill that convinced Schmidt that a Montessori Administrator's credential would make him more effective in his role.

Individual pedagogical interpretations. Through these learning experiences, Principal Schmidt has developed a deep respect for the Montessori method, which he describes as a holistic approach that helps children feel engaged in something larger than themselves. His descriptions of the method emphasize Maria Montessori's original writings about raising global children with the power to positively transform the world around them. He sees Montessori as an active education where the uninterrupted work periods grant children autonomy and protect them from interruptions. This, in turn, fosters their ability to concentrate, focus, and take control of their own learning:

> They learn independently, they learn in groups. They're not just 'sitting and getting,' and they're not just focusing on one content area for a set number of minutes and then moving on to the next, like in a traditional setting.

Other important elements included in Schmidt's description of the method were the use of the specialized learning materials, the broad and expansive curriculum, and the individualization allowed by mixed aged groups, which he says allows students to "be challenged all the way up to eighth grade or to drop down if they're struggling a little bit with a lesson."

Principal Schmidt's description of the method revealed a strong understanding of its underlying philosophy and major strategies. Further, he was able to articulate the connection between specific structural or process elements in a Montessori classroom

(mixed-age classrooms, for instance) and core Montessori goals and strategies (differentiation). Schmidt's responses, then, highlight his interpretation of the model as a coherent whole comprised of crucial, pedagogically justified, individual parts.

Making sense of accountability policy (RQ3). Principal Schmidt makes sense of accountability policy from the perspective of an experienced administrator who perceives himself as responsible for responding to the demands of several constituencies and negotiating coherence between multiple messages. He reports receiving overlapping messages from multiple constituencies, some of which stress state and district standards and expectations, and some of which emphasize educational innovation and parent choice. When Schmidt makes sense of accountability policy, therefore, it is with the aim of braiding policy demands and Montessori pedagogy together into a coherent strand.

Environmental pressure. Like Bryant, Schmidt describes his sensemaking of policy as being strongly shaped by regulative forces. When asked what demands most of his attention as principal, to illustrate, Schmidt responds, "I would say the state accountability with testing, you know, making sure that the percentage of students meeting and exceeding increases each year." When asked to explain why, he notes, "That's what the public sees…so when they look at my school…they're going to look at that rating and they're going to decide whether or not I'm a good—whether my school is good or not." Here, Schmidt expresses his belief that aligning his sense of policy with the intentions of policymakers is non-optional. Meeting accountability expectations is deemed necessary by Schmidt for maintenance of his professional identity as a competent school leader. It is equally necessary for the school as a whole in order to achieve an adequate report card and avoid sanction.

Strategies for making sense. While responding to incoming policies may by mandatory, Schmidt describes a sensemaking process through which he isolates the policy requirement, and then collects diverse interpretations from networks inside and outside his school, seeking those that best align with his interpretations of Montessori pedagogy. Making sense of accountability policy, he says, "must be approached through a Montessori lens. We have to implement this, but how can it be done in a Montessori way, or in a way that preserves as much as possible of what defines us as a Montessori school?"

Listening to the signal. While a host of accountability-related messages are received by Schmidt, he isolates the signal from the noise by identifying which mandates will be directly measured and published, and may therefore result in incentives or sanctions for his school. "Basically," he explains, "we look at the indexes for the report card and figure out what areas do they focus on, and what areas impact our score the highest." Again, in South Carolina (as in many states), those areas are ELA and math scores on end-of-year state tests, which comprise the majority of Shady Hill's report card grade. As a result, Schmidt says, "That's kind of what drives most of our intervention…or what partnerships we create." So, while earlier Schmidt described his interpretation of Montessori as a broad, expansive, and exploratory curriculum, he receives a strong and persistent signal from the state that standardized test scores in ELA and math are "what matters." That said, there are two factors at play within Schmidt's particular context which serve to mediate that signal to some degree. The first is that his school is not currently under significant accountability pressure: Shady Hill received a state rating of "average" last year (and missed earning "good" by just a few points) and is

deemed to be meeting standards at acceptable rates. The second, mentioned earlier, is that Schmidt receives a fair amount of environmental counter-messaging, from both district leadership and the broader community, that the Montessori identity of his school is also valued by constituents and something for which he is held accountable. Therefore, the context within which Schmidt is making sense of accountability provides a degree of space for him to creatively reinterpret policy in order to balance its demands with that of pedagogical fidelity. As illustrated below, this work is carried out collaboratively via internal and external social processes.

Social processes. As discussed earlier, Schmidt engages in an extensive "gathering" process as part of his sensemaking process. He gathers from diverse sources and networks both within and outside of his school, in this case to make sense of accountability policy. Internally, Schmidt's leadership team is large and representative of the range of concerns within his school. That team consists of himself, the guidance counselor, instructional coach, lead teacher, SPED teacher, school nurse, and one teacher from each Montessori level (primary, LE, UE, and MS). He relies heavily on his leadership team to collaboratively interpret policy in ways that will work for their school:

> I try and involve more members of the team to figure out what's the best way to tackle this, instead of just saying, "This is it, this is what we're going to do, and this is how we're going to do it." I find that if we bring in the leadership team or some grade level chairs, they're able to come up with some ideas that I may have not thought of, just based on their teaching experience.

Because test scores draw Schmidt's attention to struggling students, much of the policy requiring interpretation relates to required interventions for SPED students. Schmidt, therefore, also stresses the importance of engaging with his MTSS (multi-tiered systems of support) team, consisting of the classroom teacher, SPED teacher, himself, and parents, which meets weekly to evaluate the needs of specific children and to enact SPED requirements in Montessori-appropriate ways. "We use the anecdotal notes or teacher observations, because the teacher might say the kid's below the 25th percentile, but that was a fluke. And then we know we don't really need to throw an intervention at them and pull out of class for 45 minutes every day if they just had a bad day on that one test." Although the accountability scores provide one source of data, Schmidt clearly involves a large team in a collaborative sensemaking process which incorporates other sources (teacher notes, parental input). This widens the range of interpretations available to the team and gives rise to a diversity of potential responses.

Outside of his school, Schmidt engages external networks that are provided to him as a Montessori principal, and identifies them as key supports to his sensemaking process. As mentioned previously, he participates in a monthly meeting of district Montessori principals, and that that is a place where he gathers ideas for how Montessori leaders reinterpret policy to make it work within their schools. The district Montessori coordinator is the facilitator of those meetings, and is identified by Schmidt as a crucial external connection. Importantly, the coordinator also participates in district meetings to select and endorse interventions. This means that Schmidt's participation in the principals' group has an important, albeit indirect, role in reshaping the policy context which surrounds and influences his school. As other examples of external support,

Schmidt mentions being in direct and regular communication with school board members, as well as consulting with one of the national accrediting agencies (AMS) regarding their official policy stances and recommendations.

Individual policy interpretations. Schmidt interprets accountability policy to mean for him and his school that, "the number of students meeting and exceeding increases each year," and "making sure that our students are showing success on the test, not just showing success throughout the year on benchmarks and such." In particular, because this is "what the public sees," it means ensuring annual improvement on standardized scores for math and ELA.

Importantly, however, Schmidt emphasizes that it is possible, and should be prioritized, for principals in his position to approach accountability policy with a Montessori frame. Speaking directly to other public Montessori principals, he advises, "You may get a directive or a policy change, but you don't have to implement everything that moment. You can slow down, reflect, think about it and figure out *how* you want to implement that. Not just throw it out there." Importantly, Schmidt notes that this understanding was one that evolved over time:

> I think I've become more savvy…I think the first couple of years…if something comes down, yes, we have to do that, and let's implement it right away. And if it takes away from our three-hour work period? Well, we have to do this. Where, after a few years of experience, you start to realize that there may be a different way to do that, or another angle at that.

Schmidt, then, interprets accountability policy as something that can be approached creatively, that can be *enacted*, rather than always directly (or immediately) implemented.

Identified conflict and congruence (RQ4). Given Schmidt's level of experience as a Montessori administrator, and the ample sensemaking (around both the method and his school's policy context) which he has undertaken during his career, he is able to identify specific and detailed points of conflict and congruence when the two interact. This deeper level of Montessori knowledge enables him to anticipate when an incoming policy will produce tensions for his teachers and to proactively engage his leadership team for problem-solving.

Identified conflicts. Schmidt perceives certain pressures exerted by accountability policy that result in undesirable modifications to Montessori practice. While he works to mediate that pressure, and to enact policy in ways that minimize modifications, he acknowledges that his mediating influence has limitations:

> [Being a Montessori principal] brings upon a different set of struggles. When you're in the public sector…and you're following the state regulations, it becomes a bit tricky to implement everything you'd like to implement as far as Montessori fidelity is concerned. And sometimes you have to add some different interventions and things you normally may not use or take part in, because of a requirement or a policy.

Schmidt describes that tension (between meeting mandates and preserving fidelity) as playing out in several specific ways, which I have grouped according to their relation to curricular standards, standardized testing, and intervention.

First, Schmidt describes several challenges relating to reconciling state standards with the Montessori curriculum. The state, to begin with, dictates that standards be taught at specific grade levels, while Montessori sets benchmarks for each 3-year age span, allowing more flexibility for when a standard is taught, as well as more heterogenous grouping of students attending a given lesson. "We do find… it's difficult," Schmidt explains," because you're covering a large range of standards in a short amount of time for three different grade levels." Another issue is that there is not perfect alignment between South Carolina state standards and the specialized Montessori materials, which were designed by Maria Montessori and her son, Mario, nearly a century ago. Sometimes, he explains, teachers devise creative ways to teach a new standard on an existing material, while sometimes they have to "create their own materials." Lastly, and perhaps most concerning to Schmidt, is the fact that the state standards are narrower than the Montessori curriculum. Because the state standards, specifically math and ELA, are what is tested and published, there is pressure to abandon elements of the Montessori curriculum that are integral to Schmidt's interpretation of it as broad, exploratory, and globally-oriented. "I do think at times teachers are not always able to expand as much as they would like to on the cultural piece of their instruction," he explains, "And some of that is due to time constraints, or spending more time on specific math or reading interventions." As a result, Schmidt says that teachers are often left to decide whether they have time to address Montessori standards and to "pick and choose" which lessons they have time to introduce.

In addition to those related to curriculum, Schmidt identifies tensions arising in his daily work that are related to standardized testing. The first of those highlights underlying

philosophical tensions, in that Schmidt views Montessori as a holistic approach which promotes human development according to a host of diverse measures, both academic and non-cognitive. Montessori teachers are trained to observe the child closely, to take copious notes, and to engage in ongoing, formative assessment of student progress. Current state policy, meanwhile, assesses progress on just two, narrowly defined academic measures, and bases that assessment on an annual, high-stakes data collection point. Although other sources of data, Schmidt explains, such as parent input, MAP scores, and teacher observation, often provide a more complete picture of a child's progress, the state does not gather, nor consider, those. Another challenge which Schmidt identifies as arising from standardized testing is a matter of misalignment between instructional approach and testing format. His students, he explains, have practiced their skills largely through engagement with concrete manipulative materials, which does not necessarily prepare them well for the abstract, multiple-choice format of state testing. "Sometimes they struggle," he says, "when they don't see it multiple ways and they're not allowed to use the materials on those exams."

Schmidt described a third category of tensions arising from the multiple, discrete initiatives and interventions mandated by his state. These interventions can disrupt the coherence of the Montessori model, as they are not always selected with consideration for alignment with the instructional strategies of a Montessori classroom; Schmidt provided the example of a mandated Algebra textbook as an illustration of that phenomenon. But Schmidt describes the largest challenge as being related to the fact that many initiatives, in particular interventions designed for students with IEPs, are accompanied by specific time requirements which disrupt the student choice, autonomy, and concentration central to the Montessori 3-hour work period. "You just have to modify and adjust the schedule so frequently," he explains, "and it requires

more classroom interruptions. The kids notice it, they still stop, they look. Any of those things during that three-hour work period can disturb the flow." Schmidt acknowledges, in this instance, that there is "no way around" the conflict between implementing mandated interventions and preserving the fidelity of a 3-hour work period.

Identified congruence. Compared with points of conflict or tension, Schmidt identifies fewer points at which he believes Montessori and accountability to be intrinsically synergistic. He does, however, highlight the ways in which congruence can be actively constructed when school leaders dedicate sufficient time to make full sense of policies, as well as when state and district resources are aligned in support of the unique needs of Montessori schools.

Earlier, Schmidt reflected that he has grown more savvy over the years in regards to policy enactment. He now emphasizes the importance of slowing down and engaging others in a process of actively constructing congruence between policy and Montessori, before implementing in ways that may compromise instructional fidelity. To illustrate, when discussing a mandate for progress monitoring of at-risk students, Schmidt explained that his leadership team worked together to make full sense of the policy in context of current practices. When they did so, they found that the Montessori observational routines already in place more than satisfied the mandate, and no change was necessary.

While these internal processes were highlighted by Schmidt as one example of factors that support crafted coherence, the alignment of external resources with Montessori-specific needs was another. One example of this related to the federal and state requirement to provide highly qualified teachers in every classroom. I expected to hear that this was a point where school leaders identified tension, given the separate diplomas required by states versus

Montessori accrediting agencies. Instead, Schmidt explained that, “thankfully we have a pretty decent pool of candidates,” and outlined for me several state and district initiatives which contributed to the relative ease he experienced in identifying and hiring qualified candidates. Perhaps most importantly, South Carolina is one of a handful of states whose DoE has agreed to recognize MACTE accredited Montessori training in lieu of state licensure (for teachers serving in a Montessori program). In addition, Schmidt’s district hosts dedicated job fairs and has produced a Montessori-specific recruitment video. The district also sponsors candidates to pursue their Montessori credential, removing a significant barrier for teachers transitioning from traditional programs. A second example Schmidt provided of external resources aligning in support of internal goals related to Shady Hill’s use of Title I money. Title I money can be allocated at the discretion of the school for the benefit of students requiring additional educational support. It can be used to hire teaching assistants, purchase specialized learning materials, and host parent education events, all of which are typical expenses associated with Montessori schools. Schmidt was particularly pleased with the outcomes of his Title I funded, monthly “Montessori Nights” for parents, which he says helped build understanding of, and support for, his program in the larger community.

Sensegiving and organizational mobilization (RQ5). Principal Schmidt is a seasoned Montessori leader who has served as principal of Shady Hill for a decade and has actively pursued myriad Montessori-specific learning experiences during that time. Many of those learning experiences were formal programs tailored to the needs of administrators without prior Montessori experience, and served to shape Schmidt’s role definition as a boundary-spanner between external and internal environments and a mediator between policy and practice. While Schmidt identifies several points of tension

between accountability and Montessori, he articulates policy interpretations that are coherent and actionable for staff. Those interpretations creatively rework policy to meet requirements while minimizing disruptions and preserving pedagogical coherence as much as possible. Schmidt acknowledges, however, that compromises are often necessary, and accepts that Montessori cannot be implemented with perfect fidelity within the current policy context of the public sector.

Role definition. Schmidt defines his role as leader of Shady Hill as that of a mediator between accountability policy and Montessori pedagogy. “I think the role of principal in this situation,” he explains, “is to make sure we’re implementing our Montessori programs with as much fidelity as possible, but also making sure that we’re following through on the district and state mandates.” At another point, he describes his job as, “managing almost like two separate programs, but making it work as one.”

Crafted coherence. To make those two programs work as one, Schmidt emphasizes the importance of filtering change through a Montessori framework. To do so, he acts in a boundary-spanning capacity, bridging well-aligned resources and supports from the external environment into Shady Hill, but also of exerting outward-facing influence in ways that create a more conducive policy environment. He also works to negotiate fit at points of tension, creatively enacting policy in ways that maximize alignment with Montessori practices.

Schmidt described several examples of boundary-spanning activities, leveraging his role as middleman between the internal and external environments to build coherence between policy requirements and Montessori practice. To illustrate, at one point teachers expressed concern that students were struggling to grasp place-value concepts. In

response, the leadership team at Shady Hill selected the district-endorsed math intervention, Bridges Math, which they interpreted as most readily aligned with Montessori math instruction. The intervention is organized by content (rather than grade level), is designed for small-group instruction, and uses manipulatives to progress students from concrete to abstract concepts. The many points of congruence between Bridges and the Montessori approach made it easy for Shady Hill teachers to make sense of in their classrooms. In a second example, Schmidt and the lead teachers from each level collaborated to modify the district-provided pacing guide in ways that made it more applicable to mixed-age classrooms. Further, his instructional coach created an accompanying scope and sequence of the Montessori materials, which aligned each manipulative with the relevant curricular standard on the modified pacing guide. These examples highlight the ways that Schmidt and his leadership team either select supports from the environment according to their fitness to Shady Hill's unique needs, or modify and adapt requirements in the process of enacting them.

Importantly, though, Schmidt's boundary-spanning role sometimes exerts influence in the opposite direction. At times he delivers information to the wider community that promotes environmental change in service of the unique needs of Shady Hill and other Montessori schools. One example of this is Schmidt's work with the district Montessori principals' group to propose a district-wide Montessori report card. That report card, which allows Montessori teachers to provide qualitative feedback on a more holistic range of measures, has been approved by the district and is being implemented in all of its Montessori schools this year.

In addition to the boundary-spanning activities described above, Schmidt crafts coherence by working with his internal team to mediate the points of conflict between policy and practice that he identified above. For instance, Schmidt identified misalignment between state standards and Montessori materials, as well challenges related to the sheer volume of standards a single teacher must address in a mixed-age classroom. In response, his team negotiated a better fit by "chunking" standards and by aligning materials with state curriculum:

> We look at fourth, fifth, sixth grade standards see which ones match or are very similar, where it may just be like…rounding up to three digits and then the next grade is four digits. Then they kind of chunk that into one standard…That's something we found that kind of cuts down on the standards a little bit.

This modification of the standards simplified the policy message, making it more manageable for teachers, but also fostered the delivery of mixed-age, rather than grade-based lessons. After chunking the standards, the leadership team worked to align each standard with an existing Montessori material, and to create "gap-filling" materials when necessary.

Another tension point which Schmidt highlighted as particularly demanding of time and attention was related to the implementation of SPED interventions which he saw as requiring frequent interruptions of student concentration within the 3-hour work period and undermining pedagogical coherence. In response, Schmidt and his team have worked on several fronts to negotiate a better fit between SPED policy and a protected work period. For example, Schmidt recently hired an experienced Montessori guide as his Title

I reading interventionist who is collaborating with teachers. “What we decided to try this year,” Schmidt explains, “was to have that person push-in, ‘cause each classroom had two or three students that needed that service. So we changed the schedule around and did it where she pushed in for those 30 minutes…so the kids weren’t necessarily pulled out of the room.” He and his team are also experimenting with ideal times for those push-in services, at the very end of the morning work period, for instance, or in the afternoon. Further, Schmidt and his team leverage the work of the MTSS team to ensure that interventions remain child-specific and appropriate. Schmidt is adamant that in his school, “We go with the Montessori fidelity first,” so he is determined to avoid the whole-class interventions he has witnessed at neighboring Montessori schools and which he is concerned significantly undermine fidelity.

It is important to note, however, that negotiating coherence between disparate messages is likely to require compromise and adaptation of both messages. So, while the above examples detail ways that Schmidt and his team have enacted policy through a Montessori frame, there are other instances in which Schmidt has felt it necessary to adapt and reinterpret the Montessori model in order to satisfy accountability mandates. As discussed earlier, Schmidt described a point of tension between the state’s narrow focus on math and ELA standards versus the broad, exploratory Montessori curriculum. Negotiation of fit, in this case, was achieved, at least in part, by reallocating time from untested to tested subjects:

> When science and social studies were part of that formula, we…honestly spent more time on [that] than we might do right

> now. Now we use it more as…thematic units where we push that science and social studies into the ELA instruction.

In other words, in response to the outsized impact that ELA scores have on Shady Hill's report card, aspects of the Montessori curriculum have been de-emphasized in order to maximize ELA instructional time.

In another instance, Schmidt discusses negotiation of fit between Montessori's instructional focus on hands-on, concrete work with manipulatives, and the format of standardized tests. Students struggle sometimes, he observes, because familiar concepts are presented in an unfamiliar format. In response, as the spring testing period approaches, Shady Hill teachers begin making instructional adjustments with the aim of better aligning their lesson presentations with how concepts will appear on the test. "We try and show them multiple ways," Schmidt explains, "we might say 'how might this question that you just used the stamp game for, how might that look if you couldn't use the stamp game?'"

Mobilization. Once coherent policy interpretations have been articulated, staff must be mobilized around those interpretations in order to coordinate school-improvement activities. Schmidt works to mobilize staff by fostering a sense of collective identity at Shady Hill that is grounded in Montessori philosophy and pedagogy. In South Carolina, accountability policy changes rapidly, he explains, but "if we're truly going to brand ourselves…that we are a Montessori school, then we need to follow that and not steer off course." Because making sense in this context requires negotiation and compromise, an important aspect of defining collective identity involves articulation of what is "core" and must therefore be buffered from the influence of accountability policy.

Schmidt identified those crucial elements as the uninterrupted work period, the use of Montessori materials, and whole-program coherence.

Schmidt's interview responses repeatedly emphasize the importance of collaborative sensemaking and the ways that he fosters collective meaning making around issues of policy and pedagogy in his school. Schmidt acknowledges teacher expertise, clarifies teacher leadership, and prioritizes teacher concerns, all of which serve to promote and encourage collective participation in sensemaking and problem-solving. Schmidt mentioned several teams (PLCs, MTSS, & leadership team) for instance, which meet regularly and share members, and he described the ways in which those meetings are leveraged towards the collective interpretation and enactment of accountability policy in a Montessori environment. What was conspicuously absent from Schmidt's responses were stories of challenging efforts to build buy-in or convince staff of the value of particular interpretations. Schmidt's case, then, serves as a model of the way that collective sensemaking inherently serves a sensegiving capacity, as well.

Above, when discussing Schmidt's boundary-spanning activities, I highlighted the ways in which he not only bridges supports in to the school, but also exerts outward influence on the external environment. That patterns holds true here, as well. While, certainly, Schmidt is a crucial sensegiver within his school building, it is also clear that an important part of his role is to make sense of his school's unique identity and purpose for the wider community, particularly for parents and policymakers. Building a knowledgeable and supportive public is one way that Schmidt works to make the external environment more conducive to the unique needs of his school. As discussed earlier, Schmidt allocates a portion of his Title I money to parent education, and that he uses that

time to develop understanding of, and support for, Montessori programming amongst his parent community. Beyond that, however, Schmidt has been actively involved in several efforts to ensure that Montessori voices are included in state and district sensemaking processes. He helped to design the district-wide Montessori report card, as previously discussed. But he also served as the Montessori representative on the district's Principal's Cabinet, which meets monthly with the superintendent to provide feedback regarding policy, and also to craft district initiatives like their "Vision 2020," or their profile of a 21st Century Learner. Very recently, he spoke directly to the Director of Elementary schools to express his concern that the just-released COVID-19 guidelines hadn't taken Montessori schools into consideration.

Despite these examples of Schmidt's active role in influencing broader educational sensemaking within his district, he expresses concern that he and other members of the Montessori community are currently relegated to a reactive, rather than proactive position. Given the commitment that the state and district have made to Montessori education in South Carolina, Schmidt feels it is important that policymakers create structures by which Montessori educators have a legitimate seat at the decision-making table.

Case summary. Although he came to his current role without prior Montessori experience, Schmidt is an experienced Montessori principal at this point. He has dedicated impressive time and effort over his decade in the role to making sense of Montessori and gathering diverse perspectives regarding how to enact the pedagogy coherently alongside accountability policy. Because Montessori programming was well established at Shady Hill when Schmidt assumed leadership, and because external

constituencies voiced clear support for the conversion of the school to a whole-school model, Schmidt focused his learning experiences on gaining the administrative skills necessary to lead an established Montessori community through that transition. In turn, those learning experienced shaped his personal role definition, which he perceives to be related to negotiating and compromising between the demands of multiple constituencies and overlapping demands.

Schmidt, therefore, interprets both Montessori pedagogy and accountability policy as important, worthy of his attention, and in service of student needs. His policy enactments, as a result, focus on melding and compromising between the two models—on protecting Montessori practice and identity as much as possible, while acknowledging that some adaptation is unavoidable in the public sector. Findings from the survey of Schmidt's teachers, meanwhile, align with the idea that some compromises must be made in order to ensure satisfaction of accountability mandates. Shady Hill teachers reported widespread agreement that classroom structures and processes adhered quite closely to the Montessori model, but that the level of classroom freedom was relatively lower compared to other survey components. This is a pattern of adaptation to the Montessori model that research suggests is common amongst public sector schools which must grapple with the pressures that accountability demands place on their instructional practice (Daoust, 2004).

Principal Morris and Mountainside Academy

Mountainside Academy is the sole public elementary option in its rural district. The school serves 661 children in grades PK through 4th, and operates as a whole-school Montessori model, with the exception of its 4th grade classrooms. Principal Morris has

served as principal of Mountainside for 14 years, starting well before the school began its transition from traditional to the Montessori model. Morris introduced Montessori programming at the primary level approximately 8 years ago and expanded from there to full-school implementation over the course of several years. With a state report card score of 51 last year, Mountainside has an academic rating in the high average range, and is under the least accountability pressure of participating schools.

Nature of practice at Mountainside Academy. Collectively, teacher responses on the Teacher Questionnaire of Montessori Practices (see Appendix G) suggest that amongst the three schools participating in this study, Mountainside maintains the highest level of fidelity to the Montessori model. All survey respondents are fully credentialed Montessori guides. In addition, all 15 LE classrooms serve a full three-year age span. District policy, however, stipulates that students transfer into middle school in 5th grade, so rather than fully-implemented Montessori Upper Elementary classrooms, Mountainside has stand-alone 4th grade rooms which Morris refers to as “transitional.”

As seen in Table 3, composite scores across all three survey components suggest a strong level of teacher agreement that structures and practices within their classrooms align with those described in the Logic Model for Montessori Education (Culclasure et al., 2019). In particular, the school maintains classroom structures that align very closely with the Montessori model. That said, scores on the curriculum and freedom components of the survey also suggest agreement to strong agreement amongst teachers that their practices adhere with fidelity to the model.

Table 3

Composite Scores on Teacher Questionnaire of Montessori Practices: Mountainside

	Mean Score
	N=12
Structure Component Composite:	**3.57**
Curriculum Component Composite:	**3.44**
Freedom Component Composite:	**3.34**

Note. This table provides the mean composite score for each of the three survey components. The scale is 1 (strongly disagree) to 4 (strongly agree). Scores that fell below the threshold of 3 (agree) would be highlighted in yellow.

Personal background (RQ1). Principal Morris identifies as a white woman in her 50's and has 34 years of experience in education. She studied early childhood education as an undergraduate, and taught first grade for her first three years post college. During that time, she pursued her MA in Elementary Guidance and became an elementary guidance counsellor, where she served for two years. At that point, her superintendent assigned her to the AP position at a local middle school, a post she fulfilled for three years. While in that role, Morris pursued her Ed Leadership MA +30, and then became the principal of what was, at the time, the district's early childhood center, serving children in 4K through 1st grade. Several years later, the district underwent restructuring, and the early childhood center became the elementary school that is now Mountainside.

Similar to the other two leaders profiled in this study, Morris was not experienced with Montessori when she assumed the principalship of Mountainside. Her background is unique amongst those in this study, however, in that it was she who proposed the introduction of Montessori programming at her school and then lead the charge for expansion and then full conversion of the school. Morris came upon Montessori when

researching potential strategies to address what she and her teachers perceived as a lack of conceptual math understanding:

> Several of my teachers came to me one day…we were doing estimation that week, and the kids just could *not* wrap their heads around what that meant. I started looking at Singapore math…and while doing the research, Montessori kept coming up. And of course, you know what the research is with Montessori, it's all very positive and very good.

Impressed by what she found during her reading, she was inspired to begin implementing Montessori on a small scale in the early childhood center, starting by founding a single primary classroom. While none of the three leaders profiled here were familiar with Montessori at the point of becoming principals, Morris' introduction to Montessori differs from that described by the other two: while they assumed leadership of developed, established Montessori schools and had to learn "in the seat," Morris sought out Montessori as a solution to an existing problem and then gradually implemented it at her school.

Making Sense of Montessori (RQ2). In keeping with findings from the previous two cases, Principal Morris faced a steep learning curve as she undertook Montessori implementation at Mountainside, and lacked a set of standards or guidance from either the state or district to support her sensemaking of the model. Also similar to Bryant and Schmidt, Morris undertook an in-depth and ongoing learning process of her own design in order to build the requisite skills and expertise as her role evolved from that of leader of a traditional, then dual-track, then Montessori elementary school. In her case, though, because she was implementing Montessori from scratch, she lacked the access to internal

expertise available to Bryant and Schmidt. As a result, Morris' sensemaking strategies relied more heavily on engagement of external expertise and direct, peer-like collaboration alongside teachers as they enacted the model within their classrooms.

Strategies for making sense of Montessori. Morris' first encounter with Montessori pedagogy is unique amongst the cases included in this study—while acting as principal of a traditional elementary school, she took the initiative to explore Montessori as a potential solution to observed instructional problems. The research she encountered convinced her to introduce Montessori at the primary level and then, over time, to convert Mountainside to a whole-school model. This meant that her sensemaking strategies were necessarily quite different, as she could not turn to internal expertise or defer to seasoned teachers in the ways that Bryant and Schmidt did. Instead, Morris took a "ground up" approach to making sense of Montessori, focusing on learning experiences intended for teachers rather than administrators. In turn, this strategy influenced her personal role definition and policy interpretations in important ways.

Principal Morris described undertaking just one formal learning experience, which was crucial to the development of her Montessori pedagogical knowledge. When she sent her first primary teacher for Montessori training, Morris audited alongside her, completing the coursework, but bypassing the comprehensive exams required to receive a credential. This was certainly a rigorous and time-intensive process, but Morris repeatedly emphasized that only by undergoing teacher training did she develop the granular, classroom-level understanding she perceives as necessary to provide effective instructional leadership to Montessori teachers:

> As an administrator you need to understand what the Montessori philosophy is, what it looks like in a classroom. What are the habits that the teacher needs to have? What does that environment look like in the classroom? As far as the lessons, how are they supposed to be placed on the shelf? All those little pieces that have to come together to make sure the teacher knows what they're doing …because if you're not careful, there are a lot of shortcuts that can be taken…as an administrator, you need to be able to notice all of those little things that go on…that make it a true Montessori classroom.

To Morris, it was important to replicate as closely as possible the background of an experienced teacher moving into the principalship. Attending training alongside her teachers was the closest thing available to her and enabled her to recognize and address issues of Montessori fidelity and implementation in specific and detailed ways.

After auditing primary teacher training, Principal Morris engaged in an ongoing, collaborative, and job-embedded process of making sense of Montessori. She was heavily involved in the granular-level details of establishing and expanding Mountainside's Montessori classrooms, working alongside teachers as a full collaborator in the process. Along the way, she engaged state and district supports, as well as personal connections, in order to gather the information and resources she needed to do that work effectively.

Observation. Principal Morris often recounted that, particularly in the first few years of implementing Montessori at Mountainside, she spent a great deal of time in classrooms, "just watching what they were doing." Observation, she expressed, was primarily a strategy for supporting teachers through the challenge of founding a new classroom, but also allowed her to "be part of the conversation" as instructional decisions were being made. Note that the intention behind Morris' observations differs from that of Bryant's and Schmidt's. They were newcomers to fully operational Montessori programs, and used observations as a means to learn from experienced Montessori educators. Morris, on the other hand, was on equal footing with her teachers when it came to prior knowledge and experience. She observed, therefore, in order to contribute effectively as a co-learner and collaborator as she worked alongside her teachers to implement Montessori programming at Mountainside.

Interactions with experienced Montessorians. When questions or challenges arose during the co-construction process described above, Morris engaged available expertise to make sense of them. Because she lacked access to internal expertise, she has turned largely to external sources when in need of information or support. In particular, she mentioned two such sources as being particularly influential on her learning process. The

first was the Montessori consultant from the State Department of Education, with whom she remembers working very closely and whom she describes as “instrumental” in getting Montessori started at Mountainside. The consultant helped her set up her classrooms properly and her extensive expertise was particularly helpful when it came to educating parents about the Montessori method and encouraging enrollment in those classrooms. The consultant provided Morris with resources and informational packets and helped her prepare to speak knowledgeably to interested community members. Importantly, that consultant has recently retired, and the South Carolina DoE has not moved to hire a replacement.

The second influential expert that Morris frequently mentioned was the director of a nearby Montessori training center where Morris sends her teachers to be trained. “I invited him over to observe,” she explains, “to make sure that we were doing it the way we were supposed to be doing it. So, I had a lot of other people’s input that really knew what it needed to look like in the classroom.” These two individuals were crucial to the success of her program, Morris repeatedly emphasized, “especially in the those first five years.”

Founding or expanding Montessori programming. Similar to Principal Schmidt, Morris describes the process of implementing new programming at her school as a rigorous and fruitful learning experience. She describes engaging in an in-depth and ongoing process of collaboration and co-planning with her teachers during that time, as together they transitioned from the beliefs and behaviors underlying traditional educational models towards those of Montessori:

> When you set up a Montessori classroom for the first time, it is very difficult, especially if you have been a traditional teacher…it really takes a couple of years, I'd say at least five, to wrap your head around how a Montessori classroom should operate. So, I was there, number one, to support that teacher and assistant and to determine, to help decide *with* them, what is the role of the assistant in the Montessori classroom? Where do the children need to be placed on the floor? How far apart do they need to be? Do we need to make sure that they are carrying the lessons appropriately? We had discussions about *everything* during those first few years, to try to determine for ourselves that we were doing it the way it needed to be done.

Again here, Morris stresses that instructional leadership requires in-depth, detailed knowledge of not only pedagogy and philosophy, but the day-to-day decisions faced by teachers. Her learning strategies, then, focused not so much on experiences intended to prepare leaders for the administration of Montessori schools, but rather on those that replicated the learning she would have undergone had she been a Montessori teacher before moving in to leadership. Learning at the level of classroom instruction was the only way, she felt, to make herself an effective "part of the conversation."

Principal Morris's sensemaking process has some characteristics that appear related to the unique context in which she entered leadership of a Montessori school. Because she was introducing Montessori programming within her school, there was no internal expertise available to her, such as that provided by seasoned teachers or instructional coaches, for example. Morris, therefore, felt it essential that she make

detailed, granular sense of the model alongside her teachers. Only in this way, she noted, would she make sufficient sense of the model to provide an appropriate level of support and direction to novice Montessorians founding new classrooms. Morris described this process as requiring about 5 years to complete.

Individual pedagogical interpretations. Having been the driving force behind implementing Montessori at Mountainside, and having undergone the transformative experience of Montessori teacher training, Morris says that she is a true believer in, and a strong advocate for, the Montessori approach. "I truly believe," she says, "and we've seen it so many times—this is the program that is developmentally appropriate for children. I mean, we have seen the gains that children have made, and we know that it works." Morris is insistent, furthermore, that fidelity matters—the model "works" when it is fully implemented and protected from modification. Several times during our conversations, Morris referenced implementation research on Montessori, emphasizing that through her reading, she had learned that "you can't do half Montessori and half traditional, it just does not work." When the model is diluted with multiple interventions, she warns, "we're just confusing kids and we're not going to get the results that the program is intended to get."

When describing her interpretations of the pedagogy, and her understanding of what full implementation looked like, Morris' provides detailed descriptions which align closely with the conceptualization of the Logic Model for Montessori Education (Culclasure et al., 2019). She stresses the essential nature of foundational structures such as authentic materials, uninterrupted work periods, fully-trained teachers, and a carefully prepared environment, and emphasizes that the holistic nature of the Montessori approach

must be protected and preserved. Montessori promotes social collaborative learning, hands-on and project-based work, emotional and psychological development of the child, and a broad curriculum involving deep dives into subjects that are de-emphasized by the standards and accountability movement. Establishing a strong foundation of fully implemented Montessori structures and processes was the priority, Morris explained, and only "when we felt like we had a handle on all of that, then [we] started looking at really trying to improve the academic piece."

Making sense of accountability (RQ3). Principal Morris uses her Montessori background and understandings as a frame for her sensemaking about accountability. In contrast to the other two leaders in this study, Morris interprets accountability requirements as obligations that must be attended to, but which don't necessarily serve the needs of students nor align with what she perceives as the core tasks of her school.

Environmental pressure. Morris's descriptions of the regulative constraints put on her sensemaking processes are consistent with those of other leaders in this study. Much like Bryant and Schmidt, she emphasizes that Montessori schools in South Carolina receive no waivers or modifications to accountability requirements, and that those requirements sometimes require her to diverge from what she interprets as high-fidelity Montessori practice. Morris's understanding of Montessori was bolstered by her knowledge of implementation research and her experiences with teacher training, both of which would appear to contend with those arising from accountability policy. In addition, Mountainside, having an overall and academic rating in the high average range on last year's state report card, is currently experiencing relatively low levels of accountability pressure. Therefore, while Morris acknowledges the existential necessity of meeting

policy requirements, she expresses a fairly strong sense of empowerment to resist, buffer, or directly influence the nature of policy. To illustrate, Morris identified consistent, high-fidelity Montessori implementation across her 15 classrooms as her highest priority, rather than raising test scores or securing a specific grade on her state report card.

Strategies for making sense. Morris makes sense of accountability policies in part by framing them as secondary to high-fidelity Montessori practice. She receives and understands the same accountability-related signals as do Bryant and Schmidt, and complies with what she identifies as non-negotiable components. At the same time, Morris has established a very clear vision of high-fidelity practice at Mountainside, and interprets several aspects of state and district policy as hindering or conflicting with that vision. Her strategies for organizing collective sensemaking of accountability policy, then, often center around isolating the absolute requirements contained in policies and otherwise de-emphasizing accountability messages.

Listening to the signal. Like Schmidt and Bryant, Morris looks to end of year state testing data to identify priority responses to policy requirements. As were the other two leaders, Morris is very aware of the consequences to her own and her school's reputation and perceived legitimacy held by the scores that appear on her state report card. "That's a huge measure and a huge comparison of how we're doing compared to everybody else in the state," she says.

At the same time, Morris encounters the same two factors at play in Schmidt's case which seem to mediate or "turn the volume down" on that signal to some degree. The first is the relatively light accountability pressure her school presently experiences. Mountainside's grade is currently the highest of the three participating schools and as a

result there is no imminent threat of sanction demanding her attention. Also like Schmidt, Morris receives environmental counter-messaging which places strong value on Montessori practice and counterbalances that related to test scores. Interestingly, while Schmidt's counter-messaging arises primarily from an informed and vocal parent community, Morris' appears to largely stem from her own effective sensegiving for constituencies both within and outside of her school. Because she has mobilized teachers, administration, school board members and district leadership in support of Mountainside's Montessori vision, there is now collective momentum behind that vision which echoes back to her as environmental and organizational demand to protect Montessori practice.

Social processes. In keeping with her approach for making sense of Montessori pedagogy, Morris heavily stresses collective and collaborative processes for making sense of accountability. Unlike Schmidt and Bryant, however, Morris does not mention gathering external information, resources, or supports to help her better understand, or more effectively enact, accountability policy. She did not, for instance, describe engaging district reading or math coordinators as Bryant did, nor researching district interventions to target specific scores, as Schmidt did. Instead, the collective sensemaking around accountability at Mountainside appears to take place internally, amongst teaching and leadership teams, where Morris can ensure participants share a degree of Montessori understanding and are mutually committed to shared goals. Members of that internal community, even those with accountability-defined roles, have been clearly oriented towards those shared goals—of preserving Montessori fidelity and buffering the potentially negative impacts of accountability policy:

> I think it's important to have people on your administrative team that understand your plan…and make sure that we're all on the same page. Because there's so many Montessori schools…where their curriculum person is doing her thing, the reading coach is doing something else. They don't understand Montessori and everyone's not on the same page, and that can't work.

By carefully selecting who participates in sensemaking activities, and ensuring that work takes place within a context of clearly defined goals and organizational identity, Morris ensures that information is interpreted in ways that prioritize Montessori practice. To illustrate the effect of this strategy, Morris tells a story about combing through 3rd grade benchmark data alongside her teaching teams. Because the teams were reticent to make unnecessary modifications to practice, such as explicit test prep or increased direct instruction, they worked to isolate the specific causes of common student errors. Often, they found, testing errors were related to simple vocabulary issues…Montessori children calling "units" what the tests refers to as "ones," for instance, or not knowing the word "array," while being familiar with the underlying mathematical concept. The carefully structured sensemaking around this issue, therefore, enabled very localized and targeted adjustments that did not require teachers to look outside the Montessori model for solutions.

Individual policy interpretations. Morris interprets accountability policies as largely emphasizing grade-based standardization of content and assessment through standardized testing. "In a public school," she says, "we are required to teach those standards at very specific grade levels. And we have to document that those kids have

mastered those standards at that grade level." Neither of these strategies does Morris believe to be developmentally appropriate, at least for elementary-aged children. For her, then, accountability requirements are obligations she must satisfy, but also which she must take care to avoid dwelling upon or highlighting as the core work of her school.

Conflict & Congruence (RQ4). Much like Schmidt, Morris is an experienced and seasoned Montessori leader, whose depth of understanding about both pedagogy and policy context enable her to not only identify, but anticipate and proactively address, points of conflict and congruence between the two. The particular sense she has made of each, however, influence her identification of conflict points, making them more numerous and more pronounced than those described by either Bryant or Schmidt.

Identified conflicts. Morris expresses that there are times that accountability policy applies pressures to modify practice within her school. She says that while, according to the Montessori philosophy, these modifications are "not always the right thing to do or the right way to do it," there are some points at which purist Montessori implementation and public school policy are in tension with each other, and others at which they are mutually exclusive. Specifically, Morris described tensions or conflicts which I have grouped according to their relationship to curricular standards, assessment through standardized testing, and preparation of highly-qualified teachers.

First, like both Bryant and Schmidt, Morris identifies conflict between the grade-based curricular standards dictated by the state and the individualization of learning across a 3-year continuum which is stressed in the Montessori pedagogy. Morris perceives the requirement to teach standards at specific grade levels as fundamentally at odds with the child-centered, individualized approach of Montessori. "With Montessori,

the way it's written," she explains, "you have a continuous flow of lessons, and when the child, based on their development, gets to that particular area, then you cover it." The state's curricular standards, on the other hand, dictate that, developmentally ready or not, skills must be introduced and practiced according to a specific timeline, so "we can't quite hold true to [the Montessori continuum] in a public setting." Beyond their tensions with individualized, child-centered practice, Morris is concerned that grade-based standards pressure teachers into breaking up the continuum into discrete, grade-based units and losing sight of the longer-range, interconnected vision of a Montessori education. "If you don't understand the continuum," she says, "then you're going to struggle. You know, if you get caught up too much in the grade level piece of it, then you're not seeing the big picture. It all has to go together." That bigger Montessori picture, according to Morris, is vertically longer, as just described, but also horizontally broader, placing equal emphasis on a wider range of academic subject areas, as well as on multiple facets of a child's holistic development. Like Schmidt, Morris observed that cultural lessons have been particularly deprioritized by teachers who are attempting to deliver the state's curricular standards. She says that she "noticed a couple of years ago that teachers were beginning to shy away from our culture lessons, because they were trying to make sure that they covered all of the reading and math standards. And that," she is concerned, "is not true Montessori."

A second category of conflict described by Morris relates to the strategy of assessing student mastery through high-stakes, standardized testing. Testing, she believes, "is developmentally inappropriate" at the elementary level and early and ongoing benchmarking towards accountability goals "just doesn't fit" in a Montessori

school. Over the years, she has observed her students, particularly the younger ones, "really struggling with paper and pencil tests." They lack test-taking skills, she explains, because they are accustomed to hands-on, exploratory work with manipulative materials, and often don't recognize familiar concepts when presented in the format of a standardized test. "We hear that so many times," Morris says, "when the teacher goes back over the test with the kids…it's as simple as, 'Well, I didn't realize what they were asking. I know how to find that answer, but I didn't understand it in the format that they were giving it to me.'"

The final tension Morris identifies between accountability policy and Montessori practice relates to the requirement for "highly qualified teachers." South Carolina is one of a handful of states that will recognize MACTE accredited Montessori teacher training as a state credential, but limits those candidates to teaching in Montessori classrooms. Despite this relatively conducive policy, pursuing Montessori training without traditional certification still limits a teacher's career opportunities, and the supply of Montessori trained and experienced teachers does not keep pace with demand. So, Morris' teachers at Mountainside are overwhelmingly traditionally trained teachers whose prior teaching experience took place in traditional environments. Time, effort, and support are required for these teachers, Morris explains, as they undergo the process of "unlearning their traditional twist on things," in order to be successful in a Montessori classroom. "If you're not careful," she explains, "when they're presenting their lessons, they tend to do it a little more traditionally than they need to, just because that's what they're comfortable with." Most of the teachers she hires and sends to Montessori training, according to Morris, are able to make the transition to successfully teaching Montessori

in about three to five years. A few, however “just cannot figure it out” and are unable, given their formative background experiences in traditional teacher preparation programs and as teachers in traditional classrooms, to make sense of Montessori instructional practice. The standard definition of a highly-qualified teacher—one who has completed a university teacher preparation program and earned their state certification—is not necessarily well-aligned with the profile of a successful Mountainside teacher, according to Morris. Instead, she describes a time and labor-intensive process of helping those teachers “unlearn” prior frameworks in order to make sense of the Montessori model.

Identified congruence. Morris did not identify instances of synergy or mutual reinforcement between accountability policy and Montessori practice. The formative experiences of undergoing Montessori teacher training and working alongside her teachers to establish programming have shaped her sense that Montessori is the most developmentally appropriate approach to learning, and that adjustments weaken its positive effects for children. Morris, therefore, is more likely to view the influence of policy on practice within her building as a form of interference with ideal instructional practice.

Morris does, on the other hand, view high-fidelity Montessori instruction as an effective approach to meeting the core aims of elevating academic standards and equalizing student outcomes which drive the accountability movement. “We’ve spent more time on the Montessori curriculum,” she explains, “as opposed to spending a lot of time on standards instruction. Because, really, if you teach the Montessori curriculum the way it’s intended to be taught, you hit most of those standards anyway.” Mountainside’s solid accountability status (the strongest in this study), despite its demographic profile as

a rural, high-poverty, highly diverse school, serves as evidence for Morris that high-fidelity Montessori instruction can deliver effectively on accountability mandates.

Sensegiving and organizational mobilization (RQ5). Principal Morris clearly and consistently articulates a vision of personal and collective identity which are strongly rooted in high-fidelity Montessori philosophy and practice. As described above, the understanding she expresses regarding the relationship between accountability and Montessori is that Montessori is an effective and appropriate educational strategy which works when implemented with fidelity. Accountability policy, she is concerned, often promotes developmentally inappropriate goals and strategies which pose a threat to her school's organizational identity and integrity. As a result, Morris actively engages constituents within and outside of her school building to advance Montessori-specific aims and to minimize or eliminate the impact of policy on instruction. Additionally, she exerts strong outward-facing leadership with the goal of creating a Montessori-conducive policy environment. The result, is mobilization of staff, administration, policymakers and the wider community to advance school-defined, Montessori-specific, goals and priorities.

Role definition. Morris describes her role as principal of Mountainside Academy as that of the school's lead advocate for high-fidelity Montessori practice. Morris says that her greatest responsibility at Mountainside is "making sure that we are teaching as close to true Montessori as we possibly can." She describes this as a "constant battle" as new district or state mandates arrive, to reinforce the idea that Mountainside will process such changes through a Montessori lens. "I'm constantly having to say, when some [teachers] may want to pull back a little bit…no, that's not the Montessori way we need

to be doing it. We need to come up with a better way." So, while Bryant defined himself as the accountability "insister," and Schmidt saw his role as mediating between dual frameworks, Morris' role is defined by her sense of responsibility to advocate for high-fidelity practice within the public sector.

Crafted coherence. Much like Schmidt, Morris acts as a crucial sensegiver for others within her school by spanning boundaries and negotiating fit at points of tension between policy and practice. Because her sense of personal and collective identity is so strongly framed by Montessori philosophy, however, her enactments of those activities are, of the three leaders in this study, the most actively resistant to modifications which she views as negatively impacting instructional fidelity.

When Morris spans the school-environment boundary by bridging resources or supports into the school, for example, they are most often Montessori-specific resources. During her interviews she did not provide any examples of implementing externally-designed or mandated interventions, curricula, or programs at her Mountainside. Instead, the story she provided to illustrate the use of outside resources involved engaging a well-known Montessori consulting team who helped her and her staff identify that their curriculum was narrowing in response to testing pressures. The consultants then lead teachers and administration in a process of revisiting their cultural geography albums (compiled during Montessori teacher training) and crafting both individual and collective goals related to the delivery of the full Montessori curriculum.

At other times, Morris manages the boundary of her school by functioning as a buffer—she sometimes deflects, downplays, or de-emphasizes accountability-related messages which are strong and persistent in the external environment, but which she does

not perceive as a fit within her school. Messages stressing the importance of testing as an educational strategy are one example. “I’m going to be honest with you,” she tells me, “I’m not a big fan of testing at the elementary school level. And I know that’s a huge accountability piece with the state, but I don’t push that.” Morris reiterates her believe that the priority is successful implementation of Montessori instruction, and “making sure we meet the needs of all students” through child-centered practices. When that is properly attended to, she says of student achievement on tests, “that’ll come.” Another example of Morris’ de-emphasis of ill-fitting policy messages relates to district-mandated textbooks. “We don’t use all those textbooks,” she says. “The teachers do pull out pages here and there and use them for lessons, but typically not. Because you don’t have time to do your Montessori lessons and those all at the same time.” This story illustrates that Morris does not intervene with her teachers and stress implementation of district policy according to policymaker intentions. Instead, while complying with the requirement to purchase the textbooks, she ignores the policy’s clear intention, which is to structure classroom instruction according to their contents.

Importantly, Morris’ boundary-spanning activities are not unidirectional. She also inhabits that role by exerting outward-facing leadership, influencing the surrounding policy environment in ways that create a more Montessori-conducive context for Mountainside to exist within. At the district level Morris reflects that, “You know, we changed board policy for the elementary school to meet our needs several times.” As an example, she offered the story of petitioning the school board to rewrite the elementary student report card according to Montessori standards and assessment practices. “We don’t have a traditional report card anymore with numbers on it, because we don’t grade

anything," she explains, "We went from a traditional report card to a standards-based report card, and now we're at a Montessori continuum checklist. You see how I did it in steps?" Morris also works to exert statewide influence, primarily through her work as a board member of South Carolina Montessori Alliance (SCMA), a statewide Montessori advocacy organization. Through that position, she works to "encourage the state department to really look at some things that need to be changed for Montessori schools." The Alliance has raised the issue of textbook budgets, for instance, requesting of districts that Montessori schools be granted more localized discretion to spend such funds on relevant learning materials rather than wasting them on "textbooks that sit on the shelf." Morris is also working, through SCMA, to encourage the state to fill the empty Montessori Consultant position at the DoE, which she found so instrumental to her learning process during the early years of her principalship. Morris enacts her boundary spanning role in ways that protect the Montessori identity of her school. She does this by filtering out messages she interprets as misaligned with internal goals and strategies, selecting Montessori-relevant external supports and resources from those made available to her, and by exerting outward facing influence to reshape her school's policy environment in Montessori-conducive ways.

Having filtered and selected messages and resources, Morris described a process of working to negotiate fit at identified points of conflict between policy and practice. Again, her activities and enactments were noteworthy for the degree to which they privileged fidelity of Montessori practice over full implementation of policy as intended. At the point of tension Morris identified between Montessori's broad curriculum and the more narrowly focused state-standards, Morris' messaging largely subsumes state

standards within the Montessori curriculum, emphasizing to teachers that curricular standards will be addressed "and then some" if they focus on delivering the full range of their Montessori lessons. Yes, she acknowledges, "there are a few holes and gaps," and she and her staff have worked to identify and address those. They protect Montessori-appropriate levels of student choice, autonomy, and hands-on work, though, by presenting those gap-filling lessons "in the form of a work on the shelf."

Where Morris perceives tension between the Montessori emphasis on exploratory, hands-on learning and the policy requirement to assess through standardized testing, she has actively negotiated with the district to minimize the degree to which high-stakes, year-end tests required by the state to begin in 3rd grade trickle down into frequent benchmark testing beginning in early childhood. While at one point, she and her staff experimented with using benchmarks to identify class-wide weak areas, they quickly determined the practice to be ineffective and age-inappropriate and moved to reduce testing down to the minimum necessary to familiarize children with the format. "We don't do it in kindergarten at all," Morris explains, "We started doing it in first grade early on, but we have cut that out." At this point, Mountainside students take a single, end-of-year benchmark in first grade, second graders take a midyear and an end of year, and beginning in third grade, the year they will take their first state test, students take three annual benchmarks. Still, Morris echoes Schmidt's sentiment that some modifications to practice simply must be made out of fairness to the children. "So, we really had to put some test taking skills into our curriculum for our younger children," she explains, "it's not something I really like to do or want to do, but it's necessary to level out that playing field for them when they do take the test as third years."

Lastly, because Morris perceives some degree of mismatch between traditional teacher preparation and the knowledge and skills needed to be successful in a Montessori classroom, she provides a comprehensive system of supports and mentoring for new teachers to scaffold them through their transition. The process begins during hiring; about considering whether to bring a teacher into the Mountainside community, Morris says, "I'm very out there with them, that we do Montessori the way it's written. You don't come in here and put your own twist on it, pulling in traditional things. I don't want to see a lot of worksheets, that kind of thing." In this way, she filters out teachers who may not internalize Mountainside's culture, and makes explicit her expectation that they will now be teaching in substantively different ways. Once hired, she provides them with a temporary pacing guide which serves as a crosswalk between the state's grade-based standards and the 3-year Montessori continuum, and then removes that support once she is confident they understand the flow of Montessori lessons. Additionally, her most seasoned and experienced Montessori teachers serve as mentors to ensure that new teachers are in fact transitioning, rather than reverting to familiar and comfortable ways of doing things. "I've got three lead teachers that are *outstanding* that have really worked with new teachers," Morris says of her mentors, "You know when you're changing from traditional to Montessori, it is a huge learning curve, so we have those mentor teachers work with those teachers to make sure that they know what they're doing."

Through these examples, Morris is shown to be crafting coherence between dual frameworks by privileging Mountainside's Montessori identity over strict conformity with environmental pressures. She selects resources and supports specifically designed for Montessori schools, de-emphasizes ill-fitting messages, and provides supports and

processes which gradually bridge people and structures (both within and outside of the school) towards alignment with the Montessori model.

Mobilization. Morris' work to mobilize the activities of constituents in service of Mountainside's goals is noteworthy for its clarity of vision as well as for the fact that it creates shared sense and coordinated action amongst community members both within and outside of the school. Morris is relentless in her work to define Mountainside's identity and collective culture as a high-fidelity public Montessori school:

> As a leader you have to make sure that the people you're working with have the same goals that you do, that their vision is the same and they know what we're trying to accomplish at this school. Because we're very different, and it requires staff development and a lot of extra work that teachers at other schools don't have to do.

Importantly, Morris stressed on several occasions that such clarity of purpose needed to be shared not just internally, but by district and state leadership, parents, and the larger community. Only by aligning the vision and goals of internal and external constituents, Morris believes, will Mountainside receive the resources, support, and policy considerations necessary for the school's success. Establishing a Montessori classroom, she explains, requires a district investment of about $20,000 towards specialized materials and furniture, in addition to the ongoing expense of the "unheard of" number of Montessori assistants she employs. "I told my superintendent when we first started this," she says, "either I'm going to do it right, or I'm not going to do it at all. I need the funding, I need your back up." One of the ways that Morris garnered that external support early on was by strategically encouraging the superintendent and several school board

members to enroll their children or grandchildren in her first Montessori classroom. "So, it was either make or break right then. I knew they would love it or they would hate it, and they loved it. So, they were huge supporters from the start. Pretty much anything I would ask for, they would try their best to come through with it." As a result, Morris continues to enjoy vocal and active district support to this day, much of which arrives in the form of Title I money allocated to fund Mountainside's Montessori programming.

Parents are another crucial external community for whom Morris acts as an effective sensegiver. It is important to remember that Mountainside is the only elementary school in its geographically large, rural district. "In our community," she says, "parents are not familiar with Montessori; it's something completely new to them." Parental understanding of, and support for, the Montessori model, though, is crucial to Mountainside's continued existence. Parents are required to observe their children's classrooms at least twice a year, therefore, and Mountainside holds "parent nights," in which parents are invited to receive Montessori lessons on the materials from their children. When the new Montessori report card was rolled out, Morris was proud to note that she did "not hear the first complaint from parents." This she attributes to the fact that Mountainside prepared parents to receive the non-traditional, qualitative report by providing a handbook to help translate what they were reading. The handbook explained, "what the lessons are comprised of, you know this lesson covers these skills. So, when you see that your child has mastered the checkerboard, that these are the skills that they're working on at that time." Parent are a constituency which, under other circumstances, might present mobilized resistance against the controversial move of converting the district's only elementary school to an innovative model. They have been

intentionally incorporated into the collective sensemaking processes taking place at Mountainside, though, and so are instead mobilized in support of the school and its mission.

Morris is not alone in this demanding and ongoing work of sensemaking and sensegiving. During our interviews, she continuously stressed the degree to which priorities are set, and decision-making is carried out, through collective and collaborative processes, noting that shared sense of meaning and direction comes from shared sensemaking processes. “I have really tried so hard to make my staff a part of the decision-making process at the school,” Morris says, “and I think that’s key to making sure that everybody is pretty much on the same page.” The decision to engage the Montessori consultants discussed earlier, for instance, was inspired by a survey of Mountainside’s teachers in which they identified curriculum narrowing and deemphasis of their cultural geography curricula as priorities for improvement. “All of these teachers know what Montessori should look like…from their training. If it’s not happening in their classroom, they know it. So that’s why I survey them, because I want them to have ownership of staff development.”

Morris fosters this sense of shared direction by establishing roles, structures, and social processes that support teacher collaboration, and then participating directly in those social processes. Examples include identification of teachers who masterfully implement high-fidelity practice in their classrooms, allocation of leadership roles to those teachers, including mentorships and headships of co-planning blocks, and weekly meetings of the leadership team in which Morris ensures that messaging is consistent and that administration, support staff, and curriculum coaches are making Montessori-appropriate

recommendations. As a result, Mountainside's entire staff is mobilized towards the shared vision of implementing high-fidelity practice in a public sector school:

> [The lead teachers] really make sure that it's implemented in the classroom. They're the ones that came up with the pacing guides, they're the ones that said we want to use Montessori Workspace for our documentation, and they're the ones that really have driven us to evolve to where we are, because they are so involved in growing this program and making sure that it stays as Montessori as we possibly can do it. They're the ones driving the train, to be quite honest with you.

Through her effective sensemaking and sensegiving work, Morris has leveraged collaborative structures and social processes to build collective momentum towards a shared vision. "I'm not having to fight that battle as much as I did," she says, reflecting on the evolution of her school over the past fourteen years, "because I've got teachers out there that are fighting it for me."

Case summary. Principal Morris is a seasoned Montessori leader, over a decade into her career. Morris' specific context and circumstances led her to pursue Montessori teacher training, a rigorous and immersive undertaking, as her most formative learning experience. This instilled in her a commitment to high-fidelity Montessori practice as the most developmentally appropriate approach. Her enactments, as a result, center around mobilizing internal and external community members in service of her vision of Montessori "done right or not at all."

Morris makes sense of overlapping demands by privileging Montessori's position within her school and filtering policy messages as to whether they will work within the

context of fully-implemented Montessori. Teacher responses to the Montessori practices survey underscore that commitment, as data indicate that teachers are implementing the model with a high degree of fidelity across all three components. In contrast to the other two schools participating in this study, students at Mountainside do not appear to be experiencing relatively lower degrees of freedom, a response pattern which is unusual in public sector Montessori schools.

Cross-Case Analysis

The following cross-case analysis will address this study's research questions by synthesizing major themes which arose among the three leadership cases. This study seeks to understand the lived experiences of public Montessori principals as they make sense of and enact accountability policies which may compete with the goals and strategies internal to their innovative schools. This analysis will identify patterns in the ways in which these three principals' sensemaking and policy enactments are shaped and influenced by their background experiences, identities, interpretations of policy and pedagogy, as well as by the structures and norms for collaborative learning established at their schools.

Personal background and prior professional experience. Research question one asks, "What are the personal histories, professional and educational experiences, and role understandings described by principals leading high fidelity public Montessori schools?" All three leaders in this study came to their current roles as seasoned and experienced public school educators. Principal Bryant of Baldwin Elementary, for instance, was in education for 13 years before assuming the principalship, having worked as both a middle school social studies teacher, and an AP at two different schools. He is

in the process of completing his doctorate in educational leadership. Principal Schmidt of Shady Hill, meanwhile, had 11 years of prior experience as a public school educator. He taught for six years in various contexts, served as an AP for five, and has been the principal of Shady Hill for a decade. He holds a Master's in administration as well as an EdD in educational leadership. Lastly, Principal Morris was an educator for 20 years before assuming the principalship of Mountainside Academy 14 years ago. She has been a first grade teacher, a guidance counsellor, and an AP. She holds her Ed Leadership Master's +30.

Despite their impressive educational backgrounds, however, none of the three leaders included in this study came to their current roles with background experience or knowledge of Montessori pedagogy. Principal Bryant recalls that the first time he "heard the word Montessori" was when a mentor suggested he apply for his current job. Principal Schmidt, meanwhile, responded to his job posting without a full understanding that he would be leading a Montessori school, and left his interview thinking, "Now I guess I need to figure out what all this Montessori stuff means." Principal Morris researched Montessori as a solution to challenges observed in her school, liked what she found, and then gradually converted the school to Montessori programming. In our interviews, she explained that the pattern of Montessori principals arriving to the position without relevant background knowledge was the norm, rather than the exception, throughout the state.

All three leaders also shared a clear acknowledgement that they were entering their leadership roles insufficiently prepared to serve as effective instructional leaders for Montessori teachers, as well as a strong sense of obligation to immediately and

thoroughly address their knowledge gaps. Principal Bryant, for instance, compared his effectiveness in providing support guidance to that of a former Montessori teacher turned instructional coach (and now principal of her own school), noting that she was able to deliver feedback and suggestions that fit within teachers' Montessori frameworks. Her instructional support, as a result, was more sensical and actionable than his. Principal Schmidt noted that when the community voiced support for converting Shady Hill to a full-school Montessori model, he recognized he has some learning to do in order to deliver the authentic experience parents were seeking from his school. Principal Morris, meanwhile, expressed that in order to lead effectively, a Montessori principal needs a granular level of instructional knowledge, because otherwise they may not notice, or know how to redirect, when classroom practices diverge from the pedagogical model. These three principals, then, all acknowledged a gap in their prior educational and professional experiences, expressed a strong sense of duty to address that gap, and as a result, all three undertook a series of self-chosen learning experiences in order to make sense of the Montessori model organizing their schools.

Making sense of Montessori. The second research question of this study asks, "How do these leaders make sense of the Montessori approach as a pedagogy and organizational philosophy?" All three leaders in this study endeavored to make sense of Montessori, or more specifically, what it means to be a Montessori school within their specific contexts, by devoting significant time and effort to pursuing learning experiences intended to address gaps in their prior background experience and knowledge. No guidance or standards were provided by which to structure their learning, so the specific nature of each leader's sensemaking path was shaped by what was available to them as

well as by what they perceived as relevant to their context and needs. As will be discussed, the particular experiences undertaken by each have, in turn, been influential to their personal role definitions, pedagogical interpretations, and policy enactments.

Principal Bryant, having just completed his second year as leader of Baldwin Elementary, is new to the principalship, to elementary education, and to Montessori. Also, being in the final stages of his EdD dissertation, it is understandable that Bryant has limited bandwidth available to undertake immersive formal learning experiences. When we consider that his attention and allegiance is also shared between the dual-tracks running within his school (Montessori and scholarly), committing to such an undertaking is also perhaps less relevant to his perceived needs. Bryant did not mention access to a Montessori coordinator or any other such resource or support provided by his district or state. He therefore has garnered most of his Montessori-related learning via informal, job-embedded activities such as extensive classroom observation and ongoing conversations with his instructional coaches and teachers. Compared to the other two leaders in this study, the breadth of pedagogical information and interpretations available from which Bryant may gather, has not been particularly wide or diverse. Further, he tends to privilege the interpretations of those colleagues who are more accepting of adaptation to Montessori practice in response to accountability demands, as they align more comfortably with his prior understandings. Bryant's case, then, serves to highlight the challenges of making sense of the Montessori model that many principals must face during the early years of their careers. The transition into school leadership is already demanding, but for some, allegiance is divided between dual programming, available and relevant supports and resources are few, and understandings brought to the role from

prior professional experiences may conflict with those that teachers are bringing to their work from Montessori training.

Principal Schmidt, meanwhile, has had a decade to devote to making sense of the Montessori model. His process is noteworthy for the breadth and diversity of sources, both within and outside of his school, from which he gathers information and interpretations. Like Bryant, he too observed in classrooms and sought out interactions with his staff during the early years of his career. But when his community voted to convert Shady Hill to a whole-school Montessori model, Schmidt committed to undertaking the type of immersive, formal learning experience he felt would prepare him to lead his school through that transition. He had a large and established program already in place, with expert teachers and instructional coaches available to provide day-to-day guidance and feedback to teachers, so Schmidt opted to pursue his Montessori administrator's credential from AMS. To this day, he continues to engage with a broad range of social connections both within and outside of his school. These include Montessori principal networks, his district Montessori coordinator, graduate courses, and his internal leadership team. Schmidt, then, has approached the Montessori model from the perspective of an administrator, which has influenced the ways he has come to understand the model and how he enacts that model in his school. His role, as he perceives it, it is to support his school in responding effectively to dual environmental demands: that of parent choice for an innovative school and that of accountability policy.

Principal Morris, lastly, has been in her role as principal of Mountainside for fourteen years. Uniquely, it was she who introduced the idea of establishing Montessori programming at her school. As such, she did not have access to experienced Montessori

teachers to rely upon for her own learning and for pedagogical leadership in the way that both Bryant and Schmidt did. She relied upon outside sources of expertise, therefore, such as the Montessori consultant that was, at that time, provided by the state, her district's Montessori coordinator, and the Montessori trainers from the nearby center where she sends her teachers for credentialing. Because of this early sensegiving by external Montessori experts, as well as understandings garnered from her own scholarly reading, Morris felt it was important to undergo Montessori primary training alongside her first teacher candidate. In essence, Morris would be the only source of instructional leadership for early teachers, and she wanted to ensure she was fully equipped to provide detailed, appropriate feedback that would hold true to high-fidelity implementation. Morris, therefore, has approached the Montessori model from a perspective closely aligned with that of a Montessori-trained teacher (despite never holding that role), and acts as a strong advocate for high-fidelity practice within the public sector.

These examples illustrate that the background experiences of particular leaders, coupled with the resources available to them and their specific learning needs, influence the processes they undergo to make sense of the Montessori model. The diverse messages they each received during those process, in turn, have substantively shaped their role understandings and pedagogical interpretations. Amongst these three leaders, Montessori remains a somewhat contested term, as leaders from varying backgrounds and with wide disparities in the supports and resources available to them are given substantial leeway to independently interpret and enact the model with few external constraints put upon their process.

The role of environmental pressures. The third research question of this study asks, "How do these leaders make sense of the specific federal, state, and district accountability context in which their schools are located?" The primary finding related to this question was that the sensemaking of these leaders around issues of accountability policy was heavily shaped and constrained by regulative pressures originating in their environment. When asked to describe their understanding of accountability expectations, all three responded in remarkably similar ways, echoing some version of, "We, as Montessori schools, are held to all of the same standards and requirements as other schools. There are no waivers or adjustments because of the unique identity of our school." All three were deeply familiar with published curricular standards, but were particularly aware of testing requirements and the composition of the state report card on which they and their schools would be assessed. This should come as no surprise, given the significant resources devoted to ensure clarity and alignment of messaging regarding expectations for student outcomes and consequences for noncompliance.

Interestingly, though, there was variation between leaders in the degree of emphasis they placed on accountability messages when acting in a sensegiving capacity within their school, with Bryant stressing testing and reporting the most, and Morris the least. Interview responses suggested that variation related to three primary factors: length of tenure, access to counterbalancing messages, and accountability status.

Schmidt, for instance, addressed the issue of tenure length and its impact on his sensemaking of accountability. He reflected upon the fact that his process for making sense of mandates had evolved over time; early on he felt rushed and pressured to implement directly and immediately, and has since learned to slow down, gather potential

approaches, and seek creative policy enactments which protect Montessori fidelity as much as possible. Bryant is still in those early years, and has not yet had the time or opportunities to fully develop his skills of creative enactment.

Also, there was variation in the number and strength of counterbalancing messages received by these three principals. Bryant, for instance, having come from a strongly accountability-oriented professional background, has not yet sought formal or external Montessori training. He also leads a dual-track school, meaning that even internal messages do not consistently privilege Montessori practice when it interacts with policy. Schmidt, on the other hand, encounters some degree of counterbalancing information, as he attended Montessori administrator's training and has an informed parent body that is mobilized and vocal regarding their desire for an authentic Montessori experience at Shady Hill. Morris, meanwhile was initially convinced by the research base that Montessori was the right choice for her school and then underwent teacher training, where her worldview was shifted in a way that counterbalances the logic of standardization and incentivization at the core of accountability policy. Taken together, these findings suggest that the degree of their exposure to alternate interpretations of the core goals and strategies of education influences the degree to which these three leaders do or do not emphasize and prioritize policy compliance within their schools.

Regarding the third influential factor, accountability status, we know that Bryant is currently under the most pressure of the three principals; Baldwin was designated as "in jeopardy" on last year's report card, and he is now required to attend a series of trainings aimed at addressing his school's low scores. Bryant is experiencing significant pressure, therefore, to act as the "insister" at his school, and the environmental demand

for his attention to be paid to issues of accountability strongly outweighs any messaging he might receive related to best Montessori practices. On the other end of the spectrum, Mountainside scored in the high-average range on its most recent report card, and is not currently experiencing any pressure to implement interventions or alter instructional practice. Principal Morris, then, enjoys a certain degree of freedom to de-emphasize testing and prioritize fidelity which is not available to a leader in Bryant's position.

Taken together, these findings describe how these three school leaders' interpretations of accountability-related messages are substantially constrained by environmental forces, and they articulate clear understandings of what is expected of them. The illustrations above, however, help us to understand that factors several factors influence the degree to which a particular leader emphasizes accountability messaging within their building.

Identifying conflict and congruence between dual frameworks. The fourth research question of this study asks, "In what ways, if any, do these principals identify conflict or congruence between their understandings of both the Montessori approach and their schools' accountability context?" Participants in this study were fairly consistent in their articulation of tension points between Montessori pedagogy and accountability policy, and less so when it came to identifying points of congruence or mutual enforcement.

Conflicts were commonly identified at the intersection between:

- Grade based curricular standards vs. the 3-year Montessori continuum
- High-stakes standardized testing vs. ongoing formative assessment through observation

- Multiple, overlapping initiatives and interventions vs. uninterrupted work period, student autonomy, and program coherence
- State definition of "highly qualified teachers" vs. Montessori teacher preparation

Importantly, no matter their personal backgrounds, tenure as a Montessori principal, pedagogical interpretations, or personal role definition, participants shared an understanding that existing tensions exert very real pressure on their schools, and that resolving those tensions inevitably required *some* degree of modification to ideal Montessori practice. All three, at some point, referenced practical differences between leadership of private and public Montessori schools, explaining that while private schools were free to implement Montessori unencumbered, the layered policy context in which they were operating necessitated at least occasional deviations from high-fidelity Montessori practice.

Points of identified congruence were less consistent between participants, but some points of mutual reinforcement described by principals were:

- Data from testing can be used to inform instructional decisions in Montessori classrooms
- Requirements for progress monitoring align with standard Montessori practices
- Supportive district practices help Montessori schools recruit highly-qualified teachers
- The Montessori curriculum is broad and comprehensive; it addresses nearly all of the state standards
- Title I money can be allocated to cover some of the expenses associated with Montessori programming

Importantly, leaders' responses to relevant interview questions highlighted the fact that the number of points identified, and their ability to predict the way that policy would interact with pedagogy within their building, evolved over time. In other words, leaders' ability to foresee potential conflict arising from incoming policy improved as they gained a deeper and more detailed understanding of Montessori philosophy and practice. Schmidt and Morris, therefore, the more seasoned Montessorians in this study, were often able to take pre-emptive action to resolve incoherence even before tensions had a chance to arise. Bryant, on the other hand, who has not yet had sufficient time to gather information about Montessori or make full sense of the model, sometimes expressed surprise and confusion that a new intervention was being met with pushback from his teachers.

Evolution of sensegiving capacity. The final research question of this study asks, "How do these principals influence the sensemaking and meaning construction of others in their school around issues of accountability related policy enactment within a Montessori context?" This study found that leaders worked most effectively as sensegivers for others in their school once they had accrued sufficient Montessori-related knowledge and experience to make thorough and balanced sense of both organizing models individually, and then to craft coherent and creative enactments for their coexistence within a single school building. Morris' and Schmidts' interview responses highlighted that, given their lack of prior Montessori experience, this process required about five years. Bryant has not yet completed five years of service in his role.

Leaders' enactments to craft coherence between accountability and Montessori took diverse forms. All participants named at least some examples of negotiating a compromise by altering Montessori practice in ways that resemble the rational responses to high-stakes accountability that are cited in the literature. Examples of such responses include curriculum narrowing, explicit test preparation, and aligning instruction with test format. The longer the leaders' tenure, however, and the more thorough their personal sensemaking of the Montessori model, the more often their enactments served to buffer and protect their organization's core identity as a Montessori school.

Several themes arose as factors that study participants highlighted as either strengthening or complicating their capacity as sensegivers. Leaders' ability to effectively foster shared meaning making within the context of a public Montessori school, for example appears to be strengthened when leaders have:

- Montessori teaching experience or have undergone Montessori training:
- undertaken structured learning experiences designed for Montessori educators;
- ample and diverse sources of Montessori expertise, information, guidance, and support available to them:
- access to networks, both within and outside of their buildings, that foster collective sensemaking about public-sector Montessori;
- exposure to balanced environmental messages which emphasize the importance of Montessori fidelity as well as adherence to accountability mandates.

Meanwhile, participant responses highlighted a second set of factors as complicating their sensegiving capacity. Leaders expressed feeling more challenged to act as sensegivers within public Montessori schools when:

- They are in the early years of leadership without prior Montessori experience;
- They lack access to state and/or district provided, Montessori-specific professional learning expectations, structures, resources, and supports;
- They lead dual-track, rather than whole-school, programming;
- District-wide transition points preclude the Montessori 3-year age span;
- Understanding of, and support for, Montessori programming is not widespread in the larger community surrounding the school (external sensegiving has not been undertaken).

Significant time and effort was required for these leaders to build sensegiving capacity, as they came to the role not yet having made personal sense of the model. According to some descriptions, about five years was required for them to make sufficient sense to act effectively in that role, but several external factors were identified which can either support or hinder a leader's progress.

Summary

The overarching research question guiding this study is, "In what ways to principals make sense of the Montessori model (as a whole school approach) within the specific accountability contexts in which their schools are located." In this section, I have addressed that question by detailing and analyzing data from teacher surveys and principal interviews conducted at three public Montessori elementary schools in South Carolina. Taken together, these findings revealed that although principals came to their

role with little or no prior experience with, or knowledge of, the Montessori model, they worked diligently to design and carry out a personal course of learning. These learning paths were comprised of formal and informal experiences, and engaged social networks both within and outside of their building. Importantly, the self-guided nature of their learning allowed for a wide range in the eventual sense each leader made of the Montessori model. The particular experiences, social connections, resources, and supports available to them, or selected by them, had substantive influence on their understanding of the Montessori model and the degree to which they were committed to implementing with fidelity or accepting of accountability-driven compromises.

In contrast, their sensemaking around issues of accountability policy was heavily guided, shaped, constrained, and supported by external forces. This gave rise to an imbalance between dual organizing principles, until or unless a principal gathered sufficient information, experience, and counter-messaging to enable coherent sense to be made between the two. Data from the two more seasoned leaders suggests that process required at least five years.

All leaders in the study identified common points of conflict, but fewer of congruence between the models, highlighting a demand for skillful and effective sensemaking and sensegiving on the part of Montessori school leadership. But the ability of leaders to mobilize their schools around coherent policy interpretations, specifically those which address policy demands which protecting the Montessori identity of their schools, appears dependent on several factors. These include length of tenure, particular learning experiences undertaken, degree of access to internal and external sensemaking

networks, degree of environmental demand or support for Montessori, and the alignment of state and district supports and resources behind their schools' unique needs.

In the next chapter, I will place this data in conversation with my conceptual framework, as well as with the literature reviewed in Chapter 2. In addition, I will discuss implications of these findings and present the recommendations for research, policy, and practice to which they give rise.

SECTION FIVE: DISCUSSION AND RECOMMENDATIONS

This study examined the daily lived experiences of principals leading high-fidelity public-sector Montessori elementary schools. Its findings help us to better understand how these leaders make sense of dual frameworks which intersect and interact within their schools: the Montessori pedagogy and accountability-related policy at the federal, state, and local level.

An underlying assumption of this research, illustrated in its conceptual framework, is that principal enactments (of both policy mandates and the Montessori method), are influenced by multiple influences, including environmental pressures, educational and professional background, social processes, and personal or organizational identity. In turn, those enactments play an important role in the nature of practice in a particular school and can positively or negatively impact fidelity to the Montessori model. Because research indicates that more positive student outcomes are associated with higher degrees of Montessori fidelity (Lillard, 2012; Lillard & Heise, 2017; Lillard et al., 2017; Marshal, 2017), this study aims to help practitioners, researchers, and policymakers better understand how Montessori implementation is impacted by the sensemaking activities of school leaders around issues of accountability policy.

In this section, I will situate the findings detailed previously in discussion with the literature presented in Chapter 2, as well as with the conceptual framework of this study. Next, I will recommend and justify proposed actions on the part of researchers, practitioners, and policy-makers to address this study's problem of practice, and, finally discuss the implications of those recommendations for the design of the action communications described at the close of this chapter.

Discussion of Themes

Preparedness gap. The first major theme arising from this study was that, while all three principals are highly experienced and qualified educators, each with well over a decade of experience in traditional public school settings, all expressed having arrived at their current roles with a substantial mismatch between their background beliefs, understandings, and skills and the demands of a Montessori principalship. None of the three, for instance, had previously taught in a Montessori classroom or been trained as a Montessori teacher. These leaders spent the early years of their Montessori principalship with all previous training and work experiences having taken place in contexts defined and structured by the logic of accountability. Principal Bryant, to illustrate, when asked to describe the organizing philosophy driving his previous educational environments, said, "It was very much about accountability, about test scores…The philosophy, if there was one, was very much about decisions being driven by student data."

All three principals consistently and repeatedly characterized this mismatch between their background and the demands of the Montessori principalship as problematic and a significant challenge to their efficacy as instructional leaders, particularly in the early years of their career. Interview responses suggested that leaders who have not yet had the opportunity to make full sense of the Montessori model may enact accountability policies through the frame of their prior traditional understandings, and in ways that threaten the integrity of schools' unique approach. This finding foregrounded the component of this study's conceptual framework relating to the factors which prime a leader's perception of incoming policy demands, and highlighted the crucial role that educational and professional background played in these leaders'

selecting, filtering, and prioritizing of demands. Participating leaders felt that substantive shifts in their pedagogical beliefs and understandings, achieved through extensive formal and informal educational and social experiences, were required in order for them to serve effectively in their role as Montessori principals. Before those shifts take place, the evidence from these three cases suggests that accountability policies may be too readily incorporated without sufficient consideration for the ways that the unique goals and strategies of a Montessori school may require thoughtful reinterpretation and reworking of mandates in order to achieve better organizational "fit."

This reinforces findings from previous literature describing the ways in which leaders' backgrounds serve as a framework for enacting new demands (Coburn, 2005; Matsumura & Wang, 2014; Seashore Louis et al., 2013; Spillane et al., 2002). This body of research highlights that the degree to which a given reform "maps onto," or conflicts with, a principal's identity can have profound implication for the sense eventually made of it (Carraway & Young, 2015). In other words, leaders are likely to make sense of new demands by fitting them in to pre-existing frameworks, incorporating that which is familiar and deemphasizing or deflecting that which is not. Specifically, Coburn (2005) demonstrated that principal interpretations of new expectations are often aligned with the prevailing educational paradigm at the time of their training to be teachers. So, while I spoke to Bryant at the end of his second year in leadership of a Montessori school, a role which is likely demanding new beliefs about the fundamental aims of education and the key strategies for reaching those aims, he reflects upon the influence of that prior experience in a traditional setting, saying, "A lot of that has probably influenced how I am as a principal, because I've told my staff, 'When I ask you how it's going…what I'm

really asking you is how did the lesson go? Let's talk about your data, 'cause that's what it's really about.'" At this point in his career, then, Bryant makes sense of the core purpose of his school in terms very much framed by the accountability movement, and has not yet crafted coherence between that prior organizing philosophy and that advanced by Montessori.

Findings related to principal background, furthermore, align with those from Montessori program evaluation research suggesting that the pattern is widespread, rather than unique to this study's participants. In their evaluation of public Montessori programs in South Carolina, Culclasure, Fleming, & Riga (2017) noted that a statewide shortage of Montessori teachers seeking administrative roles means districts often assign principals without Montessori training, experience, or understanding to lead Montessori schools. Data from this study echoed that finding, as participating leaders noted that inexperienced Montessori principals were the norm in their districts and state, and that there were no Montessori-specific standards for education or experience to apply for a Montessori principalship. "We have Montessori [scare quotes] classrooms popping up all over the place," explained Principal Morris, "But they're not doing what they're supposed to be doing. And the administrators know nothing about it in order for them to be able to move forward."

Self-directed learning. The second major theme identified in the course of this study was that, in the absence of standards, support, or guidance from state or district leadership, participating leaders were left to self-design an individual course of learning to address the "preparation gap" discussed in finding one. They devoted significant time and effort, particularly during the early years of their Montessori careers, to constructing

their own learning paths, comprised of both formal and informal social experiences, in order to better equip themselves to serve effectively as sensemakers and sensegivers within their schools. This theme underscored both the iterative and social/discursive natures of the sensemaking process which is detailed in this study's conceptual framework. In essence, leaders engaged with myriad and diverse social connections, over the course of several years, in order to make sufficient sense of the Montessori model itself. In turn, this enabled leaders to more effectively engage in subsequent rounds of collaborative sensemaking in which coherence between accountability policy and Montessori practice was more closely achieved.

This finding echoes those from the literature which highlight that sensemaking as inherently a social, discursive process. As Weick (1995) writes, "conduct is contingent on the conduct of others, whether those others are imagined or physically present" (p. 39). Meaning, then, is constructed by seeking out engagement and interaction with the meaning constructions of others. Because principals occupy a boundary-spanning role in their organizations, these interactions take place both within and outside of their school buildings (Burch & Spillane, 2003; Jennings, 2010; Rigby, 2010; Seashore Louis et al., 2013, Spillane et al., 2002).

Regarding internal learning interactions, all three principals pointed to the crucial importance that a regular, disciplined practice of classroom observation played in their sensemaking of the Montessori model. All three also noted that only through meaningful conversations with teachers and instructional coaches did the raw data from those observations translate into shared and actionable meaning.

When it came to external resources to support their Montessori sensemaking, while none were mentioned by Bryant, both Schmidt and Morris sought out myriad external sources of information, guidance, and support. These two leaders made meaning through a wide variety of discursive engagement with diverse sources, both formal and informal, according to their unique contexts and the specific resources and supports available to them.

That leaders actively pursued such opportunities for meaning construction around the Montessori approach is important when related to findings from sensemaking research such as that of Seashore Louis et al. (2013), who found that rich and ongoing opportunities for educators to create shared meaning around a new reform helped them to form an interpretation that merged it with existing beliefs and strategies of the school. This suggests that, if Montessori principals have access to plentiful and diverse resources to support their Montessori sensemaking, they should be better equipped to find creative and coherent ways to enact accountability policies in ways that preserve the core goals and strategies of their non-traditional school.

Importantly, however, this work was largely self-initiated and self-guided, and none of the three principals included in this study mentioned a formal professional development plan provided by their state or districts which might guide or structure their sensemaking around the Montessori model. As such, there was significant variety between the three participating principals in the quantity, depth, diversity, and nature of learning experiences and resources available to them and/or selected by them. This highlights a potential revision in the conceptual framework of this study, as the initial framework conceptualized principals primarily as sensemakers and organizational

sensegivers. Findings suggest, however, that principals rely upon state and district leadership to shape and guide their sensemaking processes around issues of policy and organizational identity, an important element of leaders' sensemaking which was not considered in the initial framework of this study. In the absence of such guidance, state and district initiatives promoting innovate educational models may be unevenly and incoherently enacted.

Findings from this study suggest, however, that these principals are, at present, left to their own devices regarding whether, when, and through which avenues they make sense of the guiding philosophy ostensibly organizing the schools they lead. Given their diverse learning paths and uneven access to sensegivers, it makes sense that there is variety in the pedagogical interpretations arrived at by these three leaders. Bryant, for example, expressed that the approach has impressive potential, but that purist approaches to implementation are "unrealistic," and that in unskilled hands Montessori classrooms are prone to chaos. Schmidt, meanwhile, speaks of Montessori as the embodiment of the individualized and project-based learning he had previously only theorized. That individualized approach, to him, means implementing interventions and external curriculum when they appear in the best interest of children. Morris, meanwhile, having pursued Montessori programming for her school after becoming convinced of its positive impacts, "truly believe(s) that (Montessori) is the program that is developmentally appropriate for children…if you do it the right way." She has made sense of Montessori as a logical system of required inputs and specifically enacted activities necessary for achieving desired outcomes.

The sensegiving literature identifies a crucial factor influencing policy enactment to be the capacity of leadership to articulate a coherent interpretation and bring others to a place of understanding in order to coordinate action (Ganon-Shilon & Schechter, 2017). Sensegiving, according to Wong (2019), is the process through which key organizational actors shape the meaning construction of others, often by facilitating a shift in the beliefs and assumptions which underlie current practice. Sensegiving is accomplished by such activities as filtering access to info (Coburn, 2005; Gawlick, 2015; Matsumura & Wang, 2014), allocating roles (Matsumura & Wang, 2014; Russell & Bray, 2013), fostering conditions for collective sensemaking (Coburn, 2005; Ganon-Shilon & Schechter, 2017; Seashore Louis et al., 2013), contributing to social processes (Burch & Spillane, 2003; Coburn, 2005; Gawlik, 2015), developing distributed sensemaking capacity (Seashore Louis et al., 2013), and defining organizational identity (Thomson & Hall, 2011). Given the disparate interpretations held by the three leaders participating in this study, a crucial need is highlighted for district and state leadership to more fully embody their role as sensegivers by providing more guidance, support, and structure for the pedagogical meaning-construction of Montessori principals.

The role of regulative pressures. The third major theme identified in this study is that, in contrast to their understandings around Montessori pedagogy, leaders' sensemaking of accountability policy was heavily shaped by environmental and regulative forces originating at the federal, state, and district level. This finding was hypothesized by the conceptual framework of this study, which incorporates new institutional theories arguing that the external environment has concrete and substantive impacts upon structures and processes within schools. In particular, the regulative and

coercive nature of policy exert isomorphic pressures, which this study suggests may be uniquely experienced within innovative schools, and which can pose existential threats to leaders and schools that do not readily comply.

For these three principals, Montessori may remain a somewhat contested term; their interpretations of the pedagogy are uniquely shaped by multiple overlapping factors such as educational and professional background, social networks, personal identity and beliefs, and degree of access to Montessori-related information, supports, guidance, and sensemaking opportunities. This does not, however, appear to be the case when it comes to their interpretations of accountability policy. All three, for instance, gave nearly identical descriptions of what the various levels of policy required of them and their schools. They were clear on the composition of their state report card and articulated that accountability requirements were non-optional and unmodified for Montessori schools. Two of the three (Bryant and Schmidt) framed their school's internal goals in terms of accountability targets, reinforcing themes from research which demonstrate that principals often mirror the understandings and priorities of accountability policy when discussing the organizational priorities of their school (Ingle, Rutledge, & Bishop, 2002; Spillane et al., 2002). The same two leaders also emphasized student progress in the areas of math and reading, and explicitly linked that emphasis to the outsized impact that scores from those two areas had on their schools' state report card. This aligned with earlier findings by Burch and Spillane (2003) that school leaders often echo the idea that math and reading comprise the core curriculum, and concentrate their reform activities in those areas. The clarity and ubiquity of accountability messages received by principals, therefore, and their reinforcement through regulative systems of reward and sanction,

appear to have translated into a higher degree of uniformity in leaders' articulations of policy than was evident in their Montessori pedagogical interpretations.

Principal Morris, who, in contrast to Schmidt and Bryant, did *not* heavily stress accountability goals when discussing the mission of her school, may at first appear to serve as a counter-example to this finding. Instead, an alternate interpretation is that her enactments reinforce findings in the literature which suggest that the degree of regulative pressure experienced by a school impacts the nature of response, with low-performing schools reacting to accountability pressures in fundamentally different ways than do their higher-performing counterparts. Principals of low-performing schools, for instance, tend to concern themselves with repairing community perceptions of legitimacy (Spillane & Anderson, 2014), and are therefore more likely to engage in behaviors that may help them avoid sanction, but are unlikely to translate into actual benefit for students (Diamond & Spillane, 2004). Leaders of high performing schools, meanwhile, enjoy more institutional security, and therefore devote more energy to concerns of identity maintenance. In these contexts, testing data is often leveraged in more formative, holistic ways, as a driver towards internally defined goals and for continuous school improvement (Diamond & Spillane, 2004). The current study extended such findings into a public Montessori context —Baldwin Elementary is currently under the most pressure to address test scores and, as a predictable response, Principal Bryant places the most emphasis on standardized measures when sensemaking for staff, frequently broadcasting the message that "it's all about test scores." Morris' policy enactments, on the other hand, are afforded a degree of leeway by her school's relatively comfortable report card scores,

and as a result, she shifts emphasis away from state standards and standardized testing and towards fidelity of Montessori implementation.

Some researchers have highlighted the fact that, because low-performing schools are more likely to hyper-focus on strategies for improving test scores, and also more likely to serve low-income and minority students, the pressures exerted by high-stakes accountability may promote, rather than reduce, educational inequities. It is problematic, therefore, to see preliminary evidence of this pattern playing out in public Montessori schools. Many of these programs were implemented in direct response to research suggesting that full implementation of the highly-constructivist approach can elevate and equalize student outcomes on a holistic range of measures, with the highest positive effects seen amongst the lowest-income students (Culclasure, Fleming, & Riga, 2018; Lillard et al., 2017). The environmental constraints placed on particular leaders' policy enactments, though, may manifest in a shift of organizational emphasis away from fidelity of Montessori practice and towards strategies intended to improve narrowly focused standardized test scores.

Identification of conflict and congruence. The fourth major theme identified by this study is that leaders articulated some common points of conflict or tension between the Montessori model and accountability policy. The conceptual framework of this study draws a link between major theme two and this theme, by elucidating the way that leaders' perceptions, primed by beliefs, understandings, and personal history, influence those environmental changes which will be noticed as disruptive or ambiguous, and therefore trigger their sensemaking. Commonly cited tension points highlighted by this study include those relating to foundational philosophies regarding the goal of education,

state-defined, grade-based curricular standards; standardized testing as a privileged source of data; the undermining of coherence engendered by multiple, overlapping initiatives or interventions; and the preparation of teachers. The identification of these particular points reinforces findings from previous research highlighting a fundamental misalignment between accountability policy and Montessori pedagogy (Brown, 2015; MPPI, 2015; Suchman, 2008). At the same time, the list of particular points of tension identified by leaders does not fully align with those hypothesized by the initial conceptual framework of this study. For example, preliminary research led to the prediction that principals would identify both frameworks for teacher evaluation and foundational beliefs about the role of incentives in human motivation as sensemaking challenges, but neither were discussed during principal interviews. On the other hand, findings from this study highlighted concerns about disruption of coherence, which was not included in my predicted list of ambiguities triggering principal sensemaking.

This major theme—that leaders work to identify and make sense of conflicts between policy and pedagogy—aligns with findings from the broader sensemaking literature which points to the disruption generated when accountability policy converges, interacts, and often contradicts with existing reforms within a school (Jennings, 2010; Matsumura & Wang, 2014; Russell & Bray, 2013). Such disruptions trigger principal sensemaking, as they force leaders to filter, prioritize, and merge disparate messages, as well as to articulate shared internal values that can serve as a guide for future decision-making (Saltrick, 2010).

Importantly, amongst the participants in this study, the degree to which individual principals identified or, in some cases, predicted the existence of such tensions appeared

to evolve over time, as they engaged in diverse and ongoing opportunities for sensemaking around the Montessori model. Bryant, new to his role and to Montessori leadership, was surprised and confused when, after implementing a new initiative, he found teachers were feeling torn between his expectations and those of visiting Montessori trainers. Schmidt and Morris, though, having each amassed over a decade of Montessori experience, now flag policy messages for sensemaking by gauging the degree to which they align or conflict with Montessori instructional practice. Prior research suggests that a key role of school leadership is to act as an intermediary between policymakers and teachers, negotiating and mediating between external and internal priorities (Schechter et al., 2018; Spillane et al., 2002). Making effective sense of the interaction between policy and practice requires principals to not only access the external environment for relevant information and threats, but also to be deeply familiar with the practices, structures, beliefs, and norms internal to their schools (Spillane & Anderson, 2014). Successful navigation of tension points, then, means a leader must first become capable of recognizing potential contradictions, a capacity which develops via ample and balanced sensemaking of both external and internal contexts. According to Schmidt and Morris, the two seasoned Montessori leaders in this study, that capacity evolved over several years—interview data suggested at least five—and by way of engagement in myriad and diverse opportunities to sensemake around the Montessori model. This finding highlights some important problems confronting the Montessori movement in South Carolina when placed in the context of research on principal tenure in that state. While this study suggests that principals may require five years to make balanced sense between Montessori and accountability policy, in their study of six districts, Tran,

McCormick, & Nguyen (2018) found that the average South Carolina principal remains in a given role for only 4.5.

A final note related to major theme number four is one with implications for high-fidelity practice in the public sector. As noted earlier, research highlights the role of leadership in negotiating and mediating between external and internal priorities (Schechter et al., 2018; Spillane et al., 2002). Negotiation inevitably requires at least occasional compromise, and that is certainly the case here, given the fact that participating principals consistently described accountability policy as “non-negotiable” and “unmodified” for Montessori schools. All three principals, predictably, acknowledged that their work to negotiate coherence between identified tensions sometimes involved policy enactments which they believed to compromise Montessori fidelity. To illustrate, Morris’ teachers benchmark against accountability targets, despite her interpretation of testing as developmentally inappropriate at the elementary level. While concerned that it disrupts the work cycle and undermines students’ development of focus and concentration, Schmidt facilitates push-in and pull-out interventions for at-risk students. Bryant encourages teachers to hold individual students to standardized timelines for concept mastery, despite his understanding that the Montessori philosophy means “we’re going to meet the child where they are, and we’re going to go at the pace of the child.” While Matsumura and Wang (2014) were investigating dialogic literacy initiatives, their concern over the “bedeviling influence of accountability policies” on the enactment of more constructivist reforms appears to also be warranted within the context of public Montessori schools, as all three principals in this study noted instances of

modification to the Montessori model that they perceived as necessary for their school's survival within the public sector.

Evolution of sensegiving capacity. The fifth and final major theme to be discussed is that leaders' capacity to act effectively as sensegivers, key organizational actors able to craft coherence between disparate messages and then mobilize staff around such Montessori-coherent policy interpretations, evolved over time in the presence of two influential factors. The first of these was significant time and effort dedicated to making thorough and balanced sense of both Montessori pedagogy and the specific accountability context of their schools. The second factor was the alignment of state and district structures and resources in support of the unique needs of their schools. The conceptual framework of this study defines sense between policy and practice as actively negotiated coherence achieved through social and discursive processes occurring both within and outside of the school community. The findings of this study lent detail to that conceptualization by illuminating some specific links between external sensemaking processes (such as trainings, principal networks, or engagement with district leadership) and internal ones (like SPED policy enactment, teacher induction, or budgetary decision-making).

While major theme number four highlights the "bedeviling" influence of accountability policy on Montessori practice, research on sensemaking and policy enactment points to the powerful role of leadership to influence the specific forms that policies eventually assume within schools. Prior research suggests that principals exercise substantial agency in selecting those signals to which they will attend (Sandberg & Tsoukas, 2015; Schechter et al., 2018; Weick, 1995; Weick et al., 2005), a theme which

was extended into a public Montessori context by this study. So, while participants' understandings of policy expectations were remarkably similar, variation arose in the degree to which these three principals emphasized and prioritized those expectations when acting in a sensegiving capacity within their buildings.

Honig and Hatch (2004) conceptualize "crafted coherence" as a process through which schools work to internally define goals and strategies, schools use those internally clarified goals and strategies as a sieve through which to filter incoming demands, and then districts align their resources and supports in service of such school-based decision-making. Crafted coherence between Montessori and accountability, therefore, requires leaders who have made sufficient sense of their school's pedagogical model to articulate goals and strategies in Montessori terms which resonate with the collective identity of their schools.

The discussion around theme number two of this study revealed a wide range in the degree to which these three leaders' have developed that capacity. None of them entered their role prepared for it, and the variation in their tenures and chosen learning paths have brought them to different understandings regarding their roles. But crafted coherence also requires that those leaders are properly supported in their work through state and district structures and resources which align with, and work in support of, their internally-defined missions. In other words, principals acted more effectively as sensegivers for their school communities when they have been the recipient of more effective sensegiving from their states and districts.

According to Weick (1995), when people find themselves in the types complex situations described by these public Montessori principals, in which their attention is

divided between competing demands, rather than more information, what they really need is “values, priorities, and clarity about preferences to help them be clear about which projects matter” (p. 27). The experiences described by the three principals included in this study would suggest that there is wide variety in the degree of clarity and value-articulation that public Montessori principals in South Carolina are receiving from policymakers at the state and district level.

When, however, participating principals had devoted ample time and energy to making sense of Montessori within a public-school context, *and* were engaged in a collaborative process of crafting coherence with state and district policymakers, they described feeling empowered and enabled to effectively give sense within their school communities. In these cases, principals were better able to predict tensions arising between incoming policy and Montessori practice, facilitate shared meaning-making (both within and outside of their school) around those tensions, and work collaboratively to creatively enact accountability policy in ways that minimized detrimental impacts of accountability on instructional practice.

Recommendations for Research, Policy, and Practice

A number of recommendations follow from the findings of this study, which I have grouped according to their relevance for researchers, policymakers, and practitioners. These recommendations propose next steps on the part of various constituencies within the Montessori community which are intended to better support coherent, “sensible” enactments of accountability policy within public Montessori schools. These recommendations are grounded in the data gathered and analyzed from

each of this study's three participants, as well as from the bodies of literature reviewed in Chapter Two.

Recommendations for research. While there is a robust body of literature, reviewed in Chapter Two, examining school-level responses to accountability demands, little is known about the phenomenon as it plays out within innovative or non-traditional contexts like Montessori schools. I recommend, therefore, that researchers examine the ways that educators' capacity to make sense of, and effectively enact accountability policy may be complicated by the unique identities, philosophies, goals, and strategies of innovative schools such as Montessori schools.

Recommendations for policy. Major theme number five of this study highlights the important role of state and district leadership in supporting the sensemaking and sensegiving capacities of public Montessori school leaders. The following recommendations, supported by prior literature and the findings of this study, are therefore intended to help policymakers better align their supports and resources in service of the unique needs of public Montessori principals.

Prioritize the hiring of experienced Montessori educators into positions of school leadership. The reviewed literature of this study suggests that personal and professional history and prior experience serve as frames through which leaders make sense of new demands. The responses of Montessori school leaders featured in this study, meanwhile, highlighted the shift in understandings, beliefs, and behaviors required of them when they assumed principalship of a Montessori school, as well as the substantial time and effort required to undergo that shift. All described the sense that, while they were disadvantaged by a lack of Montessori teaching experience, that was the norm

rather than the exception in their state. Therefore, a recommendation of this study is that state and district leadership make every effort to prioritize the hiring of experienced Montessori teachers into the principalships of Montessori schools.

Address the shortage of Montessori educators entering leadership through a multi-pronged approach. Even with the best intentions, policymakers are likely to encounter obstacles in their efforts to hire Montessori educators into leadership positions, as research points to a shortage of Montessori teachers pursuing leadership positions. I recommend, therefore, that the state of South Carolina address this shortage through a multi-pronged approach. One helpful strategy could be to build a Montessori leadership pipeline that raises awareness of the need for Montessori leadership and actively recruits and incentivizes teachers and teacher leaders into administrative certification programs. Another potential strategy would be for the state to consider a more direct and efficient pathway to administrative credentialing for experienced Montessori educators from out-of-state and/or from private sector schools that does not require them to first obtain a state teaching license and multiple years of traditional classroom experience.

Provide a comprehensive course of study for leaders hired without prior Montessori experience. Findings from this study highlighted the fact that not only were principals often hired without Montessori background experience, but they were provided few or no requirements, expectation, or guidance regarding whether or how they should go about learning the specifics of the model. While all participants in this study expressed a strong sense of obligation, and devoted significant time and effort to making sense of Montessori, there was wide variation in their degree of access to learning opportunities as well as the nature of those which they independently selected. I recommend, therefore,

the creation of a statewide "Montessori Principals Academy," enrollment in which is required either as a prerequisite to applying for a Montessori principalship, or which must be completed within a year of accepting such a position. The requirement, of course, would be waived for experienced Montessorians moving into school leadership.

Provide consistent and well-aligned structural supports across districts and between schools. Findings of this study highlighted that leaders placed great value on a number of specific state and district-provided supports and resources which they described as well-aligned with their schools' unique needs. On the other hand, however, the existence of those supports and resources was inconsistent between districts and individual schools. I recommend, therefore, that state and district policymakers engage in ongoing and structured dialogue with Montessori school leaders in order to better understand their needs and the most effective ways to align structures, supports, and resources with those needs. Specific examples of helpful supports identified in the course of this study include:

- At the state level:
  - Reinstating a statewide Montessori Consultant at the DoE
  - Full recognition of a MACTE accredited Montessori diploma in lieu of state teaching licensure
  - Clarifying whole-school programming as the ideal and provide a road map and timeline for gradual conversion of dual-track programs
- At the district level:
  - Ensuring each school leader has access to a district Montessori coordinator

- Rethinking transition points between feeder Montessori schools and their middle schools to allow for completion of 3-year cycles
- Revising district-wide artifacts such as report cards and pacing guides for Montessori "fit"
- Crafting Montessori-specific teacher recruitment plans, which might include dedicated hiring fairs and full sponsorship of Montessori training
- Increasing autonomy for schools to spend materials budget in Montessori-appropriate ways
- Engaging school leaders in exploring the most appropriate ways to invest Title I money to meet Montessori programming needs
- Provide opportunities for district leaders and school board members, who act as sensegivers for parents and the larger public, to learn about and make sense of the Montessori model. This can be accomplished through regularly scheduled school visits, dialogue with Montessori educators, presentations at board meetings, etc.
- Structure opportunities for Montessori principals to engage in rich, ongoing sensemaking of the Montessori model via engagement with diverse social networks

Recommendations for practice. The findings of this study are grounded in prior research on leadership sensemaking and sensegiving, as well as that on the unintended impacts of accountability policy. Taken together, these suggest that principals are better prepared to sensibly enact accountability policy, to do so in a way that protects the unique identify of their schools, and to act as coherent sensegivers for their organizations, when

they have balanced their understanding of accountability by making thorough sense of the Montessori model. The following recommendations, therefore, arising from the findings of this study, are intended to support public Montessori principals in that work.

Strongly consider undergoing Montessori teacher training. The difference between learning "about" and learning through personal experience or "doing" arose multiple times in the course of this study. Leaders expressed feeling at a stark disadvantage compared to others who had taught in a Montessori classroom prior to entering administration and requiring several years to "catch up" to a place in which they could participate constructively in instructional conversations with teachers. Morris, the only participant in this study to undergo training, felt strongly that that experience was the source of her deep pedagogical knowledge and capacity to act as an instructional leader within her school. I recommend, therefore, that leaders request district sponsorship and support to audit or attend teacher training immediately upon appointment to the principalship.

Engage with, rely upon, and foreground existing Montessori expertise within your building. Even in the ideal situation of a leader selecting to undergo Montessori training, that process will not be complete until they are preparing to enter their 3rd year in the principalship. Furthermore, despite being trained, such a leader still lacks the hands-on experience of having applied those understandings to classroom practice. I therefore recommend that Montessori principals take explicit steps to foreground teacher leadership and to distribute sensegiving responsibilities amongst expert Montessori teachers and teacher leaders. This can be accomplished by arranging mentoring relationships, teaming teachers and designating leadership within teams, coordinating co-

planning, and ensuring strong Montessori representation from each level on the school leadership team, amongst other strategies. Importantly, I would like to emphasize that it is important for school leaders to ensure they are present and participate directly in these collaborative sensemaking processes. By doing so, they not only take advantage of opportunities to further their own sensemaking, but are also able to embody their sensegiving role by shaping and guiding the sensemaking of others in those interactions.

Seek out ongoing opportunities to make sense of pedagogy and policy as they relate to your school. The findings of this study suggest that access to multiple, diverse informational and social networks from which a principal gathers interpretations and implementation strategies strengthens their ability to enact policy in creative and Montessori-coherent ways. I recommend, therefore, that public Montessori school leaders actively seek out wide and diverse opportunities to engage in sensemaking around the Montessori model, specifically around the challenges of protecting Montessori fidelity within the public-school accountability context. Examples of relevant opportunities might include pursuing Montessori administrator's training, participating in district-wide Montessori principal's groups, and engagement with state advocacy groups such as the South Carolina Montessori Alliance or national groups such as the Montessori Public Policy Initiative.

Montessori teachers and teacher leaders, consider school leadership. A clear theme running through this study is the suggestion that Montessori schools are best lead by experienced Montessori educators. The documented shortage of Montessori teachers pursuing administrative positions means that principals with traditional backgrounds are most often appointed to lead Montessori schools and must devote significant energy and

effort over approximately the first five years of their tenure to accruing the knowledge and skills necessary to serve effectively as instructional leaders in that context. I recommend, therefore, that experienced, expert Montessori teachers, teacher leaders, and instructional coaches give serious consideration to pursuing a future in school leadership. This study suggests that schools lead by experienced Montessorians are more likely to enact accountability policy in ways that make sense within a Montessori context, and therefore to protect fidelity of instruction and their schools' core Montessori identity. Research reviewed in Chapter Two, meanwhile, suggests that higher-fidelity implementation of the model results in improved, long-term benefits for students on a wide range of holistic measures. A larger number of experienced Montessori educators pursuing school leadership, then, will advance Montessori's potential to positively impact a broad and diverse range of students.

Summary

In this section, I have situated this study's research findings within the context of the bodies of research discussed in Chapter Two as well as in relation to the study's conceptual framework. As a result, a deeper understanding of the implications which flow from this study's findings has been outlined, which gave rise to the several recommendations for research, policy, and practice outlined above. These recommendations are intended to promote practices which facilitate the thorough sensemaking of public Montessori principals, and therefore develop their capacity to function as effective sensegivers within their contexts.

Action Communication

In this section, I offer the action communication product that stems from the findings, discussion, and recommendations of this study. As recommendations were provided for diverse constituents, including researchers, policymakers, and school leaders, I have directed my action communication product, which takes the form of a presentation with speaker notes, to the board of the South Carolina Montessori Alliance (SCMA). SCMA is a statewide advocacy organization, representing both public and private schools, that promotes expansion of access to high-quality, fully-implemented Montessori education in the state of South Carolina. As the alliance serves as a hub of resources and information for all Montessori-concerned constituencies within the state, including researchers, policy makers, and practitioners, delivering findings and recommendations to its leadership ensures their availability to all relevant parties. My hope is that the recommendations communicated here will be of use to the Alliance in their Montessori advocacy endeavors, particularly those aspects of their work concerned with promoting adherence to the Montessori model, promoting relevant and impactful Montessori research, and supporting appropriate preparation and professional development of Montessori educators.

Action Communication: South Carolina Montessori Alliance Briefing

Enacting accountability in innovative schools:

The sensemaking strategies of public Montessori principals

A Presentation to the South Carolina Montessori Alliance

Corey Borgman

2021

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Problem of Practice

- Publicly-funded Montessori is on the rise nationally, S.C. has the most public Montessori schools of any state
- Practitioners report unique tensions between contemporary policy context and Montessori practice, and experience ***pressure to adapt/modify*** the model to meet accountability demands
- These pressures are problematic due to research suggesting the relationship between fidelity and impact (Lillard, 2012; Lillard & Heise 2017; Lillard et al., 2017).

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Purpose of the Study

To understand how the principals of high-fidelity public Montessori schools make sense of federal, state, and district standards-based accountability requirements, and how they influence the specific policy enactments that take place within in their schools.

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Research Questions

Primary Question: In what ways do principals make sense of the Montessori model (as a whole school approach) within the specific accountability contexts in which their schools are located?

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Research Questions

Subquestion 1: What are the personal histories and professional or educational experiences described by principals leading high fidelity public Montessori schools?

Subquestion 2: How do these leaders make sense of the Montessori approach as a pedagogy and organizational philosophy?

Subquestion 3: How do these leaders make sense of the specific federal, state, and district accountability context in which their schools are located?

Subquestion 4: In what ways, if any, do they identify conflict or congruence between their understandings of both the Montessori approach and their school's accountability context?

Subquestion 5: How do these principals influence the sensemaking and meaning construction of others in their school around issues of accountability-related policy enactment within a Montessori context?

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Study Design: Participants

Three public Montessori schools in South Carolina:

- Host at least one elementary classroom
- Identified (via expert recommendation) as fully implementing Montessori
- Principal in position for at least 2 years
- District, non-charter
- Title I designation

Within those schools

- All elementary lead guides (teachers)
- Principals (3)

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Study Design: Data Gathering

- Teacher Survey adapted from the "Teacher Questionnaire of Montessori Practices: Elementary" (Murray, Chen, & Daoust, 2019) administered to all Montessori Elementary teachers within participant schools
  - To triangulate suggestion of full Montessori implementation, as well as contextualize interview responses
- Semi-structured interviews with principals
  - To gain insight into principal background, lived experiences with accountability policy, and meaning making around interaction between Montessori and accountability

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Theme 1: Preparedness Gap

Participating leaders arrived to the Montessori principalship with ***all prior professional experience having taken place in traditional environments***.

All expressed a strong awareness of a substantial ***mismatch between the beliefs, understandings, and skills*** they brought to the job and the demands of their new roles.

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Theme 2: Self-Designed Learning

None of the participating principals were provided ***specific standards or requirements*** from state or district for addressing their preparedness gap

While each participant demonstrated great commitment to seeking out Montessori understanding, ***learning paths were individually designed. There was great variation*** in what was available to a particular leader, and what was selected.

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Theme 3: Accountability Pressures

In contrast to their divergent, self-designed learning paths around Montessori, participating leaders' ***understandings of accountability were strongly shaped and supported by state and district***. This manifested as:

- Specific standards
- Incentives & sanctions
- Resources & information
- Expert support & guidance

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Theme 4: Conflict Points

Specific ***points of conflict*** (as well as degree of conflict) identified by leaders between accountability policy and Montessori pedagogy ***varied in relation to professional history***. Some ***commonalities, however, included***:

- Foundational beliefs re: goal of education
- State-defined, grade-based curricular standards
- Standardized testing as privileged data source
- Coherence vs. initiative overlap
- Teacher preparation

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Theme 5: Coherence-Building

To articulate coherent directions for school constituencies required leaders to ***anticipate and proactively resolve*** these conflicting messages.

This capacity evolved ***over time*** as leaders ***developed a balanced understanding*** between Montessori & accountability.

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Theme 5: Coherence-Building

The development of this sensemaking/ sensegiving capacity was supported by:

- Leader investment of time and energy to develop deep pedagogical understanding ***(5 years +)***
- State & district ***supports aligned in service of the unique needs*** of Montessori schools

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Recommendations: Researchers

Little is known about how innovative or nontraditional schools experience & respond to accountability pressures.

Further research is recommended which explores how leaders of schools with unique identities, philosophies, goals, and strategies make sense of and enact accountability policy.

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Recommendations: Policymakers

State & district leadership plays a crucial role in supporting the capacity of Montessori principals to build coherence within their buildings:

- Prioritize the hiring of experienced Montessorians as school leaders
- Develop a multi-pronged approach to addressing Montessori leadership shortage
- Clarify a required professional development path for those leaders new to Montessori

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Recommendations: Policymakers

- Provide system of structural supports and resources that are well aligned to the needs of Montessori schools and consistent:
  - across districts (state level), and
  - between schools (district level)

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Recommendations: Policymakers

State-level recommendations:

- Reinstate DoE Montessori coordinator
- Fully recognize MACTE credential as equivalent teaching license (not restricted to Montessori classrooms)
- Clarify whole-school (rather than dual track) model as the ideal. Provide timeline, roadmap, and resources/support for conversion.

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Recommendations: Policymakers

District-level recommendations:

- Ensure every principal has access to a district Montessori coordinator
- Carefully consider middle school transition points
- Revise artifacts (report cards, pacing guides, etc.) with consideration for Montessori "fit"
- Craft Montessori-specific teacher-recruitment plans
- Increase budgetary autonomy for Montessori materials

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Recommendations: Policymakers

District-level recommendations:

- Ensure principal access to district Montessori coordinator
- Rethink middle school transition points
- Revise artifacts (report cards, pacing guides, etc.) with consideration for Montessori ”fit”
- Craft Montessori-specific teacher-recruitment plans
- Increase budget-autonomy for Montessori materials

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Recommendations: Policymakers

District-level recommendations (*cont.*):

- Engage school leaders in exploring Montessori-appropriate investments of Title-I funds
- Structure opportunities for district leadership to learn more deeply about the Montessori model
- Provide rich & ongoing sensemaking opportunities for Montessori principals (networks, courses, etc.)

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Recommendations: Practitioners

Leaders with a rich and balanced understanding between accountability & Montessori are better equipped to coherently enact policy within their schools:

- Strongly consider undergoing Montessori teacher training
- Engage with, rely upon, and foreground existing expertise within your school
- Seek out relevant, ongoing professional development
- Teachers: Consider school leadership!

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Thank You

Questions?
Discussion!

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Appendix A: MPPI Essentials

An authentic Montessori school will implement a philosophical approach that is consistent with the educational methods and areas of instruction as defined by the observations, research, writings and instruction of Dr. Maria Montessori. A Montessori school must allow the child to develop naturally—children are able to learn at their own pace and follow their own individual interests, learning primarily through the hands-on use of scientifically prepared auto-didactic materials, and interacting with the environment under the guidance of a specially trained adult. A Montessori environment promotes the child's ability to find things out independently, enabling motivation and knowledge-building through internal development rather than external teaching or rewards.

In addition, an authentic Montessori school will apply the following pedagogical elements. It is critical that all of these elements be present in order for the Montessori approach to be successfully implemented. Montessori schools should:

1. Implement the Montessori curriculum which must include:
    a. A classroom design that is compatible with Montessori "prepared environment" principles.
    b. A full complement of Montessori materials for each class and age group.
    c. Uninterrupted Montessori daily work periods, with 3-hour work periods being the ideal.
    d. Instruction characterized by a high degree of freedom given to the student to choose what to work on, where to work, how long to work.
    e. Instruction that primarily takes place in small groups (Elementary & Secondary) or one- on-one (Early Childhood).
2. Have appropriately trained instructional staff defined as:
    a. Having a lead teacher in each classroom with an AMI, AMS, NCME, and/or MACTE accredited teacher education program credential at the level being taught.
    b. Having staff members engage in ongoing Montessori professional development.
3. Have classrooms
    a. With the appropriate multi-aged groupings: 2.5/3-6, 6-9, 9-12, or 6-12 years of age. Children from birth to 3 years of age and 12-18 years of age may be grouped in varying multi- age configurations.
    b. With class sizes and adult/child ratios that align with Montessori principles. Montessori classroom standards require larger class sizes and higher student to teacher ratios than is typically seen in traditional classrooms. Adding additional teaching staff to a Primary classroom can interfere with, rather than encourage, child-directed learning. It would not be uncommon to see 30 or more children in a classroom at the early childhood and elementary levels.
4. Assess student progress through
    a. Teacher observation
    b. Detailed record keeping

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Appendix B: Electronic Survey Instrument

Teacher Questionnaire of Montessori Practices: Elementary

(Murray, Chen & Daoust, 2019)

* Required

1. **Please indicate how strongly you agree or disagree with each of the following statements about your classroom:** *
Mark only one oval per row.

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly Agree
Children are in at least 3 grade levels				
All children go out for lunchtime recess				
Spelling exercises are individualized				
Small groups do "going out" excursions				
Most lessons last 15 minutes or less				
Problem solving with students addresses off-task behavior				
1-on-1 meetings are held at least every 2 weeks				
Children help make classroom rules/guidelines				
Art materials are available all day				
Children correct their own work				
There is a full set of large geography charts				

2. **Please indicate how strongly you agree or disagree with each of the following statements about your classroom. I make sure that:** *
Mark only one oval per row.

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly Agree
Children use human fundamental needs charts				
Children develop a system for classroom maintenance				
Children record activities in work journals				
There is a 3-hour uninterrupted work period				
Children give lessons to one another				
Most lessons are given in groups of 2-5 children				
Most instruction is given with Montessori materials				
Children regularly prepare food.				

3. **Please indicate how strongly you agree or disagree with each of the following statements about your classroom. The children in my classroom: ***

Mark only one oval per row.

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly Agree
Do research based on interests	⬭	⬭	⬭	⬭
Choose their work/activities	⬭	⬭	⬭	⬭
Decide if they will do a follow-up activity	⬭	⬭	⬭	⬭
Determin how long to work with an activity	⬭	⬭	⬭	⬭
Decide where they will work	⬭	⬭	⬭	⬭
May choose to work alone or with others	⬭	⬭	⬭	⬭
Make history timelines	⬭	⬭	⬭	⬭
Create their own math problems	⬭	⬭	⬭	⬭
Repeat Montessori science experiments	⬭	⬭	⬭	⬭
Have access to a full set of Montessori materials	⬭	⬭	⬭	⬭
Take part in community service projects	⬭	⬭	⬭	⬭

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Appendix C: Interview Protocols

Interview Protocol #1: Focused Life History

RQs Addressed:

- RQ1: ***What are the personal histories, professional and educational experiences***, and role understandings described by principals leading high fidelity public Montessori schools?
- RQ2: How do these leaders make sense of the Montessori approach as a pedagogy and organizational philosophy?
- RQ3: How do they make sense of the specific federal, state, and district accountability context in which their schools are located?

Date of Interview:	Audio file name:
Interviewee Name:	Start Time:
School:	End Time:
Location/Description:	

Intro script: As you know, this interview is part of my research into how the principals of public Montessori schools make sense of their work related to standards and accountability policy, given the unique philosophy of their schools. Today's conversation is the first of three, and it's what's called a "focused life history" interview.
Today, I'd like to talk mostly about your prior educational and professional experiences, particularly as they relate to both Montessori and accountability. So, I'm going to ask you questions that focus largely on the various paths that brought you to where you are today. Please remember from the informed consent form you signed earlier that you may choose not to answer any question, and you are free to stop at any time. At this point, I'd like to begin recording our conversation, is that ok with you?

Primary Questions	**Potential Follow-ups**	
I'd like to start by hearing a little bit about your own educational experiences, when you were in school. Can you tell just a little about where you attended school for: • Early childhood? • Elementary? • Middle school?/ High school? • College?		Probes: Why? How? How did you feel about that? Could you tell

<table>
<tr>
<td>Tell me a little about how and when you decided to become an educator.
I'd like to hear a little about your path into the profession.</td>
<td>How long have you been in education?
How did you choose the path that you did? What were your considerations?</td>
<td rowspan="4">me more about that?

What was that like?

What are your memories of that?

Can you tell me a story that illustrates what you mean by that?

What do you most remember about that experience?

Others:</td>
</tr>
<tr>
<td>Next, I'd like to know all about your personal history and experiences with Montessori.
When and how were you first introduced to Montessori as an educational approach?</td>
<td>Did you become a state certified teacher or a Montessori teacher first?
Were your first teaching experiences in Montessori or traditional contexts?
Public or private?</td>
</tr>
<tr>
<td>Can you help me to understand the Montessori-related trainings or professional development experiences, if any, that you've undertaken?
• Trained guide?
• Levels?
• AMI/AMS?
• Administrator's certification?</td>
<td>For each:
When?
Why? Objective?
Key takeaways, important learnings?</td>
</tr>
<tr>
<td>I'd like to hear a little about your classroom experience (as a teacher).
Can you outline for me your teaching history/experience?
• Grades?
• Public/private?
• Montessori/traditional/other?
• # of years as a teacher?</td>
<td></td>
</tr>
<tr>
<td>I'd like to hear a little more about your experience transitioning from teaching to the principalship. Can you tell me about what that process was like for you?</td>
<td>How did you prepare for that transition?
• Professional development?
• Certifications?
• Trainings?</td>
<td rowspan="2"></td>
</tr>
<tr>
<td>Lastly, can you tell me a bit about the history of the school itself? I'd like to know a little bit about its background and how it came to be a Montessori</td>
<td>Where did the impetus come from to establish or convert to Montessori?
Accreditation? By whom?</td>
</tr>
</table>

school?		
That brings me to the end of my questions about your background experiences. Is there anything else you'd like me to know or that I didn't ask about that seems important?		

Closing script: Thank you so much for your time and for talking with me today. I really appreciate the opportunity to learn about your background experiences and how you came to your current position. I look forward to speaking with you again in a few days, at which point we'll focus more on your current, day-to-day experience as the principal of a public Montessori school.
Soon, I'll share with you the transcript of our interview so that, if you choose, you can check it for accuracy and let me know if you remember anything differently than how I have transcribed it. Thanks again, I'm looking forward to talking to you again soon!

Interview Protocol #2: Daily Lived Experience
RQs Addressed:

- RQ1: What are the personal histories, professional and educational experiences, and ***role understandings*** described by principals leading high fidelity public Montessori schools?
- RQ4: In what ways, if any, do they identify conflict or congruence between their understandings of both the Montessori approach and their schools' accountability context?
- RQ5: How do these principals influence the sensemaking and meaning construction of others in their school around issues of accountability-related policy enactment within a Montessori context?

Date of Interview:	Audio file name:
Interviewee Name:	Start Time:
School:	End Time:
Location/Description:	

Intro script: Thank you for talking to me a few days ago about your personal and professional history. Today's conversation is the second of three, and will focus on your daily lived experience as the principal of a public Montessori school.
Today, I'd like to talk mostly about your day-to-day experiences negotiating the interaction between Montessori pedagogy and accountability policy in your school. Please remember that, just like before, you may choose not to answer any question, and you are free to stop at any time. At this point, I'd like to begin recording our conversation, is that ok with you?

Primary Questions	**Potential Follow-ups**
I'd like to start by learning from you about your understanding of the policy context within which you are operating at this school. In broad strokes, federal and state accountability policies set expectations for: A. Effective teachers B. Curricular standards C. Student achievement D. Equitable educational opportunities for disadvantaged populations I'd like to take a moment, then, to have you describe for me what each those four policy categories requires of you and	Probes: Why? How? How did you feel about that? Could you tell me more about that?

<table>
<tr><td colspan="2">your school:</td><td rowspan="8">What was that like?

What are your memories of that?

Can you tell me a story that illustrates what you mean by that?

What do you most remember about that experience?

Others:</td></tr>
<tr><td>How does your state and district define “effective teachers,” and how do the related requirements for schools to employ effective teachers impact your school?</td><td>Where do these requirements originate? Do you think they interact in unique ways with the Montessori philosophy?</td></tr>
<tr><td>The next category is curricular standards. Can you speak to me about what is expected of your school in terms of curriculum?</td><td>Where do these requirements originate? Do you think they interact in unique ways with the Montessori philosophy?</td></tr>
<tr><td>The next broad accountability category relates to student outcomes. What is expected of your school when it comes to measuring and reporting student achievement?</td><td>Where do these requirements originate? Do you think they interact in unique ways with the Montessori philosophy?</td></tr>
<tr><td>And lastly, the category of equity. What is required of your school when it comes to ensuring and demonstrating equitable educational opportunities for disadvantaged populations of students?</td><td>Where do these requirements originate? Do you think they interact in unique ways with the Montessori philosophy?</td></tr>
<tr><td>Are there any expectations that have missed or that you think it’s important for me to know about?</td><td>Where do these requirements originate? Do you think they interact in unique ways with the Montessori philosophy?</td></tr>
<tr><td>So, reflecting upon this current school year so far, what from that list of expectations we have just discussed is most commanding of your attention?</td><td>Why is that?</td></tr>
<tr><td colspan="2">I’d like to zoom in then, for a moment on that priority you just identified (in the previous question). I’d like to hear you talk in a bit more detail about your activities around interpreting and responding to</td></tr>
</table>

<table>
<tr><td colspan="2">it.</td><td rowspan="8"></td></tr>
<tr><td>Can you describe for me the process by which you went about coming to an understanding of the policy and what it meant for you and your school?</td><td>And can you detail for me what that understanding was?</td></tr>
<tr><td>Were there people or organizations from outside the school who you involved in interpreting or enacting the policy?</td><td>What was the process by which those outside individuals or organizations were enlisted? How were they identified?</td></tr>
<tr><td>And what about staff members? Who internal to the school was/is involved in helping make meaning of and enacting the policy?</td><td>What was the process by which those particular staff members were enlisted in this work? How were they identified?</td></tr>
<tr><td>Where in the process are you with incorporating this policy expectation?</td><td></td></tr>
<tr><td>Have you seen, or do you foresee, any benefits or challenges coming from incorporation of this policy expectation?</td><td>Are there specific impacts on, or benefits to, fidelity of Montessori practice?
If so, what do those look like?</td></tr>
<tr><td>Are there next steps? If so, what do you think they might be?</td><td>Are you mobilizing for those next steps?
If so, how?</td></tr>
<tr><td colspan="2">That brings me to the end of my questions about your daily work experiences. Is there anything else you'd like me to know or that I didn't ask about that seems important?</td></tr>
</table>

Closing script: Thank you so much for your time and for talking with me today. I really appreciate the opportunity to learn about your day to day experience and how you go about the work of enacting accountability-related policies within your school. I look forward to speaking with you again in a few days, at which point we'll focus more on reflecting on the meaning that's arisen from these first two interviews.

Soon, I’ll share with you the transcript of this interview so that, if you choose, you can check it for accuracy and let me know if you remember anything differently than how I have transcribed it. Thanks again, and I’ll see you soon!

Interview Protocol #3: Reflection on Meaning
RQs Addressed:
RQ2: How do these leaders make sense of the Montessori approach as a pedagogy and organizational philosophy?
RQ3: How do they make sense of the specific federal, state, and district accountability context in which their schools are located?
RQ4: How do these principals influence the sensemaking and meaning construction of others in their school around issues of accountability-related policy enactment within a Montessori context?
RQ5: How do they influence the sensemaking and meaning construction of others in their schools around issues of accountability-related policy enactment within a Montessori context?

Date of Interview:	Audio file name:
Interviewee Name:	Start Time:
School:	End Time:
Location/Description:	

Intro script: Thank you for talking to me a few days ago about your daily work experiences. Today's conversation is the last of three, and will more reflective than the previous two, with a focus on the meaning you make from the experiences we've previously discussed.
Please remember that, just like before, you may choose not to answer any question, and you are free to stop at any time. At this point, I'd like to begin recording our conversation, is that ok with you?

Primary Questions	Potential Follow-ups	
Given what you've said previously about your school's navigation of policy expectations, what do you think it means to be a Montessori school operating within this policy environment?	Has your understanding of that evolved due to the experiences you've described to me? In what ways? Why?	Probes: Why? How? How did you feel about that? Could you tell me more
And how do you make sense of your role as the leader of a public Montessori school? What does that	Has your understanding of that evolved due to the experiences you've	

<table>
<tr><td>mean to you?</td><td>described to me?
In what ways?
Why?</td><td rowspan="6">about that?

What was that like?

What are your memories of that?

Can you tell me a story that illustrates what you mean by that?

What do you most remember about that experience?

Others:</td></tr>
<tr><td>Given what you’ve learned or come to understand through work around policy implementation in your school, what advice might you give the leaders of other public Montessori schools?</td><td>Why?
How do you think those understandings might help them make better sense of policy?</td></tr>
<tr><td>What about policy makers? Given what you’ve told me about the interactions between policy demands and your school, is there anything you think state or district policymakers need to understand in order to better support Montessori schools and their leaders?</td><td>What do you think could or should be done to ensure that they do?
By whom?
Are you aware of or involved in any efforts to engage or collaborate with policy makers on this front?</td></tr>
<tr><td>And within your school, what do you want to ensure your teachers understand about balancing Montessori and accountability within the classroom?</td><td>Why is that important?</td></tr>
<tr><td>Do you have strategies for ensuring that teachers and other staff come to those important understandings?</td><td>Who are the key players?
Are there important structures or routines that play an important role in disseminating that understanding?
Can you tell me a story about how that has played out in the past?</td></tr>
<tr><td>What do you see as the next steps for you and your school? What do you see as upcoming priorities?</td><td>Why this/these?
What is the process by which these priorities have been identified?
Who do you anticipate being involved in that work?</td></tr>
</table>

Lastly, what is your long-term vision for this school and its community members? What do you see yourself and your staff as working *towards*?		
That brings me to the end of this final line of questioning. Is there anything else you'd like me to know or that I didn't ask about that seems important?		

Closing script: Thank you so much for your time and for talking with me today. I really appreciate the opportunity to learn about the meaning you make of your experiences as the leader of a public Montessori school.
Soon, I'll share with you the transcript of our interview so that, if you choose, you can check it for accuracy and let me know if you remember anything differently than how I have transcribed it. Thank you so much for your generous giving of your time. I really appreciate your support of this research.

Appendix D: Interview Codebook

Code	Description
ALM: activities	Discussion of the components of accountability policy, including publishing of standards, testing students, disaggregating and publishing data, ensuring highly-qualified teachers, etc.
ALM: assumptions	Discussion of the underlying assumptions (about human motivation, the role of incentives, etc.) of accountability policy
ALM: impact	Mentions of the long-term effects, or the aims/intentions of NCLB and ESSA
ALM: responses	Schools respond in certain ways, intended or otherwise, to the pressures of high-stakes accountability. May include resource allocation, coordination of activities, or rational responses such as curriculum-narrowing, increase in direct instruction, explicit test preparation, etc.
MLM: activities	What happens within a classroom that makes it a Montessori environment? May include discussion of student choice and freedom, hands-on work with manipulative materials, peer to peer instruction and collaboration, etc.
MLM: assumptions	The underlying assumptions (about human motivation, the role of incentives, etc.) held by Montessori educators
MLM: fidelity	Adherence to, or divergence from, the logic model of Montessori. May also include discussion of outcomes/ consequences of adherence/divergence
MLM: impact	Long term changes (child, parents, community) of participation in Montessori education
MLM: inputs	What investments are required to successfully implement Montessori? May be financial, human resources, time, space, materials, etc.
MLM: outcomes	Shorter-term results of Montessori education, including academic measures as well as non-cognitive, as in liking of school, current well-being, relationships with teachers, time spent on activities, etc.
SM: triggers	Conflicts, ambiguities, tensions that demand principal attention and suggest resolution will be necessary

SM: enactment	Specific leadership behaviors intended to make sense out of ambiguity or tension
SM: interpretation	Leaders' individual understandings of policy and pedagogy. May include discussion of the collaborative, discursive processes undergone to build these understandings.
SM: selection	Leaders' activities towards simplifying information stream. This may involve filtering, prioritizing, emphasizing, ignoring, etc. of multiple, overlapping messages
Equity/access	Is Montessori "for" some and not others? Discussion of accessibility of program and/or public understanding/participation

Legend:
ALM: Accountability Logic Model
MLM: Montessori Logic Model
SM: Sensemaking

Appendix E: Teacher Questionnaire of Montessori Practice Results (Baldwin)

Component	*Survey Question*	*Mean Score*
		N=7
Structure		
	Children are in at least 3 grade levels	3.29
	All children go out for lunchtime recess	3.29
	Spelling exercises are individualized	2.57
	Small groups do "going out" excursions	2.43
	Most lessons last 15 minutes or less	3.29
	Problem solving with students addresses off-task behavior	3.29
	1-on1 meetings are held at least every 2 weeks	3.14
	Children help make classroom rules/guidelines	3.71
	Art materials are available all day	3.29
	Children correct their own work	3.00
	There is a full set of large geography charts	2.00
	Component Composite:	**3.02**
Curriculum		
	Children use human fundamental needs chart	1.86
	Children develop a system for classroom maintenance	3.57
	Children record activities in work journals	4.00
	There is a 3-hour uninterrupted work period	3.29
	Children give lessons to one another	3.57
	Most lessons are given in groups of 2-5 children	3.43
	Most instruction is given with Montessori materials	3.57
	Children regularly prepare food	1.71
	Component Composite:	**3.13**
Freedom		
	In my classroom, children:	

Do research based on interest	3.14
Choose their work/activities	2.86
Decide if they will do a follow-up activity	2.43
Determine how long to work with an activity	2.86
Decide where they will work	3.57
May choose to work alone or with others	3.43
Make history timelines	2.29
Create their own math problems	3.00
Repeat Montessori science experiments	2.71
Have access to a full set of Montessori materials	2.29
Take part in community service projects	2.57
Component Composite:	**2.83**

Note. This table provides the mean score for individual survey items as well as the mean composite score for each of the three survey components. The scale is 1 (strongly disagree) to 4 (strongly agree). Items and composites with mean scores that fell below the threshold of 3 (agree) are highlighted in yellow.

Appendix F: Teacher Questionnaire of Montessori Practice Results (Shady Hill)

Component	*Survey Question*	*Mean Score*
		N=8
Structure		
	Children are in at least 3 grade levels	4.00
	All children go out for lunchtime recess	3.63
	Spelling exercises are individualized	3.88
	Small groups do “going out” excursions	2.75
	Most lessons last 15 minutes or less	3.00
	Problem solving with students addresses off-task behavior	3.88
	1-on1 meetings are held at least every 2 weeks	3.00
	Children help make classroom rules/guidelines	3.88
	Art materials are available all day	3.38
	Children correct their own work	3.13
	There is a full set of large geography charts	3.00
	Component Composite:	**3.41**
Curriculum		
	Children use human fundamental needs chart	3.13
	Children develop a system for classroom maintenance	3.75
	Children record activities in work journals	4.00
	There is a 3-hour uninterrupted work period	3.63
	Children give lessons to one another	3.50
	Most lessons are given in groups of 2-5 children	3.63
	Most instruction is given with Montessori materials	3.75
	Children regularly prepare food	2.50
	Component Composite:	**3.49**
Freedom		
	In my classroom, children:	

Do research based on interest	3.50
Choose their work/activities	3.38
Decide if they will do a follow-up activity	2.63
Determine how long to work with an activity	3.13
Decide where they will work	3.13
May choose to work alone or with others	3.75
Make history timelines	3.00
Create their own math problems	3.13
Repeat Montessori science experiments	3.13
Have access to a full set of Montessori materials	3.38
Take part in community service projects	3.25
Component Composite:	**3.22**

Note. This table provides the mean score for individual survey items as well as the mean composite score for each of the three survey components. The scale is 1 (strongly disagree) to 4 (strongly agree). Items and composites with mean scores that fell below the threshold of 3 (agree) are highlighted in yellow.

Appendix G: Teacher Questionnaire of Montessori Practice Results (Mountainside)

Component	*Survey Question*	*Mean Score*
		N=12
Structure		
	Children are in at least 3 grade levels	3.83
	All children go out for lunchtime recess	4.00
	Spelling exercises are individualized	3.33
	Small groups do “going out” excursions	2.75
	Most lessons last 15 minutes or less	3.17
	Problem solving with students addresses off-task behavior	3.58
	1-on1 meetings are held at least every 2 weeks	3.83
	Children help make classroom rules/guidelines	3.75
	Art materials are available all day	3.58
	Children correct their own work	3.67
	There is a full set of large geography charts	3.75
	Component Composite:	**3.57**
Curriculum		
	Children use human fundamental needs chart	2.92
	Children develop a system for classroom maintenance	3.50
	Children record activities in work journals	4.00
	There is a 3-hour uninterrupted work period	3.92
	Children give lessons to one another	3.67
	Most lessons are given in groups of 2-5 children	3.83
	Most instruction is given with Montessori materials	3.67
	Children regularly prepare food	2.00
	Component Composite:	**3.44**
Freedom		
	In my classroom, children:	

Do research based on interest	3.50
Choose their work/activities	3.33
Decide if they will do a follow-up activity	3.08
Determine how long to work with an activity	3.50
Decide where they will work	3.67
May choose to work alone or with others	3.50
Make history timelines	3.33
Create their own math problems	2.75
Repeat Montessori science experiments	3.17
Have access to a full set of Montessori materials	3.92
Take part in community service projects	3.00
Component Composite:	**3.34**

Note. This table provides the mean score for individual survey items as well as the mean composite score for each of the three survey components. The scale is 1 (strongly disagree) to 4 (strongly agree). Items and composites with mean scores that fell below the threshold of 3 (agree) are highlighted in yellow.