EXAMINING THE RESEARCH-PRACTICE COLLABORATIVE MODEL AS A FRAMEWORK FOR BOLSTERING IMPLEMENTATION OF EDUCATIONAL POLICY INITIATIVES: A CASE STUDY OF THE NORTH CAROLINA EARLY LEARNING INVENTORY

by

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ABSTRACT

KRISTIN M. VILLANUEVA. Evaluating The Research-Practice Collaborative Model as a Framework for Bolstering Implementation of Educational Policy Initiatives: A Case Study of The North Carolina Early Learning Inventory. (Under the direction of DR. RICHARD G. LAMBERT)

The expectation for classroom educators to engage in evidence-based decision-making is standard protocol in most K-12 classrooms, yet translating educational research into effective practice is mired with implementation challenges. The research-practice partnership (RPP) model has emerged as a promising framework to support stakeholders as they address implementation challenges encountered in real-world contexts. This qualitative case study investigated the inner workings and attributes of a teacher-centric collaborative formed as a sub-level RPP to address ongoing implementation challenges with a state-mandated kindergarten entry assessment. Data sources included eight months of observations and transcripts from recurring RPP meetings, teacher interviews, and member communications. Findings suggest this teacher-centric RPP supported implementation by strengthening trust and credibility between educational agencies. This was achieved through a series of preconditions: Expanding access, diversifying perspectives, developing alliances, and deepening knowledge. Simultaneously, teachers' involvement in the RPP heightened their sense of professional identity and positively influenced self-efficacy with the policy mandate. Outcomes contributed to the development of a conceptual model for expanding RPP frameworks. The *Strengthening Implementors Through Engagement* (S.I.T.E) model presents a framework to strengthen and sustain evidence-based practice. The model promotes equity in educational partnerships through authentic teacher collaboration while strengthening teachers' professional identity and agency.

Keywords: research-practice partnerships, kindergarten entry assessments, teacher-centric, implementation fidelity, teachers' professional identity, k-12 education

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myself… which meant quitting was never an option. This achievement wouldn't have been possible without their support and generosity. As a child, I would look for my dad in the audience at school performances. He would give me his signature thumbs up from the crowd that would fill me with pride. Even at 49, I'll be scanning the crowd for him on graduation day. It still brings me great joy to make you proud, Dad.

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rescued us a million times, and had our back in every imaginable way. Thank you for filling Julia's days with exciting adventures, personal attention, and abundant love. Because of your love, Julia never felt the impact of her mom's absence over these past five years. What a gift! The rest of my crew never missed a beat because of your willingness to help at a moment's notice. You are simply the best and we look forward to returning all the kindness and generosity you have bestowed upon us. You, more than anyone, know I could not have survived this program without you as my wingman.

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DEDICATION

For Oliva, Emerson, Sam, and Julia.

You will always be my greatest accomplishment.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AIR	American Institute for Research
DBIR	Design-based implementation research
ESSA	Every Student Succeeds Act
IES	Institute of Education Science
NC DPI	North Carolina Department of Public Instruction
NC ELI	North Carolina Early Learning Inventory
OEL	Office of Early Learning
RPC	Research-practice collaborative
RPP	Research-practice partnership
RTT-ELC	Race to the Top – Early Learning Challenge

CHAPTER ONE: INTRODUCTION

With humility, researchers and practitioners can acknowledge the limitations of what they "know," remain open to the possibility of being wrong, and be willing to learn and improve their own knowledge and work over time.

—Tseng et al. (2018)

Research, policy, and practice are inextricably connected within the context of the American public education system, and at the same time, they remain deeply disjointed. This paradox exists, in part, because researchers, policymakers, and practitioners are notorious for communicating in different languages and operating within their respective silos (Bulterman-Bos, 2008; Labaree, 2003). They attend different conferences, seek knowledge from different sources, and collaborate within their own professional circles. To truly support cohesive relationships where research is effectively translated into policy and effective practice, the field of education needs interdisciplinary teams working collaboratively (Byrk & Gomez, 2008; Coburn & Stein, 2010; Honing, 2008; Spillane, 2007). Under the assumption that evidence-based decisions lead to improved policy and practice, interdisciplinary teams create space for a more democratic approach to evidence-building (Campbell et al., 2019; Hong & Rowell, 2018; Jackson, 2022). Collaborative research invites stakeholders into the research development phase. It leads to greater transparency (Nelson et al., 2015), quelling practitioners' skepticism of the relevance of external sources of evidence (Finnigan et al., 2013). More importantly, inviting practitioners into the development of research increases the likelihood that evidence will be closely aligned with the needs of practitioners (Jackson, 2022; Tseng et al., 2018).

Evidence-based initiatives enacted from top-down policies are particularly susceptible to implementation challenges (Hudson et al., 2019). From the earliest studies on educational policy implementation, researchers concluded that practice dictates policy effectiveness (Martin & McClure, 1969). Teachers' adaptations of programs, not the policy itself, are stronger

determinants of a program's effectiveness (Berman & McLaughlin, 1975). As a result, educational policy research is often conducted through the lens of implementation science to investigate the factors that facilitate or hinder adoption. This includes examining how programs are adapted at the local level by district administrators, school leaders, and teachers (Penuel et al., 2011; Rowan, 2002; Weinbaum & Supovitz, 2013). While researchers and policymakers may recognize that practitioners hold a special kind of craft knowledge or professional wisdom that can only be obtained in the trenches of practice (Harmey et al., 2020), honoring this wisdom requires teachers to have a seat at the table. The field of improvement research encourages stakeholder input to support practice in context (Fixen et al., 2013). It promotes the development of collaborative models between practice and policy enactors to address problems, needs, and opportunities with the aim of strengthening sustainable systems (Peurach et al., 2022).

As federal education policies drove the demand for evidence-based interventions, new challenges for translating research into practice across diverse contexts continued to surface. This demand promoted research in the fields of improvement science and implementation science, which both aim to improve educational practices and outcomes. Improvement science is committed to action and interventions in practice, with the aim of addressing real, context-specific problems and opportunities (Peurach et al., 2022). Slightly more focused, implementation science focuses more specifically on the strategies for implementing sustainable evidence-based practices in real-world educational settings. However, both fields promote stakeholder engagement, resulting in the emergence of research practice partnerships as a framework to address the need for collaborative educational research (Penuel et al., 2020). In a seminal white paper by Coburn et al. (2013), the authors conceptualized RPPs into three categories: (a) research alliances, (b) design research partnerships, and (c) networked

improvement communities. The distinguishing characteristics of these partnerships are the connection between their relationships and the focus of their work (Welsh, 2021). However, at the core of all RPPs is the collaborative relationship between researchers and practitioners.

Given that researchers, policymakers, district leaders, and teachers likely hold differing views and perspectives, RPPs provide a promising framework for identifying a shared understanding of immediate problems. In the RPP context, the term ‘practitioner’ is broadly applied and can include educational partners at the state, district, community, or school level. However, in most cases, the partnership is typically brokered between the primary research investigator and upper-level administrators at an educational agency. Educational administrators are often gatekeepers who approve access to teachers, students, and data. Research aligned with the educational agencies' agenda and strategic plans is more likely to receive approval. This model is fraught with inherent power imbalances and concerns for equity in terms of which topics are investigated, who gets access, and whose input and identities are represented in the research design (Oyewole et al., 2022). In this context, the classroom teachers’ insight is often under-leveraged and only fully understood as an outcome of the study. Within this model, a chasm can exist between the administrations’ expectations for the evidence-based practice and the teacher-practitioners’ reality. It is in this void that distrust and miscommunication fester, resulting in implementation fidelity challenges.

To combat this phenomenon, this study reimagined the RPP as a multi-level model to include a sub-level partnership of teachers. A growing body of literature suggests that RPPs increase local education leaders’ access to research and can bolster the use of research to improve practice (Welsh, 2021; Wentworth et al., 2017). In this research-practice collaborative (RPC), the teachers were invited to participate in research design, implementation, and

sustainability efforts. They served a critical role in the practice-policy communication loop (Fixen et al., 2013). The RPC was formed to link classroom-level teachers to the state management team to enhance the quality of the research being conducted by communicating the immediate problems of practice in real-time. As such, this study merged principles from both improvement research and implementation science.

Around the same time that RPPs were gaining attention, design-based implementation research (DBIR) emerged as a promising approach for supporting the productive adaptation of programs. According to Penuel et al. (2011), the tenets of DBIR include four key elements: "a) a focus on persistent problems of practice from multiple stakeholder perspectives, b) a commitment to iterative, collaborative design, c) a concern with developing theory related to both classroom learning and implementation through systematic inquiry, and d) a concern with developing capacity for sustaining change in systems" (p. 331). DBIR calls upon researchers to be more "practice-centered" by focusing on what educators identify as a specific need in their district (Donovan, 2011; Penuel et al., 2011; Snow, 2011). Penuel posits that DBIR encourages continuous engagement between researchers and teachers to understand how we make policy and programs work in real educational systems (2011).

This study investigated a sub-level RPP framework applying DBIR principles to enhance implementation with a state-mandated kindergarten entry assessment. The RPC model in this study is conceptualized as a hybrid between a design-research partnership and a network improvement community. As such, I deliberately refer to our partnership as a *research-practice collaborative* (RPC) because my model focuses on an alliance of teacher practitioners from several school districts across the state working collaboratively with one research university to identify solutions to implementation challenges with a state-wide policy mandate. To understand

the inner workings of a teacher-centric RPC formed to address implementation challenges in context, this case study will investigate the North Carolina Early Learning Inventory (NC ELI). NC ELI is a state-mandated formative kindergarten entry assessment that was brought to scale in 2016 and updated in 2019.

Under the umbrella of an ongoing, multi-year, research-practice partnership between the University of North Carolina Charlotte (Charlotte) and the NC Office of Early Learning, this dissertation was funded by the NC State Department of Public Instruction (NC DPI). NC DPI's Office of Early Learning (OEL) has a demonstrated history of collaborating with its state universities to form partnerships to assist in the development and evaluation of NC ELI and its predecessor, the NC KEA (Ferrera & Lambert, 2016; Holcomb et al., 2020; Lambert, 2018; Little et al., 2020). The Center for Educational Measurement and Evaluation (CEME) at Charlotte was contracted to examine the psychometric properties of the NC ELI and to conduct a standard-setting study to make recommendations towards the development of performance level thresholds to interpret NC ELI's developmental progressions. As the project coordinator on this grant, I proposed an additional study to investigate implementation supports for classroom teachers. The implementation project provided an opportunity to explore the development of a sub-level RPC model to leverage the role of classroom teachers in implementation research.

Statement of the Problem

Bringing evidence-based educational innovations to a state-wide scale presents numerous implementation challenges. NC ELI is no exception to this phenomenon (Ackerman & Lambert, 2020). NC ELI is an authentic observation-based formative assessment used by teachers to gain an in-depth understanding of children's skills and abilities upon kindergarten entry (Lambert, 2018). Teachers observe students during authentic learning and play, collect evidence of their

skills and abilities, and make determinations about those skills and abilities using a developmental continuum. NC state legislation requires teachers to submit student assessment data to an online platform by the 60th instructional day. While authentic formative assessment is considered a best practice in early childhood education (Heritage, 2007), the legislative time constraints, along with the requirement to report findings to the state, created a disconnect for some teachers. Teachers reported confusion over the measure's purpose and questioned for whom the data was being collected (Holcomb et al., 2020). Teachers also reported they did not use the data collected to inform their instructional decision-making, with many reporting that they submitted scores by the checkpoint deadline out of compliance and never reflected on the data again (Holcomb et al., 2020; Little et al., 2020).

A secondary use of the data further complicates implementation. Legislative policy (G.S. 115C-83.5) and NC state board policy (KNEC-017) indicate that NC ELI data will populate the state longitudinal data system. In compliance with this policy, the NC Department of Public Instruction (NC DPI) has attempted to define and measure kindergarten readiness by establishing performance level thresholds based on the developmental progressions in the NC ELI. For a short period of time, NC ELI scores were aggregated at the school, district, and state levels and reported on the North Carolina School Report Card. A publicly reported readiness indicator was intended to provide the community with information on the starting point from which educators at a specific school begin their instructional support for kindergarten students. However, NC DPI does not emphasize the secondary use of NC ELI data in teacher training. As a result, teachers report distrust over how the data is used and for whom it is collected (Holcomb et al., 2020). Teachers also reported they would have taken data collection more seriously if they had known the data would be archived in this manner (Luce & Villanueva, 2023).

The lack of clarity on NC ELI's purpose is compounded by insufficient training and support on *how* to administer a rater-mediated formative assessment during authentic teaching and learning (Ferrera & Lambert, 2016). Without a clear "why" for administering the NC ELI, in addition to inadequate training around data collection and distrust over data usage, KEAs in North Carolina have been plagued with implementation fidelity challenges. North Carolina's challenges mirror issues reported with KEA implementation nationwide (Ackerman, 2016). The literature suggests that KEAs do not drive instructional decision-making as intended (Ackerman, 2016; Holcomb et al., 2020; Little et al., 2020). Due to implementation challenges, the policy is falling short of its intended outcome. The numerous challenges associated with NC ELI administration requires an interdisciplinary team of researchers, practitioners, and policy leaders to enhance resources, training, and fidelity.

During KEA development, NC was guided by theories in the field of implementation science. As such, teachers were immersed in pilot initiatives through their participation in district implementation teams and by serving as demonstration teachers in model classrooms during KEA rollout. Subsequently, teachers provided feedback as research study participants, but rarely have teachers been empowered as co-investigators. Less is known about how practitioners can inform the efficacy practices with NC ELI now that it has gone to scale and been used in practice for three years. Given that implementation challenges have persisted since the original KEA rollout in 2016, this study proposes a sub-level model nested within the framework of a larger research-practice partnership. The NC ELI RPC is a teacher-centric model designed to address problems of practice across diverse contexts. This proposal responds to recommendations in the literature for further investigations into the attributes of collaborative models in various contexts

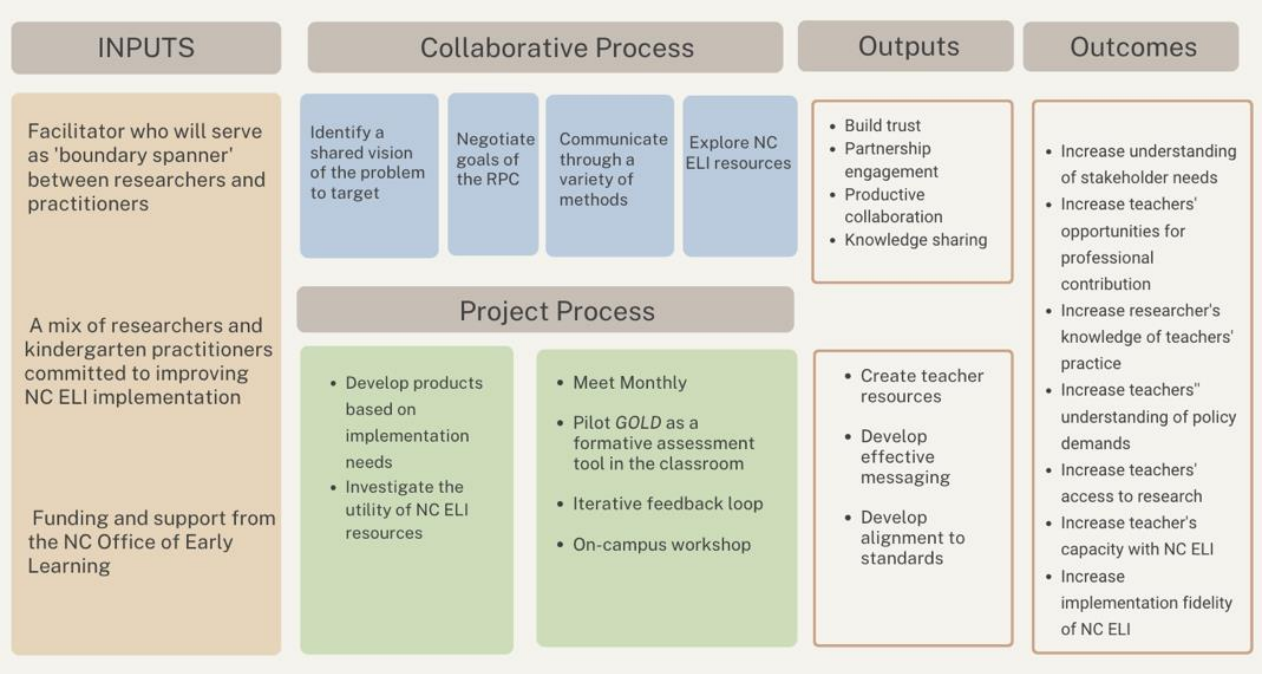
(Henrick et al., 2017; Penuel et al., 2020; Weiss, 2020). This specialized RPC model will examine NC ELI implementation challenges and serves as the subject of this case study.

Conceptual Model

To conceptualize the development of the RPC, I drew upon the Collaborative Research Logic Model created by Kochanek, Scholz, and Garcia at the American Institutes for Research (AIR) (Kochanek et al., 2015). This theory-driven model delineates both the collaborative formation process from the project formation process, which will serve as a guide in this case study. Given the small scale of this project compared to the multi-team alliances conducted by AIR, I adapted the model to fit the scope of our work (see Figure 1). The theoretical base behind this model and how it works will be further explored in Chapter 2. To honor the principle of co-creation within the RPC framework, my concept map merely served as a malleable starting point, with an assumption that the RPC would drive the direction of our work. Figure 1 highlights the dual research objectives of this study, which investigated the collaborative process and the context for this study.

Figure 1

NC ELI Concept Map



Note. Adapted from "Mapping the Collaborative Research Process," by Kochanek, J. R., Scholz, C., & Garcia, A. N., 2015, *Education policy analysis archives*, *23*(121), n121.

Purpose of the Study

This qualitative case study investigated the inner workings and attributes of a teacher-centric research-practice collaborative formed to address ongoing implementation challenges with the NC ELI. To this end, this study sought to gain an in-depth understanding of how a sub-level RPC model can be leveraged to enhance the implementation fidelity of a state policy initiative that had been brought to scale. To fully explicate the plausible mechanisms and relationships at play within the context of educational state policies (Bhaskar, 1975), this investigation was conducted within the framework of a critical realist case study (Wynn & William, 2012). The focus of this case study was an RPC convened to bridge the divide between research, policy, and practice to support the implementation fidelity of the NC ELI and the

production of teacher resources. This collaborative model embedded the tenets of DBIR to produce usable knowledge for teacher practitioners and state decision-makers to enhance teachers' knowledge and capacity with the NC ELI. Through this collaborative work, this case study aimed to understand how a sub-level RPC can provide context-specific recommendations towards the fidelity of implementation with a mandated authentic formative assessment tool.

Uncovering plausible causal mechanisms is a distinguishing feature of case study research rooted in the philosophy of critical realism (Wynn & Williams, 2012). To that end, this study investigated the inner workings of an RPC model to understand how it facilitated the process of creating usable knowledge to enhance implementation fidelity. This included an examination of how the practitioners' sense of professional identity unfolded in an RPC designed to facilitate teachers' direct access to state educational leaders. Countering an escalation in the de-professionalization of educators nationwide, this RPC attempted to elevate the voices and experiences of teachers by providing a platform to share their craft knowledge. The RPC was intentionally designed to identify teacher practitioners as critical partners in this investigation because their knowledge is essential for developing a strong theory of action. Therefore, this study simultaneously investigated the formation of an RPC designed to enhance implementation fidelity of a state policy mandate, as well as how this experience impacted teachers' perceptions of their own professional identity as it conflates with their understanding of this educational policy. Through this lens, this study addresses a call in the literature to explore the dynamics of power and equity within RPP frameworks (Oyewole et al., 2023).

Research Questions

This study used a CR qualitative case study design to investigate an educational RPC's inner workings and attributes as a framework to bolster the implementation fidelity of evidence-

based practices. This research was conducted within the context of the NC ELI and was framed by the following research question:

1. How does an RPC model facilitate the process of creating usable knowledge for stakeholders?
2. In what ways did the RPC contribute to supporting the fidelity of implementation and productive integration of a state educational policy mandate?
3. How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

Overview of Research Design

Through a partnership between Charlotte and NC DPI, this RPC was created to invite teacher practitioners into a collaborative working group to address contextual problems of practice with the NC ELI. This qualitative case study was bounded by a unit of seven teacher practitioners from different geographical regions of the state, working collaboratively with a team of university researchers at a large state university to address implementation challenges. This study was framed through the paradigm of critical realism to explore the underlying structures and mechanisms that influence the implementation of policy initiatives.

Between December 2022 and July 2023, the RPC members met monthly to identify a shared understanding of NC ELI implementation challenges in practice and to develop a plan of action to design professional development resources, training enhancements, and messaging recommendations for the North Carolina Office of Early Learning. In between monthly meetings, members of the RPC explored opportunities for integration and innovation in their classrooms to inform knowledge development and capacity building with NC ELI implementation. Members of the RPC also engaged in two qualitative interviews investigating

the development of their professional identity as educators and how their understanding of educational policy unfolded in the context of an RPC.

Importance of the Study

This state-funded research project contributes to a deeper understanding of how an RPC model can be leveraged to enhance the implementation fidelity of the NC ELI. While stakeholder involvement is frequently used in the developmental stages of an initiative (i.e., focus groups, pilot classrooms, and implementation teams), this work contributes to a gap in the literature on the development of sub-level RPC models for continuous improvement of policy initiatives after they have been brought to scale. While there is a great deal of writing on RPPs in textbooks and guides, often referred to as *white literature*, further studies of RPPs in context are needed to understand the benefits of this collaborative model (Coburn & Penuel, 2016; Henrick, et al., 2017; Weiss, 2022). This study contributes to a growing body of literature on the outcomes derived from the collaborative partnership process (Weiss, 2022). Additionally, this RPC contributes to the development of products designed to enhance the implementation of the NC ELI and directly support teachers across the state through its findings and recommendations.

This study also contributes to theory development on how RPCs serve to democratize evidence-building (Campbell et al., 2019; Jackson, 2022) and informs our understanding of how RPCs bring teachers closer to research (Welsh, 2021; Wentworth et al., 2017). Through this process, the study investigated how educators' professional identity unfolded in the context of an RPC. Understanding the development of teachers' professional identity and efficacy offers insights for school leaders working to address teacher burnout and attrition. Collectively, this study supports efforts to bridge the divide between research and practice through the creation of an interdisciplinary team learning to speak the same language.

Limitations

I acknowledge that there are several limitations to this study. One significant limitation is related to the time constraint placed on this partnership. Farrell et al. (2021) outline Five Principles that define RPPs, the first of which is the long-term collaboration between partners. This principle stipulates that a single project is insufficient to establish an RPP. Although this study is nested within a long-term collaboration between a university and a state agency, the focus of this investigation was to explore the development of a teacher-centric sub-level partnership. Unfortunately, this sub-level model was confined by artificial timelines that hindered the teacher participants from completing an entire research cycle. High-quality RPPs engage in continuous, iterative, and rigorous research to inform action (Henrick et al, 2017) and adapt to address new discoveries and problems of practice (Peurach et al., 2022). For example, members in this RPC worked collaboratively to design and develop an implementation survey that will be sent to over 6,000 educators across the state. However, the RPC's contract will expire before the survey results are collected and analyzed, and it is likely the team will not be able to apply findings to drive the next iteration of work. Additionally, the team created resources and training recommendations but were not able to participate in the collection and analysis of data to evaluate the impact of their contributions. This is a significant limitation to this study, and as such, this collaboration falls short of meeting the true definition of an RPP. Therefore, this study focuses on the process of developing a sub-level, teacher-centric RPP within a specific context and acknowledges that future research is needed to evaluate the effectiveness of this model.

Another limitation of this study is the parameters established by the legislation surrounding this initiative. This RPC lacked the authority to change requirements related to NC

ELI administration, we were limited to offering recommendations for enhancing implementation fidelity and operated within the confines of the policy mandate. As a result, members of the RPC may have felt stifled by their inability to truly influence change when the boundaries of our work were constrained. For example, if the committee believed that NC ELI's content or administration protocols negatively impacted implementation, we offered recommendations within our circle of influence. Still, we did not attempt to challenge the legislative mandate.

One delimitation of this study was the choice to recruit teacher practitioners from across the state. Acknowledging that different regions of North Carolina have different access to opportunities and resources is critical to all aspects of this study. First, it is important to understand how teachers' professional identity develops in different contexts and districts across the state. Second, it is important to examine how teachers enacted practices with NC ELI are influenced by the context in which they teach. While the teacher members are intended to be representative of their region, their individual experiences are unique and, therefore, not generalizable to all teachers.

Assumptions

This RPC operated under the assumption that the teacher practitioners in this study were actively engaged in the work outside of our RPC meetings. Without direct observation of teachers' practices, I can only assume that they were engaged in the tasks we had identified and provided feedback accordingly. To support this assumption, I designed indicators of engagement, such as monthly surveys, progress reports, and a shared Google Drive to upload artifacts. However, I intentionally designed the study to give teachers the autonomy to explore the integration of NC ELI into their authentic instruction to uncover how it supports their

instructional practice. Their level of engagement contributed to our understanding of implementation fidelity with the NC ELI.

Definition of Terms

Key terms used throughout this study are briefly explained below.

- *Authentic formative assessment*: According to Margaret Heritage (2007), authentic formative assessment is "a systematic process to continuously gather evidence about learning" (p. 140).
- *Boundary spanner*: Defining characteristics of a boundary spanner include a person who: a) understands the culture of both research and practice and has close ties to people within both organizational structures, b) is more adept at interpreting messages that could be misunderstood between the two organizations (Tushman & Scanlan, 1981), and c) is more likely to recognize connections between individual interests to explicate the shared goals of the RPC (Penuel & Gallagher, 2017).
- *Design-based implementation research*: According to Penuel et al. (2011), design-based implementation research is an approach to research and development that emphasizes collaboration between researchers and practitioners "to develop and test innovations that foster alignment and coordination of supports for improving teaching and learning" (p.331).
- *Implementation fidelity*: According to Carroll et al., (2007), "Implementation fidelity refers to the degree to which an intervention or program is delivered as intended."
- *Implementation Science*: According to ICE-BeRG (2006), implementation science is "The scientific study of methods to promote systematic uptake of clinical research findings and other evidence-based practices into routine practice…"

- *Improvement Research*: Peurach et al. (2022) define the primary aim of improvement research as "producing and using knowledge to address specific opportunities, needs, and problems, grounded in specific practice and community contexts."
- *North Carolina Early Learning Inventory*: NC ELI is North Carolina's kindergarten entry assessment. It is an authentic, observation-based, formative assessment comprised of a subset of 16 items from Teaching Strategies *GOLD.*®
- *Research practice partnership (RPP)*: According to Farrell et al. (2021) a research-practice partnership is "a long-term collaboration aimed at educational improvement or equitable transformation through engagement with research. These partnerships are intentionally organized to connect diverse forms of expertise and shift power relations in the research endeavor to ensure that all partners have a say in the joint work" (p.5).
- *Research*-practice collaborative *(RPC):* The term RPC is used to differentiate this teacher-centric model from traditional research-practice partnership designs.
- *Teacher professional identity*: According to Mockler (2004) "teacher professional identity is used to refer to the way that teachers, both individually and collectively, view and understand themselves as teachers" (p. 519).
- *Usable knowledge*: The term usable knowledge references activities, resources, and strategies informed by research that teachers can effectively operationalize to impact practice. This term gained momentum after the Harvard Graduate School of Education launched a series titled Making Knowledge Usable (www.harvard.edu/ideas/usable-knowledge).

Chapter Summary

This chapter presented an overview of the purpose and design of this qualitative case study. The chapter began with an overview of the rationale for forming a sub-level research-practice partnership model that draws on design-based implementation research to address implementation with evidence-based initiatives. The chapter included a description of the contextual model that guided two lines of inquiry: the formation of the RPC and its inner workings and the production of usable knowledge within the context of the NC ELI. The chapter addressed the implementation problems encountered by NC ELI administration that justify the need for an interdisciplinary RPC approach.

Chapter 2 outlines a review of the literature related to this study. Given the dual lens of this study, the literature review will begin with research-practice partnerships theories and practices. I explore the conceptual models that guided this work and examine the role of design-based implementation research strategies to address problems of practice for initiatives brought to scale. Finally, the chapter concludes with an examination of the context under which this investigation occurred. This includes a background on kindergarten entry assessment (KEA) policies in the U.S. and KEA development in North Carolina.

CHAPTER TWO: LITERATURE REVIEW

The purpose of this qualitative case study is to investigate how a research-practice collaborative (RPC) model functions to enhance implementation fidelity and capacity-building with a state educational policy initiative. To situate this work within the larger context of collaborative research, I begin this chapter by reviewing the emergence of RPPs and the potential benefit of this collaborative model within educational research. I provide a description of the conceptual framework that guided the design for this study and discuss the similarities and differences between various forms of partnerships aimed at bridging the gap between research and real-world practice. In the next section, I review the tenets of design-based implementation research and provide an overview of DBIR's application within the context of educational research.

Within the RPC framework, this study investigated how teachers' professional identity unfolded as the members employed strategies to improve the efficacy of a state-adopted formative assessment measure. Exploring topics of equity, power, and knowledge creation are fundamental to understanding the health and climate of the RPC. Based on the purpose of this case study, I also present the literature on teachers' professional identity and discuss the role of collaborative research as an advanced form of professional development.

Next, this chapter describes the context for this case study: the North Carolina Early Learning Inventory (NC ELI). I provide a historical background on the development of KEAs, and explore policy implications in North Carolina. Finally, I delve into previously noted implementation challenges that justify the need for this study.

Chapter Two will conclude with a description of critical realism in qualitative case study to explain the ontological and epistemological perspectives that shaped this investigation. I

explore how a critical realist approach enables the researcher to go beyond surface-level observations to understand the implications of research-practice partnerships, as a vehicle for implementation fidelity and as an advanced form of professional development.

Research-Practice Partnerships

Educational policy was reimagined following the introduction of the No Child Left Behind Act (NCLB), which was later proceeded by Every Student Succeeds Act (ESSA). Both federal policy initiatives stipulated the use of evidence-based decision-making in both the justification of educational spending and the selection of educational initiatives. This new focus on evidence-based practices created a reckoning for educational researchers, casting a spotlight on the gulf between research and practice. It presented new challenges as researchers and educators grappled with how research transforms classroom practice (Joyce & Cartwright, 2019; Neal et al., 2019; Tseng et al., 2017). To support the development and dissemination of research in education, the federal government funded the Institute of Education Science (IES). IES is the statistics, research, and evaluation arm of the U.S. Department of Education, which provides more than $240 million in research grants and funding each year to increase the supply of educational research. IES created the What Works Clearinghouse to help educational leaders identify and acquire high-quality research, and to assist in the dissemination of promising practices.

These developments spurred research examining decision-making, knowledge utilization, and implementation practices. It also encouraged the development of partnerships and alliances to address the structural division between researchers and practitioners. To answer this demand, IES created a funding line to support the development of RPPs. The Regional Education Laboratory (REL), a branch of IES, was restructured to support collaborative research models

(Kochanek et al., 2015). Philanthropic funding sources, such as the Spencer Foundation and the William T. Grant Foundation, have also demonstrated strong support for the development of RPPs. Advocates of RPPs posit that inviting practitioners into the research process strengthens the use of systematic inquiry in the decision-making process, encourages multiple perspectives for problem-solving, and fosters an interactive cycle of research and practice to support improvements (Bryk & Gomes, et al., 2010; Coburn & Stein, 2010; Roderick et al., 2009). It is also proposed that interdisciplinary teams create space for a more democratic approaches to evidence-building (Campbell et al., 2019; Jackson, 2022).

The National Network of Education Research-Practice Partnerships (NNERPP) claims RPPs are "a promising strategy for producing more relevant research, improving the use of research evidence in decision-making, and engaging both researchers and practitioners to tackle problems of practice: (NNERPP, n.d.). Initially, educational RPPs were primarily focused on K-12 instructional practice and outcomes and were often descriptive and exploratory in nature (Farrell et al., 2018). However, the landscape of research-practice partnerships continues to evolve. In an integrative review of RPPs, Welsh (2019) discovered a shift from previous studies reporting practitioners' difficulty accessing research, noting expanded use beyond program adoption considerations (Coburn et al., 2009). In an examination of the RPP landscape, studies suggest local education leaders are frequently turning to the research to guide their practice (Farrell, et al., 2018; Penuel et al., 2017).

The Landscape of RPPs

Early RPP models were often formed to provide access to data (Coburn et al., 2013) and the type of collaborating agencies initially defined the RPP, with the most common relationships being the University-School partnerships, Government-Academic partnerships, Non-profit or

Industry-Academic partnerships. Each type of partnership structures their relationship differently depending on the goals and objective of the partners, with each partner expecting a mutually beneficial collaboration. For the academic partner, it presents an opportunity to advance theoretical understanding through ongoing research, evaluation, and dissemination of findings. For the practitioner, it provides the opportunity for expert guidance in designing and implementing new and promising interventions; it offers in-depth data analysis to drive decision-making and evaluation of a program's effectiveness (Kali et al., 2018). Traditionally, collaborations were formed with the aim of translating research into evidence-based decision-making to drive effective practice and successful outcomes. However, RPPs have evolved to include equity considerations, power imbalances, and the democratization of knowledge creation (Farrell et al., 2021). Collaborations have expanded to include community-based participatory research (CBPR), think-tanks, non-profits, and community organizations working together to democratize knowledge creation. Accordingly, scholars in the field have recently redefined RPPs in education as:

> A long-term collaboration aimed at educational improvement or equitable transformation through engagement with research. These partnerships are intentionally organized to connect diverse forms of expertise and shift power relations in the research endeavor to ensure that all partners have a say in the joint work (Farrell et al., 2021, p. 4).

In the following section, I explore the different variants of RPPs that informed this study and how they overlap and differentiate.

Design-Based RPPs

RPPs draw on different frameworks and theories to drive their processes. Design-research partnerships emerged from the learning sciences and is typically utilized during the early stages

of an innovation. In this model, partners will engage in the iterative development and refinement of an intervention through cycles of design, implementation, evaluation, and revision. This process facilitates a balance in knowledge creation between partners by creating space for the practical insights of practitioners in the field (Farrell, et al., 2021).

In this present case study, the focus is on sustainable implementation practices for an initiative that has already been brought to scale statewide. Therefore, I utilized principles from design-based implementation research (DBIR) to guide the RPC in developing supports for the productive integration of NC ELI into teachers' formative assessment practice (Penuel et al., 2011). To positively influence implementation, DBIR calls upon researchers and practitioners to collaborate in the iterative refinement of NC ELI supports (Supovitz, 2013).

Examining areas for improvement is part of the productive adaptation process. Bebarger et al. (2013) defined *productive adaptation* at the classroom level as "evidence-based curriculum adaptations that are responsive to the demands of a particular classroom context and still consistent with the core principles and intentions of curriculum intervention" (p. 298). In the context of this case study, NC ELI is not a curriculum but rather a formative assessment measure. This calls for increased focus on the notion of fidelity and implementing the measure as intended. As such, the RPC used DBIR strategies to examine *productive integration* instead of productive adaptation. This requires the team to identify how NC ELI integrates into teachers existing practices and will work to develop resources to that end.

Networked Improvement Communities

Networked improvement communities (NICs) originated in the field of improvement science. Like other types of RPPs, NICs also work to address specific educational problems to improve outcomes through continuous cycles of improvement (Bryk et al., 2010). What

differentiates NICs from other RPPs is the formalized infrastructure that is developed to support the work, including leadership teams, coordinating bodies, measurement and analytics, and technical assistance providers. NICs collaborate across networks to test interventions, refine strategies over time, and disseminate practical knowledge.

While initiating the development of the RPC in this study, I was informed by Bryk et al. (2021) and the concept of *practical knowledge*. This term has evolved to include *usable knowledge,* and references activities, resources, and strategies informed by research that teachers can effectively operationalize to impact practice. The production of usable knowledge became a tangible outcome of the RPC's work together.

Consortium Partnerships

Early pioneers of the RPP consortium model included The Consortium on Chicago School Research (CCSR) at the University of Chicago, in partnership with the Chicago City Schools. (Roderick et al., 2009; Sebring, Allensworth, Bryk, Easton, and Luppescu, 2006; Tseng, 2012). The consortium model typically involves multiple organizations from different sectors, including academia, school districts, community organizations, government agencies, and foundations. Roderick et al. (2009, p.3) attribute the success of CCSR to a consistent focus on three themes:

1) Research must be closely connected over time to the core problems facing practitioners and decision-makers

2) Making an impact means researchers must pay careful attention to the process by which people learn, assimilate new information and ideas, internalize that information, and connect it to their own problems of practice

3) Building capacity requires that the role of the researcher must shift from outside expert to interactive participant in building knowledge of what matters for students' success.

The present case study examined the implementation challenges associated with a mandated state-wide formative assessment measure. Borrowing from the consortium model, this study was designed to include representation from teachers located in multiple school districts across the state. It was hypothesized that each district would contribute unique expertise to fully understand and address the implementation challenges teachers experienced in different contexts.

Hybrid RPPs

As a result of support from foundations and federal funding, RPPs are now an important part of the educational ecosystem (Farrell et al., 2021). RPPs have evolved to include a broader range of partnerships that vary in structure and dimension. Farrell et al. (2021) describe the emergence of hybrid RPPs, which adopt strategies and approaches from other RPP models. RPPs are distinguished by their structure and their goals for organizing research activities.

The present study was formed as a sub-level, teacher-centric, RPP with the goal of developing usable knowledge to support sustainable implementation practices within the confines of a state-mandated policy.

The success of RPP infrastructure is often associated with the relational and interpersonal aspects of partnerships (Dumont, 2019). Skills include establishing mutualism (Coburn et al., 2013 & Leary & Severance, 2018), relationship building and trust (Barton et al., 2014; Drahota, et al., 2016; MacMahon, et al., 2022), and recognizing the role of race and power dynamics as trust is cultivated (Vakil et al.., 2016; Vetter, et al., 2022).

Farrell et al. (2021) revised definition of RPPs addresses the dynamic and evolving landscape of educational partnerships. The new definition supports the development of innovative models and broadens the scope of RPPs to include groups addressing system improvement and transformation goals, as well as problems of practice (Bell, 2019). The new definition also

encompasses a broader understanding of the research activities conducted by RPPs. Lastly the new definition emphasizes the importance of power sharing and educational equity.

Challenges with the RPP Framework

Despite the obvious benefits of collaborative problem solving, RPPs encounter challenges from both the perspective of academics and practitioners (Klein, 2023). These challenges begin with what Labaree (2003) calls a "cultural clash" between the worldviews of practitioners and researchers. Farley-Ripple et al. (2018) contend that the use of research in education is deeply complex and requires more than access and dissemination, presenting a bi-directional challenge for researchers and practitioners alike. Politics, funding, and shifting power dynamics are inherent challenges for RPPs. Klein (2023) states that partners hold power in the form of access to "green light" research activities. This includes access to research approvals, data, participants, and research sites. The source of funding also imparts a power differential and can impose tension and external pressure.

Gamoran (2023) points out that university structures are not set up to reward faculty for participation in partnerships, despite pressure for community involvement. While researchers want their scholarship to make a difference (Hart & Silka, 2020), faculty feel constrained by the norms of their discipline (Gamoran, 2023). Gamoran contends that partnerships could serve to improve public opinion of academia being out of touch, biased, and too expensive for their worth.

Scholars often reference the CCSR and Chicago Public Schools as an example of a consortium that successfully strikes the balance between scholarship that meets the aims of both academia and practice (Allensworth & Easton 2005; Roderick & Camburn, 1999). RPP developers can also turn to the Synergies project in Oregon as evidence of another successful

RPP working to create a more effective and synergistic community-wide educational system (Falk et al., 2018). This longitudinal STEM study reports the benefits of extending the RPP model to include students as co-researchers.

Publications within the past decade have contributed to a growing body of literature on the application of RPPs in K-12 education, particularly within the field of STEM and computer science (Dony et al., 2019; Ryoo et al., 2021). In 2017, the National Science Foundation (NSF) supported the development of RPPs addressing equity in computer science. This funding resulted in over 120 unique projects and 33 collaboratives, leading to partnerships in over 154 school districts in 32 states (McGill et al.,2021). Despite the swell of interest over the past decade, and the promise of RPPs to bridge the gap between research and practice, there remains a dearth in the literature on the input, output, and outcomes of RPPs (Wentworth et al., 2017).

Less is known about the use of RPPs addressing enhancements with state policy mandates. Hopkins et al. (2019) investigated the role RPP models that facilitate collaboration between researchers and practitioners within professional organizations and state education agency leaders. Findings indicated that state education leaders played an important role as brokers of research and reported that partnerships can facilitate statewide reforms in K-12 science education. This study will contribute to the literature on RPP models funded by a state education agency to improve implementation with a policy that has already gone to scale.

Mapping the Collaborative Research Process

Kochanek, Scholz, & Garcia's Collaborative Research Logic Model (2015) informed the conceptual framework for this study. I selected this model because it addressed both the RPP development process and the project development process within the context of a case study. This model was developed by a team of researchers at the American Institute for Research (AIR)

to guide their work on the Regional Laboratory Midwest. Their project includes eight research alliances and spans a three-to -five year agenda. Therefore, I made significant modifications from their original model, to match the smaller scale of this present study (see Figure 1).

Kochanek, Scholz, & Garcia's model provides a theory-based approach to illustrate the connections between structures and intended outcomes. The first key input is a strong alliance lead. Kaner (2007) posits that a strong lead promotes an environment conducive to participatory decision-making. This is evidenced by encouraging full participation from all members, promoting mutual understanding amongst members, fostering inclusive solutions when diverse views emerge, and cultivating shared responsibility among members (Kaner, 2007 as cited in Kochanek, et al., 2015). The second input is recruiting members committed to improving practice. Members must also have the experience to contribute in meaningful ways to the project. The alliance composition must include members who can play a variety of roles, with careful attention to power dynamics within those roles. In our case study, we have practitioners from different districts who represent regional differences. The practitioners have individual strengths in curriculum and instruction, early childhood development, and formative assessment. On the research side, individual members have unique skills in data analytics, project management, and extensive research experience with the evidence-based intervention that is the focus of this investigation.

The alliance process driving this investigation includes the identification of a common goal, negotiating our research agenda, monthly meetings for interactive discussions about relevant topics, varied communication methods, and a strong sense of purpose and identity. The process driving the case study project include the development of projects based on our research agenda, identifying roles within each project, and developing products with an application in

mind. Intended outputs include building trust, engagement, ownership, resource sharing, relevant products and services, improved understanding of stakeholder context, and increased understanding of alliance building.

Professional Identity

To understand how teachers' perceptions of their professional identity unfold in the context of an RPC, I examined the literature on educators' professional identity development. This is a complex theoretical area of research with varying perspectives. Leading scholars in this area acknowledge there is a lack of clarity on how to define professional identity (Beijaard, et al., 2003). Beijaard, et al. (2000) posit that teachers' professional identity can be categorized into the teacher as a subject matter expert, the teacher as a pedagogical expert, and the teacher as a didactical expert. The authors explain that subject matter experts view their competency based on the depth of their subject matter expertise. Pedagogical experts conceive their professional identity from the knowledge and skills they possess to support students' social, emotional, and moral development. Didactical experts identify more closely with the knowledge and skills related to planning, executing, and evaluating the teaching and learning process (Beijaard et al., 2000). Others believe professional identity is formed and re-formed and is a complex interplay of personal, professional, and political dimensions (Mockler, 2011).

Professional identify has also been conceptualized from an intrapersonal standpoint. Samuel & Stephens (2000) found that the tension between hope and ambition and what the teacher can achieve contributes to their sense of professional identity, while Cohen (2007) argues that teachers' sense-making of professional identity can be understood through discourse on their implicit identity. Cohen found that "teachers strategically positioned themselves in relation to others and to institutional practices, actively negotiating competing discourses about teacher

identity by engaging in a counter-discourse emphasizing teachers' professional role as knowledge producers rather than information deliverers, collaborative, rather than isolated, and as agents of change engaged in critical analysis to plan action" (p. 79).

Vaughn and Mertler (2021) suggest that within a traditional view of professionalism (Zeichner, 2020) each profession has a mode of inquiry that is unique to their field and helps define it as a profession. Vaughn & Mertler note the emergence of 'evidence-based practices' as a line of inquiry intended to increase the professionalization of education. Purinton (2010) suggests that many forms of inquiry found in teaching were borrowed from other professions and posits that a unique form of *practitioner research* should become the hallmark of the teaching profession. Several scholars are proponents of professional development designed to support ongoing inquiry that addresses the void between theory and practice (Agarao-Fernandez & De Guzman, 2006; Purinton, 2010; Vaughn & Mertler, 2021). This current study will contribute to our understanding of how collaborative research inform educators' sense of professional identity and agency.

Project Context: The North Carolina Early Learning Inventory

Tenets of critical realism case studies call for the researcher to examine the hidden structures that influence policy implementation. As such, this section of the literature review will attempt to explicate the context for this case study investigation. It begins with a background on the history of KEA's, followed by North Carolina's development of the NC ELI. It concludes with an examination of the implementation challenges that have plagued NC ELI administration.

Background on KEA Development

To understand the intersection of policy development and kindergarten entry assessments, we can draw from leading theorists in public policy. Kingdon's (1984, 1995)

multiple streams model is one theoretical perspective that conceptualizes problems, policies, and processes as three streams running concurrently, yet independently of one another, until increased interest swells around a popular political issue, creating a window of opportunity for policy creation (Young et al., 2010). In recent decades, increased interest in accountability in K-12 education has led to large-scale policy initiatives that focus on the application of research-based interventions and data-driven instructional practices (Improving America's Schools Act, 1994; No Child Left Behind Act, 2001; Individuals with Disabilities Education Act, 2004; and the Every Student Succeeds Act, 2015).

Policy development on KEA's initiated in 1990, when President Bush introduced the National Education Goals. The first of these goals was that "*All children in America should start school ready to learn*." The National Education Goals Panel defined five Essential Domains of School Readiness (Shepard et al., 1998; Weisenfeld, 2020) that would later guide the development of pre-K and kindergarten standards. Under the Obama administration, the Race to the Top – Early Learning Challenge (RTT-ELC) expanded upon the work of the National Education Goals Panel by creating competitive grants issued to states for the purpose of closing school readiness gaps (U.S. Department of Education, 2016). The federal grant competition provided states funding to strengthen their early learning systems, including the development of early learning standards and kindergarten entry assessments (KEAs) (U.S. Department of Education, 2011, p.53566). Individual states were tasked with conceptualizing their own understanding of 'readiness' in the absence of a widely accepted definition of kindergarten readiness. Ultimately, 20 states participated in the RTT-ELC program, with many forming coalitions to share in the development of resources (Office of Early Childhood Development,

2019). North Carolina, an early recipient of the grant, quickly became a model for school readiness initiatives nationwide (Scott-Little & Maxwell, 2000).

In support of these initiatives, the North Carolina General Assembly enacted legislation requiring NC schools to administer a KEA to all incoming kindergarten children. This legislation also required public reporting of assessment outcomes (G.S. 115C-83.5). In the 2014-15 school year, the NC Department of Public Instruction (NC DPI) piloted the first KEA in 82 schools in 51 districts, with full-scale administration in the 2015-2016 school year. As NC continued to refine its implementation process, it revised the original NC KEA and rebranded it as the North Carolina Early Learning Inventory (NC ELI) in 2019. The NC ELI comprises a subset of 16 items from Teaching Strategies *GOLD*®, a commercially available authentic formative assessment measure. The measure is used by approximately 6,200 kindergarten teachers in North Carolina to understand the skills and abilities of over 94,000 incoming kindergarten children across the state. The legislation requires teachers to collect formative assessment data during authentic instruction and learning, across multiple time points and contexts, over the first 60 days of school.

Defining Kindergarten Readiness

Conceptualizing kindergarten readiness has proven to be one of the most significant challenges (Regenstein et al., 2018). The Five Essential Domains of School Readiness (Shepard et al., 1998), were incorporated into the Head Start Early Learning Outcomes Framework (U.S. Department of Health and Human Services, 2020) and RTT-ELC grant recipients were required to select kindergarten curriculum and assessments that included all five domains (U.S. Department of Education, 2011). The five domains include (1) approaches to learning, (2) social

and emotional development, (3) language and literacy, (4) cognition, and (5) perceptual, motor and physical development (Shepard et al., 1998).

Weisenfeld (2020) explored federal and state efforts in the implementation of kindergarten entry assessments and found that 15 out of the 34 states administering KEAs were using instruments that covered all five domains of child development. It is important to distinguish that these indicators are used to assess kindergarten readiness, however, due to disparities of socio-economic status, environmental factors, and access to quality pre-K, it is widely agreed upon that chronological age is the best and most fair indicator of *when* a child is ready to enter kindergarten (NAEYC, 2009; U.S. Department of Health and Human Services, 2020). Schools must meet children where they are and build upon their prior learning.

Implementation Challenges

The following section will examine the implementation challenges reported with KEA administration at the national and state level. Engaging in a shared experience around the literature on KEA implementation challenges is critical to the work of members in this RPC model.

Assessor Threats to Validity and Reliability

Implementation fidelity is essential to the validity and reliability of outcomes derived from kindergarten readiness assessments. The Standards for Educational and Psychological Testing state in standard 12.16 “Those responsible for educational testing programs should provide appropriate training, documentation, and oversight so that the individuals who administer and score the test(s) are proficient in the appropriate test administration and scoring procedures and understand the importance of adhering to the directions provided by the test developer” (AERA, APA, & NCME, 2014, p. 210). To ensure adherence to these guiding

principles, iterative research is necessary. Ackerman (2018) reported on teacher implementation experiences in a comprehensive study examining teacher-related validity and reliability issues with KEAs and the impact on policy and practice. The research included seven case studies of states who had recently implemented KEAs and concluded assessor issues with administration time, observer capacity, access to data, and utility of data to inform instruction. The following sections address Ackerman's findings.

Time Constraints

Adhering to KEA timeline pressures and administration time demands introduces an intrinsic level of rigor for assessors. KEAs are often administered within the first 30-60 days of school (Holcomb et al., 2020; Little et al., 2020; Weisenfeld et al.,2020). Banerjee and Luckner (2013) reported a lack of time consistently emerged as the greatest challenge. Time challenges were associated with assessment administration as well as appropriate time to research assessment tools and time to meet collaboratively in multidisciplinary teams.

Schachter et al. (2019) reported similar findings in a study examining teacher experiences with Ohio's Kindergarten Readiness Assessment (KRA). This study contributes to our understanding of how teachers' opinions of the benefits of KRA are negatively influenced by difficulties with administration time. Findings indicated 78% of teachers reported administration time was approximately 1-2 hours per student, with 30 students per class on average. Half of the participants (45%) reported the KRA took them over 30 hours to administer. A follow-up study (Schachter et al., 2020) examining teacher perceptions in year two of Ohio's KRA implementation indicated improved perceptions. This study suggests experience and improved resources mitigate some of the issues associated with administration time.

In a 2020 study, Little et al. (2020) provides insight on how competing assessment demands can be a confounding factor that influences teacher perceptions of the KEA instrument and implementation. This article is consistent with other studies suggesting that perceptions of KEA could be negatively influenced by the overall amount of assessment demands required of teachers and students (Harvey & Ohle, 2018; Holcomb et al., 2020). Teacher frustration with time demands has led to policy changes in several states. Ackerman (2018) provides evidence of policy changes in response to teacher feedback and implementation practices in all seven cases in her multi-state study. Delaware, Illinois, North Carolina, Washington, Ohio, and Maryland all made changes to KEA to decrease administration time demands. These changes included decreasing the number of items to be assessed, extending evaluation windows, adding additional days for data entry, or the use of random sampling. Pennsylvania and Oregon tightened up their assessment windows to reduce variations in administration that could impact reliable comparisons across the state.

Implementation Capacity

Teacher implementation capacity is another threat to fidelity of KEA implementation practices. Capacity in the educational context, refers to "the perceived abilities, skills, and expertise of school leaders, teachers, faculties to execute or accomplish something specific" (Glossary of Educational Reform, 2013). Wandersman et al. (2008) states that "understanding capacity is central to addressing the gap between research and practice" (p.173) and defines capacity in the context of skills and motivation. Teachers must have the capacity to produce reliable data and be able to utilize it for targeted instructional planning (Ackerman, 2018). Literature on how teachers use KEA data to inform their practice is limited but suggests a great deal of variability. Harvey & Ohle (2018) conducted a study of Alaska's KEA, the Alaska

Developmental Profile (ADP) to investigate educator's perceptions and practices with data usage. The authors found that 52% of participants reported the data did not impact their instructional decisions, and 56% reported they didn't believe it impacted their students.

In Ackerman's study (2018), findings describe how six of the seven states reported modifications to training practices to improve assessor capacity. North Carolina's Office of Early Learning created a guidebook detailing how to interpret data to inform classroom practices after 57% of surveyed pilot teachers reported they struggled with using KEA data (Ferrara & Lambert, 2015). This is consistent with findings from a four-state case study prepared for the U.S Department of Education (Golan et al., 2016). Researchers found the majority of interviewed teachers were not formally using KEA data to inform their classroom instruction. This report highlighted how teachers might benefit from explicit training on KEA data usage in their classroom practices and how findings should be closely tied to specific instructional strategies. Illinois responded to this concern by hiring coaches to work directly with teachers and Washington state provided its teachers with more information on the various ways data could be used (Ackerman, 2018; Butts, 2014).

A study of practitioner experiences with the NC KEA conducted by Holcomb, et al., (2020) indicated that after five years of implementation across NC, misuses and misconceptions about implementing KEAs as a formative assessment process persisted. In response to KEA data utilization, more than 45% of the references indicated the respondents do not use KEA data. Only 29% of the references indicated that data is used to inform instruction. Interview data indicated that some teachers were still unclear of the purpose, resulting in frustration that it was just another hoop to jump through or task to check off. These studies suggest that teachers need continued support in understanding the benefits of investing time in collecting this data and how

it can be beneficial to their practice and their students. It is also imperative that states respond to teachers' concerns that an "entry" assessment may not be informative data beyond the first few weeks of instruction. To provide clarity on the purpose of its KEA, North Carolina recently rebranded its entry assessment, which included a name change from the NC KEA to the NC Early Learning Inventory. Removing the word "entry" and replacing it with "inventory" was an intentional decision to better represent the intent of its use as a formative on-going assessment.

Rater Reliability

Authentic assessments are heavily reliant on the capacity of assessors to gather information about students' skills, analyze student performance, accurately determine student placement on developmental progression, and then utilize that data to inform instruction (Lambert et al., 2015). This demand on teacher capacity poses an inherent threat to interrater reliability (IRR). Teaching Strategies *GOLD*® is an observation-based authentic assessment (Heroman et al., 2010) that has been utilized in at least 13 states and the District of Columbia (Ackerman, 2020). Delaware's experience with the implementation of a customized version of Teaching Strategies *GOLD*® was the subject of a study by Ackerman in 2018. The study reported teachers' frustration with the availability of in-person and on-line training and challenges related to passing the online interrater reliability certification. Delaware responded to these issues by developing a resource guide specific to the customized KEA the state had adopted, offered additional training during designated professional development days, and eliminated the requirement for teachers to complete interrater reliability certification.

Diminishing requirements for interrater reliability certifications present a unique concern given a literature base suggesting a significant amount of variance in teacher ratings of students' skills can be associated to student characteristics such a behavior (Hinnant, O'Brien, &

Ghazarian, 2009), socioeconomic status, gender, age (Mashburn & Henry, 2004) and race (Ready & Wright, 2011). Additional construct irrelevant factors can also be attributed to teacher characteristics. Kilday et al. (2012) reported 40% of the variation in teachers' ratings of pre-school students' math skills stems from characteristics inherent to the teacher and not the skills of the child (p.154).

Joseph et al. (2020) conducted a study exploring the inter-rater reliability of Washington state's KEA. The authors found inter-rater agreement varied by developmental domains, and the study reported an overall percentage of exact agreement across all domains and portfolios between teachers' assessment and the master code at only 38%.

To establish validity evidence of teacher ratings on indirect assessments, direct assessments are often used as a comparison to represent a true score. In a study examining the association between direct assessments and teacher ratings of Pre-K students' mathematical skills, Furnari et al. (2017) concluded that a significant amount of variance in teacher ratings was associated with construct irrelevant factors. Only 25% of the variance in teacher ratings was attributed to students' directly assessed abilities. Vitiello & Williford (2021) examined the alignment of teacher ratings on TS GOLD and child direct assessments in pre-schools. The study indicated that teachers were less accurate at rating children at the extremes who perform well above or below the classroom. They reported teachers' demonstrate difficulties discriminating between children's performances across TS GOLD subdomains (Vitello & Williford, 2021; Miller-Bains et al., 2017; Russo et al., 2019). Waterman et al. (2012) provides additional insight into score variation attributable to assessors in their study of multiple cohorts of Head Start and kindergarten children. Their findings are consistent with the literature and conclude that a great deal of the variability in teacher administered assessments is attributable to

assessor versus the unique differences of the students. These studies demonstrate that formative assessments dependent on observer ratings are much more complex than direct assessments and require ongoing research to ensure validity.

Ontological and Epistemological Perspective

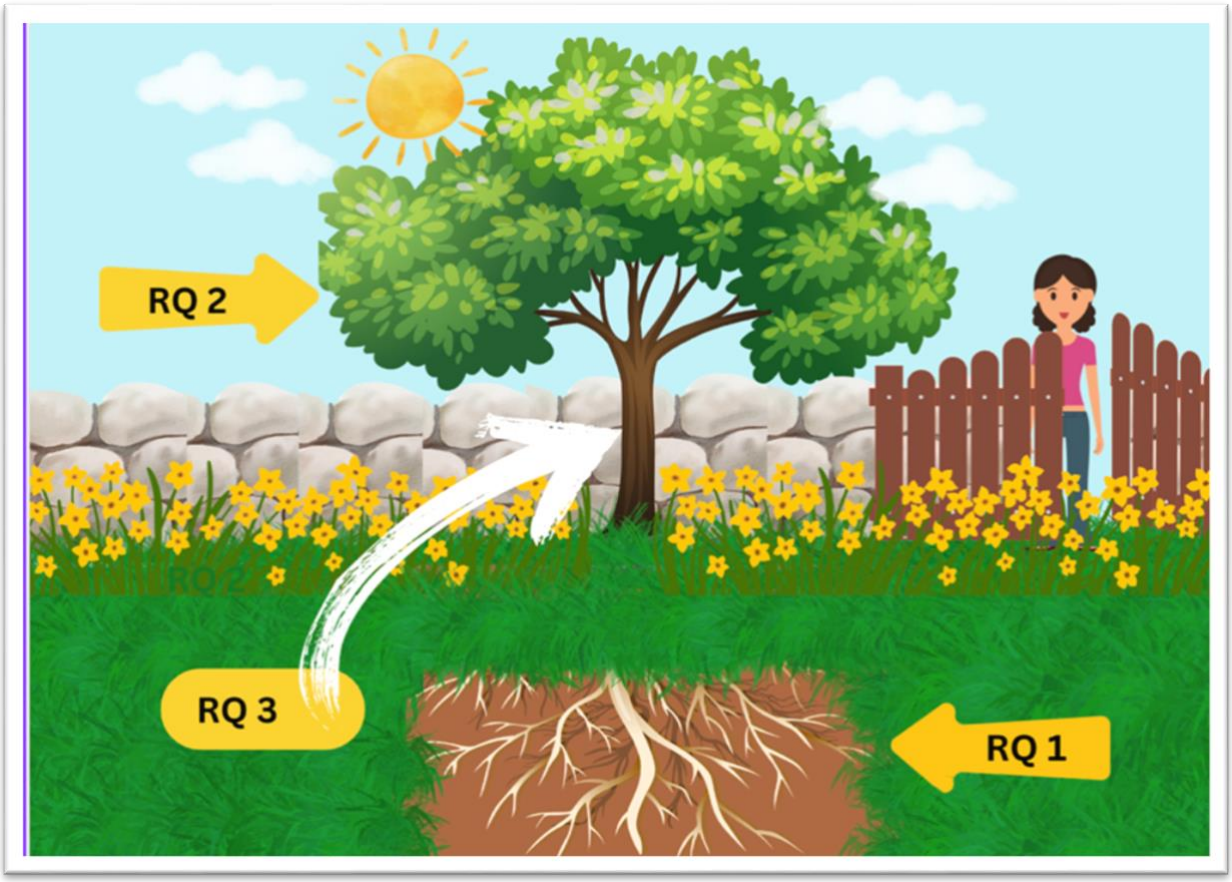
A primary objective of critical realism case study is to understand the subject's world in which they inhabit to explain the mechanisms behind empirical and actual events (Vincent & O'Mahoney, 2018). Critical realism draws from both positivist and interpretivist paradigms by recognizing the "role of subjective knowledge of social actors in a given situation as well as the existence of independent structures that constrain or enable these actors to pursue certain actions in a particular setting" (Wynn & Williams, 2012, p. 787). Critical realism is philosophical framework to understand the intersection of observable phenomena and it's underlying structures, allowing the researcher to draw inferences about the plausible causal mechanisms that help explain an individuals' interpretation of a given event.

The CR perspective derives from Roy Bhaskar's philosophy of transcendental realism, which posits that reality exists independent of our perceptions (Bhaskar, 1975). He argues that this layered reality is stratified into three overlapping domains, which Bhaskar describes as the *empirical*, the *actual*, and the *real* (Walsh & Evans, 2014, p. 2). Scholars of critical realism often depict Bhaskar's stratified ontology with a tree diagram or an iceberg. I adopted the tree diagram in Figure 2 from Dyson & Brown (2005, as cited in Walsh & Evans, 2014). This analogy offers a visual representation of each domain and contributes to what Bhaskar describes as an *actual reality* that exists "out there" even in the absence of our understanding.

To understand this reality, I devised three research questions designed to investigate the interplay between teachers' actions and perceptions and the plausible mechanisms that influence them.

Figure 2

Stratified Domains of Reality in Critical Realism



In research question one, I investigate the 'real' domain, or the hidden structures that exist and have causal influences, even in the absence of our direct knowledge of them. In the figure above, this is symbolized by the tree roots, which are not visible, but they nourish the health of the tree. Additionally, the soil and surrounding conditions contribute to the root's development, and therefore the health of the tree. In this study, I attempt investigate plausible causal mechanisms, or roots of the RPC, that contributed to is health. By investigating these structures and

conditions, I was able to postulate on the mechanisms that impacted teachers' perceptions of the RPCs efficacy, as well as their own self-efficacy and agency within the collaborative.

In research question two, I make direct observations of the visible activities and tangible products created by the RPC. Bhaskar would describe this as the *empirical* domain. Drawing on positivist paradigms, these experiences and events are directly observable and measurable (Wynn & Williams, 2012). In the tree analogy, this is represented be the leaves of the tree, which are directly observable from most vantage points.

In research question three, I explore Bhaskar's *actual* domain. In this domain we have conditions that are known but cannot always be seen. In Figure 2, the young lady entering the gate is not able to see the trunk of the tree, but it exists even though it is not always visible to her. In the present study, I investigated the teacher participants' perceptions of the state agency, the policy mandate, and explored how their professional identity unfolded within this context. Teacher interviews helped illuminate perceptions that are directly observable under certain conditions and hidden in others. We also explored how access to new information changed perceptions.

Chapter Summary

This chapter provided an overview of the growing interest in RPPs to address specific problems of practice with educational initiatives. This included literature on the characteristics of effective RPPs and a growing body of literature on its application in educational settings. I also examined the role of RPPs as an advanced form of professional development for educators. Next, I examined the implementation challenges associated with the NC ELI that served as the impetus for forming this RPC. The chapter concluded with a detailed explanation of the critical realist paradigm that framed this study. In chapter three, I explicate the methods for this investigation.

CHAPTER THREE: METHODS

Chapter 3 outlines the methodological approaches used to conduct this study. It begins with a description of the research design and an introduction to the research questions that guided this investigation. Next, I provide a description of the research context, participant selection, and my position to the research. This chapter also includes the philosophical and epistemological perspectives that justify my selection of research methods. The chapter concludes with an outline of the procedures, data collection methods, and proposed data analysis strategies.

Research Design

To gain an in depth understanding of how research-practice collaborative models can be leveraged to enhance the implementation fidelity of state policy initiatives that have been brought to scale, I employed a single case study design (Creswell, 2008; Hancock et al., 2021; Stake, 2005; Yin, 2013). Using a critical realist perspective, this qualitative case study examined the internal mechanisms of an RPC model exploring practical solutions to implementation challenges with the NC ELI. Through a partnership between Charlotte and the OEL, this RPC model was created to invite teacher practitioners into a collaborative working group to address contextual problems of practice with the NC ELI, a state-mandated formative assessment measure. This study investigated the collaborative relationship between researchers, teacher practitioners, and state administrators to understand if and how their work yields higher quality resources than those created independently of one another.

Yin (2018) describes case study research as an in-depth description of a social phenomenon to explain how or why the social phenomenon works. The case study design allows the researcher to retain a “holistic and real-world perspective” (Yin, 22018, p.5) and emphasizes

the contextual conditions relevant to understanding a phenomenon (Mertens, 2015; Yin, 2018). Additionally, case study design focuses on the activities of specific individuals to illuminate a particular issue. It involves an extensive exploration of a bounded system that requires multiple data collection forms to develop an in-depth understanding of the case (Creswell & Creswell, 2018; Stake, 2005). This case study is bounded by a unit of seven teacher practitioners in one state, working collaboratively with a team of university researchers to employ design-based implementation research strategies as a framework for supporting implementation fidelity with the North Carolina Early Learning Inventory. RPCs and design-based implementation research (DBIR) acknowledge situational and contextual problems associated with program implementation and invite practitioners into the formative evaluation process (Coburn, Penuel, & Geil, 2013; Supovitz, 2013).

Research Questions

This case study investigated the inner workings and attributes of an educational RPC as a framework for bolstering the implementation fidelity of educational initiatives. The following research questions directed this study:

1. How does an RPC model facilitate the process of creating usable knowledge for stakeholders?
2. In what ways did the RPC contribute to supporting the fidelity of implementation and productive integration of a state educational policy mandate?
3. How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

The Qualitative Paradigm

Within the framework of an RPC, it is essential to establish equity and mutuality between the researchers and teacher practitioners. Research of this nature involves a commitment to empowering stakeholders, where each member is respected as an equal contributor, co-creator, and valued participant. This relationship requires a commitment to respectful and trusting dialogue, with a shared interest in addressing real and specific problems of practice (Fetterman & Wandersman, 2007; Suppovitz, 2013).

RPCs closely align with the principles of collaborative action research. Mertler (2017) states, “The main goal of action research is to address local-level problems of practice with the anticipation of finding immediate answers to questions or solutions to those problems” (p.11). This qualitative inquiry method emphasizes the empowerment of participants by recognizing them as co-researchers and valuing their experiences as integral to the research process (Carr & Kemmis, 2003; Kemmis, 2006; Mertler, 2019). To understand the inner workings of an RPC model, I observed how collaboration was established within the group and how this enabled RPC members to contribute to the development of recommendations and products. Additionally, this study explored the impact of the RPC on practitioners' understanding of the state policy mandate and how this intersects with implementation fidelity. Finally, I examined how the experience of participating in an RPC impacted practitioners' sense of professional identity.

This study draws on the philosophical and methodological perspectives of critical realism to examine participants' experiences, agency, and professional identity as part of a research-practice collaborative confined by the existing structure of a state educational policy (Bhaskar & Hartwig, 2016; Creswell & Creswell, 2018). In CR case study research, attention must be given

to the social structures that influence the activity under investigation, such as race, socio-economic factors, socio-political climate, and power dynamics. As such, the RPC members were intentionally representative of regions across the state to acknowledge the structural and contextual influences in their perceptions and experiences (Wynn & Williams, 2012).

The first research question investigated, *how* an RPC model facilitates the process of creating usable knowledge for stakeholders. This required an exploration the collaborative environment within the RPC that led to their contributions and production of usable knowledge. Analysis focused on how the group established a productive working community as they attempted to solve problems of practice identified by the RPC. From a critical realist perspective, this required an exploration of the teachers lived experiences to postulate about the social structures and mechanisms that account for those experiences (Bhaskar & Hartwig, 2016; Fletecher, 2017; Minger, 2003, as cited in McEvoy & Richards, 2006). Through an investigation of the RPC's process, I delineated how an RPC distinguishes itself from a traditional research-practice partnership in which the teacher is subject/participant.

The second research question expands upon the first by exploring in what ways the RPC contributed to supporting the fidelity of implementation and productive integration of a state educational policy mandate. Here I provide a detailed description of the materials, messaging, and recommendations developed by the RPC and how these contributions are anticipated to impact implementation fidelity of the NC ELI. I specify how the teachers' involvement in the RPC enhanced the products that would have otherwise been developed by the research team alone, and how the teachers perceive this will impact practice in the classroom.

Critical realism offers a bridge between positivist and interpretive paradigms, encouraging analysis to move from what is to why it is (Bhaskar & Hartwig, 2016). Therefore,

the third research question explored how the confluence of teachers' professional identity and their understanding of educational policy unfolded in the context of a research-practitioner collaborative. To fully explore this line of inquiry, I engaged in retroduction. The idea of 'retroduction' underpins critical realism. Olsen and Morgan (2004) define retroduction as "a mode of analysis in which events are studied with respect to what may have, must have, or could have caused them. In short, it means asking why events happened the way they did" (p. 25). The phenomenon of interest in this study encompasses one group's experience working to bridge the gulf between research, policy, and practice; the co-creation of solutions that emerge from the groups' efforts employing design-based research; and how participation in an RPC impacts the teachers' sense of professional identity.

Research Context and Participants

Research Context

This study is nested within a larger research project funded by a grant from OEL, a division of NC DPI. The Center for Educational Measurement and Evaluation (CEME), a small research center located within the Department of Educational Leadership at Charlotte, has a longstanding partnership with the OEL. The research center, spearheaded by one tenured professor who employs four graduate students, has conducted multiple projects for the OEL. Through the formation of an RPC model, the center believed it would benefit from incorporating practitioners' craft knowledge to develop actionable solutions for implementation of the NC ELI.

To honor the contextual and situational factors that impact implementation, it was important to draw upon practitioners from different geographical regions to reflect the heterogeneity of classrooms across the state. This necessitated a virtual format for most of the

RPC's work. Therefore, the RPC's monthly meetings and interviews were conducted virtually through Zoom, an internet-based communication platform that allows users to connect via video, audio, phone, and chat. The team met consistently on the third Thursday of every month from December to July, 3:30 p.m. – 5:00 p.m. Between each monthly meeting, teacher practitioners engaged in designated activities at their local school site to inform the work of the RPC. Additionally, the RPC decided to meet for a one-day workshop in July that was held on campus at the University of North Carolina at Charlotte.

Participant Recruitment and Selection

The phenomenon of interest guided participant recruitment (Merriam & Tisdale, 2016). The selection criteria required participants to be active kindergarten practitioners in public schools with at least one year of experience using the NC ELI. Participants needed access to the NC ELI online platform to pilot resources and strategies to aid in the production of usable knowledge. Having access to the NC ELI platform indicated that participants had instructional opportunities with children enrolled in kindergarten. For this reason, this study employed purposeful sampling strategies (Ravitch & Creswell, 2021) in combination with convenience sampling (Mertens, 2015).

Participant recruitment was initiated through a request to the OEL to share information about the study with their team of regional consultants. I disseminated information about the study to potential teacher participants through the regional consultants assigned to each of the eight regions of North Carolina. Information about the study was also shared through personal, professional, and academic networks. I generated a list of potential candidates from these efforts and then contacted potential candidates via email. Recruitment strategies included a detailed description of the project and financial incentives. Ultimately, seven participants were identified.

Participants were selected from across the state to create a representative sample of stakeholders from school districts varying in size, urbanicity, region, and economic resources.

In exchange for ten hours of commitment each month, participants received an incentive of $1,800 over a period of six months. The incentive schedule included a monthly distribution of $300 Amazon e-gift cards. Participants were provided a consent form outlining the study protocol and informed that the RPC's activities would occur remotely. An orientation session further outlined the aim of the study.

Participant Demographics

This study included seven teacher practitioners and four university researchers. The teacher practitioners represented six different geographical regions of North Carolina and were actively teaching in North Carolina public schools. All of the teacher practitioners had recently assessed children using the NC ELI or TS *GOLD*® measure in the fall of 2022.

The four university researchers include one tenured university professor and three graduate research students enrolled in a Ph.D. program in Educational, Research, Measurement, and Evaluation. The center in which they work has a rich history of engaging in research on formative assessment, kindergarten readiness, and psychometric analysis of kindergarten readiness measures.

Table 1

RPC Participant Demographics

Participant	Role	Gender	Race/Ethnicity	Region
Teacher A	Curriculum Specialist	Female	Caucasian	Southwest
Teacher B	Kindergarten Instructor	Female	African American	North Central
Teacher C	Kindergarten Instructor	Female	African American	Southwest
Teacher D	Kindergarten Instructor	Female	Caucasian	Piedmont-Triad
Teacher E	NC Pre-K Instructor	Female	Caucasian	Southwest
Teacher F	Kindergarten Instructor	Female	Caucasian	Southeast
Teacher G	Kindergarten Instructor	Female	Caucasian	North Central
Researcher A	Research Assistant	Male	Hispanic	Southwest
Researcher B	Research Assistant	Female	Caucasian	Southwest
Researcher C	Project Coordinator	Female	Caucasian	Southwest
Researcher D	University Professor	Male	Caucasian	Southwest

Two staff members from the Office of Early Learning at NC DPI played an external role supporting the RPC. As project managers employed by NC DPI, they commissioned the study, approved the study protocol, facilitated funding, and communicated statewide training efforts related to NC ELI. Both employees had extensive experience in the field of early childhood and were previous public-school educators. They provided support by granting RPC members increased access to the NC ELI (*GOLD*®) platform, which allowed them to explore additional resources.

Boundary Spanner

As a member of the RPC, in the role of researcher, I actively participated in numerous aspects of this qualitative case study. My role began with articulating the propositions and theories that drove this study, identifying the case to be studied, delineating the boundaries of the single case design, developing the research questions, and designing the data collection protocol (Mertens, 2015; Yin, 2018). Once the study was underway, I became the primary investigator for data collection and analysis.

While the focus of inquiry within the context of the RPC remained malleable as members of the RPC assumed an active role in the direction of our work, I continued to serve as a facilitator and boundary spanner. The primary function of a facilitator within the RPC was to schedule meetings, identify agenda items, and communicate goals for each meeting. Additionally, Penuel & Gallagher (2017) suggest the role of a facilitator is to illuminate the participants' expertise, foster the convergence of stakeholder aims, and probe participants to elaborate on ideas and practices.

As a recent teacher practitioner who recently transitioned from the classroom into the field of research, I played a vital role as a *boundary spanner* (Tushman & Scanlan, 1981). Defining characteristics of a boundary spanner include a person who: a) understands the culture of both research and practice and has close ties to people within both organizational structures, b) is more adept at interpreting messages that could be misunderstood between the two organizations (Tushman & Scanlan, 1981), and c) is more likely to recognize connections between individual interests to explicate the shared goals of the RPC (Penuel & Gallagher, 2017). The duality of my role enabled me to be sensitive to the natural tension that exists between researchers and practitioners.

My interest in this inquiry was born from my 20-year career as a K-12 educator. Despite holding advanced degrees and decades of experience, I encountered a sense of disconnection and delegitimization due to the dominating hierarchy of politics within the top-down organizational structure of public education. With the belief that educational improvement is predicated on bridging the divide between research, practice, and policy, I was eager to engage in a line of inquiry that would contribute to empowering practitioners.

Procedures

Over the course of seven months, the RPC met monthly to identify objectives that would guide the direction of our collective and independent work. The activities of the RPC fell into three broad categories: 1) monthly meetings, 2) independent tasks, and 3) co-creation of resources. Investigating the inner workings of an RPC required extensive exploration of its activities.

Monthly Meetings

The RPC met monthly for seven months; each meeting lasted approximately ninety minutes. As the facilitator of the RPC meetings, I used a dialogical approach, which involved a series of open-ended questions that encouraged a deeper exploration of the topic. From a pedagogical standpoint, Alexander (2018, p. 566) defines five principles of dialogic talk:

1. Collective: Participants come together in joint learning and inquiry.
2. Reciprocal: Participants listen to each other, share ideas, and consider alternative viewpoints.
3. Supportive: Participants feel able to express ideas freely, without the risk of embarrassment over ‘wrong’ answers, and they help each other to reach common understandings.

4. Cumulative: Participants build on their and each other's contributions and chain them into coherent lines of thinking and understanding.
5. Purpose: Talk, though open and dialogic, is structured with specific learning goals in view.

The goals of the RPC were to co-identify problems of practice; explore stakeholder needs; and co-create messaging, materials, and training recommendations that would enhance the implementation of the NC ELI. RPC sessions were guided by a series of topics based on theoretical propositions and those that emerged organically from the group's work. This process began with identifying a shared problem of practice and identifying the needs of multiple stakeholders (Coburn et al., 2013). As members engaged in activity-based tasks between the monthly meetings, they generated new goals and future directions for the team. The virtual meetings were recorded through Zoom and archived in a shared Google Drive. Members of the RPC had access to the shared folder, where all study materials were archived, so they could return to view recordings and access resources at any time.

Community Conversation Board

To facilitate discussions during and after RPC meetings, we used Padlet, an online digital communication board. A new Padlet was created for each monthly meeting and featured question stems related to our monthly topic. The Padlet functioned as a living document to maintain an ongoing dialogue during the meeting and throughout the month. As such, RPC members could return to the Padlet to make additional posts or respond to other members' posts as new ideas emerged between monthly meetings. The Padlets democratized communication by providing the opportunity to comment and share ideas, minimizing the likelihood a few people would dominate the conversation. It allowed less confident members of the RPC an opportunity to share their

comments in a non-threatening format. As such, the Padlets were formatted for anonymous commenting and provided the RPC members with the opportunity to reflect and post later. Along with the research assistants, I monitored the Padlet during our meetings and brought attention to comments as they were posted. We often revisited posts from previous meetings to validate the contributions of others throughout the month and maintain an ongoing dialogue. Along with the Zoom recordings, the Padlets were also archived in the shared Google Drive for all to access.

Independent Tasks

Teacher members of the RPC were asked to identify a case study student that they would progress monitor throughout the duration of the study. To offer feedback on the functionality and usability of NC ELI as a formative assessment resource, teachers explored the application of this instrument with their case study students. Teachers were given the autonomy to select developmental domains and objectives for progress monitoring that were informed by the unique needs of their students. NC ELI is comprised of a subset of 16 items from Teaching Strategies *GOLD*®. For this study, the OEL provided teachers access to all 60 dimensions in the Teaching Strategies *GOLD*® platform to evaluate the full capacity of the formative assessment instrument.

Each month, teachers received short instructional videos created by a practitioner in the RPC who is an experienced *GOLD*® user. These 5-minute videos demonstrated different features of the platform that teachers might find useful to their practice. The teachers were asked to try out these features and report back on their experiences. All resources created for this project were stored in a shared Google Drive that teachers could access at any time.

Co-Creation of Resources

Operating under a nested agreement between CEME and the OEL, the RPC was asked to assist with improving NC ELI implementation fidelity by making recommendations for

messaging and training. The RPC identified specific problems of practice that they felt were most important and reasonable to address within the scope of our work together. After identifying specific issues with messaging and training, the RPC attempted to produce deliverable materials in the form of specific recommendations and tangible resources to enhance the implementation fidelity of the NC ELI. This included the development of a teacher's manual and a state-wide survey to further understand implementation practices in the classroom.

NC ELI Teachers Manual

Members of the RPC contributed to the development of an NC ELI manual for kindergarten teachers in NC. The research team proposed that the manual feature examples of how to collect high-quality evidence in authentic learning contexts. The RPC identified the need to produce documents that demonstrate an alignment between NC ELI items and North Carolina kindergarten standards. The teachers contributed very specific ideas for how to create a user-friendly manual that would not sit on a shelf as an unused resource. In addition to monthly contributions, a two-day, in-person, working session was recommended by the RPC to facilitate the production of this manual.

State-wide Implementation Surveys: A Critical Systematic Review

To develop their role as co-researchers, RPC members assisted in developing a state-wide NC ELI Implementation survey. The survey was designed to capture teachers' perceptions and implementation practices with the NC ELI. Outcomes from this survey will identify problems of practice that need to be addressed through improved messaging, ongoing training, and regional coaching. The original draft of the survey was conducted by four university researchers and then introduced to the teacher members for feedback (see Appendix D). The second draft of the survey underwent a critical systematic review (Fowler, 2014), including cognitive interviews

conducted by the teacher practitioners with their grade-level colleagues at their respective schools. Fowler (2014) states that cognitive interviews aim to determine if the questions are consistently understood, if the answer choices accurately capture what the respondents have to say, and if the answers provide valid measures of what the question is designed to measure (p.103). Members of the RPC "debriefed" respondents for a deeper understanding of how they interpreted the questions, their cognitive process in responding to the questions, and what additional information may have been missed to understand implementation practices. One survey participant at each site was invited to participate in a think-aloud cognitive interview. Dillman et al. (2014) describes this as a process in which the interviewer follows an interview protocol that requires the participant to think out loud and share what they are always thinking through each step of the survey, including solicitation, opening the survey, reading the consent form, interpretation of the questions, and rationale for answer choices.

A second version of the survey was designed specifically for school administrators and district personnel responsible for oversight of teachers using NC ELI. This survey will help the OEL understand the systemic supports needed at the school and district levels to address implementation challenges. Both surveys were created in Qualtrics and will be disseminated by the Office of Early Learning through their kindergarten teacher list serve database.

Recommendations for NC ELI messaging

In addition, the RPC was asked to assist in co-creating enhanced messaging to address documented issues with teachers' understanding of the NC ELI's primary purpose. This process began by identifying misconceptions in messaging from the teacher's point of view. The teachers then created messaging that they believed was in line with the NC ELI's purpose but would also generate greater buy-in from teachers in the classroom.

Teachers also piloted how expanded access to all the objectives and dimensions within the TS *GOLD*® platform could enhance progress monitoring and MTSS interventions practices. Specifically, we explored if messaging should include promoting the use of this instrument beyond the mandatory 60-day window.

Data Collection

Investigating the inner workings of an RPC requires extensive exploration of its activities. Multiple data collection forms are necessary to develop a comprehensive understanding of the case (Creswell & Creswell, 2018; Stake, 2005). Therefore, data collection methods included a) observational field notes, b) transcripts from recorded RPC meetings, c) artifacts produced by the RPC, d) semi-structured interviews, e) Padlets and email correspondences, and f) monthly feedback surveys.

The data collection plan was informed by Yin's (2018) principles of case study data collection, which calls for multiple sources of evidence, creating a case study database, and maintaining a chain of evidence. A clear data organization strategy is paramount, given the multiple data sources of data collected over an extended period. Table 2 illustrates how the data sources were organized into five categories to establish a case study database that allowed for easy data retrieval.

Table 2

Case Study Database

Method	Data collection	Research Question

Direct Observations	• Verbatim transcripts from recorded monthly meetings
	• Field notes
	  ○ RPC meetings
	  ○ Workshop events
		• RQ 1
		• RQ 2
		• RQ 3

Semi-structured Interviews	• Full transcript of individual interviews
	• Responses will be organized in a matrix for analysis.
	  ○ Interview questions
	  ○ Participant responses
		• RQ 1
		• RQ 3

Document Review: Correspondences	• Organized chronologically.
	  ○ Monthly RPC surveys
	  ○ Padlets
	• Email correspondence
		• RQ 1
		• RQ 2
		• RQ 3

Document Review: Work Products	• Training materials • NC ELI Teachers' Manual • Messaging recommendations • Alignment documents • Presentation of findings to NC DPI	• RQ 2

Observational Field Notes and Video Transcripts

As a participant observant (Spradley, 1990), I maintained observational field notes (Creswell & Creswell, 2018). Data collection occurred during each of the six RPC virtual meetings, during the one-day campus workshop, and during the RPC's presentation of findings to the OEL. All virtual meetings were recorded using Zoom and transcribed for analysis using a transcription service. The recordings allowed me to revisit the data multiple times to support various analytic processes (Ravitch & Carl, 2021).

Monthly Surveys

Immediately following the monthly RPC virtual meeting, the teachers received a feedback survey developed in Google Forms. The surveys were designed to understand a)

participants' perceptions of the RPC's efficacy, b) participants' monthly activities on assigned tasks, and c) participants' ingenuity in integrating NC ELI into their current assessment practices. Fowler (2014) states, "A fundamental premise of the survey research process is that the answers people give can be used to accurately describe characteristics of the respondents" (p. 8). The formative feedback surveys were used to evaluate the RPC's productivity and working climate to address concerns as they arose. Each survey was estimated to take approximately 10 minutes to complete.

Each survey began with the same seven statements to understand the teachers' perceptions of our efficacy and culture. Six of the statements were presented with a 5-point Likert scale response option (strongly disagree – strongly agree). The seventh question was open-ended:

1. As a member of the RPC, I am given the opportunity to contribute to the direction of our work.
2. I feel the RPC is s safe space for me to freely share my experiences, thoughts, and ideas (without pressure to provide socially desirable feedback).
3. The purpose of our work together is clear.
4. I understand the needs of multiple NC ELI stakeholders.
5. I believe this project will help bridge the divide between research and practice.
6. I have a clear understanding of the tasks I will engage in before our next meeting.
7. Please share any feedback that will help improve the quality and efficiency of our work together.

The remainder of the survey questions were specific to tasks that had been assigned that month. Teachers reported details on their case-study student, what features on the NC ELI platform they

had difficulty accessing, and which features they found particularly useful. They were also given space to make recommendations for future meetings. A copy of the monthly survey can be found in Appendix A.

Semi-structured Interviews

Two interviews were conducted with RPC teachers using a predefined semi-structured format (Kvale, 2007). The interviews included a sequence of open-ended question prompts, which are outlined in the interview guide. The semi-structured nature of the interviews permitted changes to the sequence and form of the questions. The use of follow-up questions allowed the researcher to capture a detailed description of the interviewees' lived experiences (Brinkmann & Kvale, 2015; Mertens, 2015).

The first teacher-practitioner interview was conducted at the start of the study to explore two themes: Professional identity and bridging the gap between research, practice, and policy. This initial qualitative interview was to understand how teacher participants in the collaborative conceive their professional identity and how that identity developed within the context of public education. The first interview was intended to uncover the experiences that contributed to their sense of being a professional educator and, conversely, which experiences diminished their sense of professionalism. This interview also explored the practitioners' perceptions of educational mandates and how they believe those mandates support or confine their work in the classroom. This interview helped inform the third research question: How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

The guide included twelve questions, and the interviews lasted approximately one hour (see interview guide in Appendix B). Individual interviews were conducted over Zoom and

recorded for transcription. Verbatim transcription was provided by Temi, an external transcription service. Participants were provided access to the transcripts as a form of member validation to confirm the transcripts' accuracy and provide an opportunity for reflection and further elaboration (Brinkmann & Kvale, 2015; Ravitch & Carl, 2021).

The second interview was conducted in late July, after the RPCs work had concluded. The post-interview included three themes: a) Professional identity, b) bridging the gap between research, practice, and policy, and c) perceptions of the effectiveness of the RPC model. The protocol included 12 interview questions, and the interviews lasted last one hour (see Appendix C).

As part of the larger contract with the OEL, the research team participated in monthly meetings with two members from the Office of Early Learning (OEL), a division of the state educational agency that is charged with NC ELI oversight. The OEL also commissioned and funded this work. During these meetings, the research team provided updates on the RPCs progress and was able to inquire on the interest of the OEL.

Document Review

The RPC worked to co-create the NC ELI Teacher's Manual and recommendations for improved NC ELI messaging and training resources. These documents served as an additional data source to provide an understanding of the groups' agency and effectiveness in working collaboratively to address problems of practice with the NC ELI. Collaborative work was stored in the RPCs Google Drive, which was accessible to all team members. Documents included evidence teachers contributed to the manual in the form of photographs and artifacts of student work. They also contributed examples of activities for the manual, as well anecdotal notes to

substantiate ratings at each level of the progression for a given objective to serve as exemplars for classroom teachers using NC ELI.

Additional documents included post-meeting surveys and email correspondences, which provided data for how the RPC was functioning. The RPC's recommendations for improved messaging were primarily captured on the Padlets. Therefore, the document review also included the comments posted to the monthly Padlets, email correspondences, and post-meeting survey feedback. These documents were categorized into files and later imported into NVIVO, a qualitative data analysis software.

Data Analysis Procedures

Qualitative data analysis began at the onset of data collection, initiating a process that was iterative, recursive, and ongoing (Ravitch & Carl, 2021). Creswell & Creswell (2018) advise researchers to pose questions about the data as it is collected and engage in conversations with others to understand what the data is about. Recognizing and addressing emerging ideas is fundamental to a research-practice collaborative (Penuel & Gallagher, 2017). Therefore, I maintained analytic memos about the data as it was collected by asking myself: 'what is happening here?' As a participant-observer immersed in the work of the RPC, it was essential that I discussed emerging ideas with members of the collaborative to inform and guide the direction of our work. Each month we discussed patterns and noted common experiences that were emerging in our communications. We also noted where experiences diverged.

As data sources were generated, I imported them into NVIVO and organized transcripts and documents based on their origin (i.e. Meeting transcripts, Interview 1, Interview 2, Padlets, Emails, Surveys). Within these folders, documents were further organized by source (i.e. January meeting) or teacher name.

Once the database was established, the next stage of data analysis included immersive engagement (Ravitch & Carl, 2021). Given the numerous sources and methods of data collection used in this study, it was critical to take a summative look at the entire corpus of data. According to Ravitch & Carl, this process involves unstructured and uninterrupted reading to see meta-themes that are comprehensive and holistic (2021). This process included reading the data chronologically and reading across individual participants.

Coding Structure

The third stage in the data analysis plan involved coding the data. Corbin & Strauss (2015) describe data coding as a process of assigning meaning to words and phrases, which can include the representation of analytical ideas. Critical realism (CR) permits the data coding process to draw on both deductive and inductive strategies to explore the space between empirical and causal (Danermark et al., 2019). To organize the vast amounts of data, I started with a structural coding approach (Saldana, 2021) based on the three research questions. An initial coding framework was established using three top-level codes: RQ1 Model, RQ2 Practice, and RQ3 Professional Identity. These broad categories helped frame the coding structure as initial codes were developed through a combination of deductive, descriptive, and inductive coding. Next, I formulated a short list of pre-defined parent codes for each research question, such as ‘policy perceptions’ and ‘professional growth.’ Under these parent codes, I began open coding to capture the experiences and events in the ‘empirical domain.’ Open coding involves summarizing segments or chunks of data into a single word or phrase, often referred to as first-level coding (Creswell & Creswell, 2018; Ravitch & Carl, 2021). The open coding process included descriptive coding, as informed by Yin (2018) and in-vivo coding (Saldana, 2021). As I

became more familiar with the data throughout the coding process, I maintained flexibility to rename and refine codes as I moved through the data sources.

CR requires the researcher to go beyond surface level descriptions to begin identifying causal mechanisms (Danermark et al., 2019). As such, I moved into the beginning stages of retroduction, which requires the researcher to look for patterns within the data. The theory of retroduction is a key principle in CR case study methodology (Wynn & Williams, 2012), calling upon the researcher to identify causal relationship between events we seek to explain. It is here that the researcher can develop inferential themes drawn from "unobserved but occurring experiences and events in the 'actual domain'." (Wiltshire & Ronkainen, 2021).

Next, I began arranging the codes to identify connections and patterns across the codes. At this stage, I exported the NVIVO code file into an Excel spreadsheet and began an iterative process of comparing data and codes to create categories that captured the underlying mechanisms of the RPC.

In the final stages of the retroduction process, I was able to look across the research questions to formulate hypothesis about the context-dependent relationship between my codes. Once again, this was an iterative process as I revisited codes and categories to refine my understanding of the generative mechanisms. Through this process I was able to convey a descriptive explanation of the case study and postulate on the causal mechanisms that caused events at the empirical level to occur (Fletcher, 2017).

Strategies for Data Quality

Case study methodology necessitates varied sources of data to substantiate claims and provide assurance that key meanings have been uncovered (Stake, 2005). Collecting evidence from multiple sources ensures internal validity, confirmation, and completeness of the data,

which are the tenets of triangulation (Creswell & Creswell, 2018; Hancock et al., 2021; Mertens, 2015). In addition, varied forms of data collected from RPC members across different time points aided in triangulation, lending to the credibility of these findings (Creswell & Creswell, 2018; McMillan, 2016).

Evidence of validity was established throughout the research process as data collected from interviews, observational field notes, recorded RPC meetings, and document analysis was continually checked for credibility, plausibility, and trustworthiness of the findings (Brinkman & Kvale, 2015). In this study, I maintained transparency by archiving data sources in a shared Google Drive that was accessible to all members, including recorded meetings that were later transcribed for analysis. This served as an ongoing form of member checking to verify the validity and completeness of the data that was used for analysis.

As I began to interpret themes, I presented my findings to the RPC, including visual diagrams of my conceptual models. I solicited feedback from the RPC as a whole group and during individual communications. Additionally, I presented my finding to CEME staff as an additional measure of internal validity. They provided feedback and assisted in refining codes.

In qualitative case study research, the researcher is considered an instrument in the data collection process (Creswell, 2008). Kvale & Brinkmann (2015) warn that unacknowledged biased subjectivity may invalidate the results of the interview inquiry (p.198). Given the collaborative nature of this study, it was crucial that I vigilantly practiced bracketing my own experiences and perceptions to truly understand and report the experiences of others with objectivity and accuracy (Vagle, 2018). Giorgi (1997, p. 240) postures that bracketing does not require the researcher to remove past knowledge but instead requires the researcher not to permit this knowledge to influence the interpretation of participants' experiences. Dahlberg and

Dahlberg (2003) expand upon bracketing in their definition of *bridling*, which requires researchers to restrain pre-understandings, so they are not inclined to understand too quickly, carelessly, or definitively. Freeman et al. (2007) suggest that bridling allows researchers to be skeptical of what they know.

It was essential that I refrained from judgment on policy enactors when investigating the NC ELI. I also needed to consciously suspend judgment on practitioners who struggled with implementation fidelity to remain open to the true essence of their experience. By acknowledging my bias as a former teacher who supports public educators, I could be more conscientious of how that stance impacted my interpretation of what I was observing. To achieve this level of objectivity, I continually examined my positionality to the research.

Positionality Statement

After two decades of teaching in the field of K-12 public education, I am deeply rooted in my identity as an educator. My commitment to improving student outcomes sparked my interest in educational research, resulting in the pursuit of a Ph.D. in Educational Research, Measurement, and Evaluation. As an educator, I disclose that I often experienced frustration with school leadership when initiatives were adopted without sustainable support or contextual considerations. Motivated by a desire to bridge research, policy, and practice, my interest includes studying the factors influencing fidelity implementation for mandated educational initiatives.

I posit that implementation fidelity is one of the most critical factors in evaluating the success of educational initiatives. Implementing evidence-based practices without incorporating the tenets of implementation science jeopardizes the intended outcomes and sustainability of educational initiatives. Implementation science focuses on capacity building by emphasizing the

necessary support for adoption, implementation, and sustainment (Proctor et al., 2011). I believe investigating implementation fidelity and building on existing strategies to enhance implementation within the realm of evaluation is an important contribution to the field of educational research.

I identify as a Caucasian, middle-class, liberal, heterosexual female. I recognize my privilege within academic spaces and believe it is my responsibility to acknowledge my implicit bias and actively reflect on how this impacts my work and those who work alongside me. It is necessary to explore my positionality because my research aims to provide a platform for participants whose voices and experiences are frequently minimized. I must also remain sensitive and cognizant of the inherent power dynamics and conflicts that exist as a grant-funded researcher investigating the experience of practitioners employed by the state agency whose policies we are investigating. Throughout this study, I engaged in reflexive monitoring to fully understand the intentional meaning of participants' statements and actions during all phases of the study, including the analysis and interpretation of data (Macbeth, 2001). I am also committed to the inclusivity of experiences from stakeholders who have historically been marginalized.

Ethical Considerations, Risks, and Benefits

As previously explained, I believe the benefits of participating in an RPC include the opportunity for a platform to share practitioners' knowledge with a larger audience. I hypothesized this would result in a heightened sense of professionalism. Additional benefits include the opportunity to co-create resources that may have an impact on teachers across the state of North Carolina.

While I do not foresee imminent risks for participants, there are potential ethical considerations that need I will need to monitor. There is inherent tension when practitioners are

asked to share their experiences with a top-down state mandate. Teachers are being invited into the research space to improve problems of practice, but the RPC is confined by legislative mandates that dictate implementation processes. Transparency about the limitations of our research will be critical to establishing trustworthiness between members of the RPC. In addition, there is a natural conflict that exists when a project is funded by the agency that is being evaluated. The RPC may feel pressured to constrain its criticism to maintain a partnership with the funding source.

Chapter Summary

In this chapter I outlined the methodological approaches used to conduct this study. This included a description of the research design and an introduction to the research questions that guided my investigation. After providing a description of the research context, participant selection, and my position to the research, I articulated the philosophical and epistemological perspectives that justified my research methods. The chapter concluded with an outline of the procedures, data collection methods, and data analysis strategies.

To gain a deeper understanding of how RPC models can be leveraged to enhance the implementation fidelity of a state policy initiative that has been brought to scale, I employed a single case study design. This study investigated the inner workings of an RPC model that was implemented as a formative evaluation strategy to produce usable knowledge for teacher practitioners and state decision-makers. Data was collected from seven kindergarten teacher practitioners who joined the RPC to co-create solutions to existing implementation issues with the NC ELI. Data sources included semi-structured interviews, observations, transcript recordings from monthly meetings, Padlets, informal surveys, and analysis of products produced

by the RPC. Data analysis included both inductive and deductive coding. Analytic strategies included descriptive coding, open coding, and axial coding.

Figure 4 illustrates a timeline for this study. This dissertation is one component of a larger grant-funded research project contracted by the NC DPI. As such, IRB approval has already been obtained. In Chapter Four, I present the most salient themes that emerged from my qualitative analysis and substantiate those themes with a presentation of my coding structure.

Figure 3

Timeline for Dissertation Research

CHAPTER FOUR: RESULTS

Chapter Four presents the findings and analysis of this qualitative case study conducted within the framework of critical realism (CR). Acknowledging the context-dependent nature of reality, this chapter begins with a description of the RPC members, the environments in which they work, and their motivation for agreeing to participate in this collaborative model.

Next, I introduce the coding structure and process of analysis that contributed to the conceptualization of relationships and causal mechanisms within the RPC model. I address each research question in turn by discussing salient themes that emerged, substantiated by a thick discussion of the RPC members experiences, activities, and interactions. Finally, this chapter concludes with a description of the actionable knowledge that derived from the RPCs efforts to address implementation challenges with the NC ELI, as well as a detailed description of the products that were created during our work together.

The purpose of this study was to investigate the inner workings and attributes of an educational RPC to understand how this model can serve as a mechanism for bolstering the implementation fidelity of educational initiatives. The following research questions directed this study:

1. How does an RPC model facilitate the process of creating usable knowledge for stakeholders?
2. In what ways did the RPC contribute to supporting the fidelity of implementation and productive integration of a state educational policy mandate?
3. How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

Participant Summary

The following is a brief description of the seven teacher practitioners and four university researchers that comprised the RPC. The RPC was funded by a grant through the OEL, a division of the NC DPI. Two senior members from the OEL indirectly contributed to the aim of the RPCs work and are referenced as key stakeholders throughout the analysis. Therefore, I include a brief description of their background and role within the project.

Rebecca

Rebecca identifies a white female between the ages of 45-55 and is recognized as a seasoned teacher within her rural coastal plain county. She obtained her bachelor's degree from NC State University, earned a master's degree in education, and holds National Board Certification. She takes an active leadership role within her county and is currently supervising the teacher cadet program in her district. Rebecca notes that she was once a teacher cadet as a high school student growing up in NC. Rebecca maintained her commitment to the collaborative despite an active professional and personal schedule. During our work together, Rebecca hosted her son's wedding and celebrated his college graduation, had another son graduating from high school and was busy with college tours, all while managing her father's declining health. Unfortunately, Rebecca experienced the loss of her father during our time together, whom she credited for the reason she went into teaching. He was her champion and always believed in her success as an educator .When asked why she elected to participate in this collaborative despite her busy personal and professional schedule, Rebecca cited her investment in piloting previous projects with the OEL, including the initial implementation of KEA: "I am busy but just being a part of something from the beginning and really enjoying the conversations with this group, and

just learning a lot." Although Rebecca describes herself in the sunset of her career, she is a lifelong learner and dedicated professional.

Emily

Emily identifies as a white female between the ages of 35-45 and teaches in the northern Piedmont-Triad region of the state in a Title 1 city school with a dense suburban atmosphere. Emily recalls wanting to be a teacher from her earliest childhood memories of lining up her stuffed animals to play school. Emily holds a bachelor's degree in English and returned to school to earn her teaching degree and certification. She has taught kindergarten for the past 14 years and "never looked back". She reports that teaching is challenging but having her very best friend teaching in the classroom next door has been an amazing support system.

Emily elected to join the RPC after being asked by her building administrator to participate in the first year of the NC ELI Standard Setting Study. She enjoyed that process and was curious to learn more about the policy. Emily strives to be an expert in initiatives related to kindergarten: "To be honest, in the beginning, I didn't know why we were doing these 16 objectives in NC ELI. I'm thinking, why? Who sees it? Why are they worth doing? And so to be a part of this, and see that it actually does inform people about certain things, and what we are using it for…it gave me an extra understanding and made it better for me doing it because I knew the why behind it."

Kennedy

Kennedy identifies as a black female in her mid-forties and teaches in a Title 1 school in the north central region of the state. Kennedy is a veteran teacher who began her career in pre-school before transitioning to kindergarten. She brought a wealth of knowledge on child development to her role in kindergarten but hasn't always had the confidence to share that

knowledge. She describes herself as quiet and admits she tends to stay within her classroom, but she loves to learn from others and gets inspired when she can collaborate and bring ideas back to the classroom to use with her students. She had previously piloted KEA initiatives with the OEL and enjoys the opportunity to collaborate with colleagues outside of her district. When asked why she elected to join the RPC focusing on NC ELI implementation she responded: "I think because my passion is early childhood, and I just feel like sometimes we overwhelm our students when they come to kindergarten. We just hit them with academics and not consider the whole child." She expressed appreciation that the NC ELI incorporates all five domains of development.

Melissa

Melissa identifies as a mid-career white female in her early thirties. She served as a kindergarten grade level chair and teacher mentor during her time on the RPC. As a young mother to a kindergarten-aged daughter, she is currently enrolled in a district level cohort to earn her master's degree in education administration and is completing her internship as an assistant principal. She chose to participate on the RPC because she had previously served on the NC ELI Standard-Setting Study and she had a natural curiosity about how the state would continue to define kindergarten readiness. Melissa teaches in a Title 1 school located in a rural county and reports that her students lack access to high quality pre-k experiences. She noted that she has a sister who teaches kindergarten in a nearby NC district with a very different demographic than her own classroom, and they both conceptualize kindergarten readiness quite differently.

Rhonda

Rhonda identifies as a black female in her thirties and teaches in a Title 1 school in a rural county that serves a large English second language population. Rhonda came into teaching

through lateral entry as a teaching assistant. As a young single mother, she attended community college and worked in a childcare center during the day where her daughter could be with her. After earning a degree in early childhood, she became an instructional assistant in a public school and continued working towards her bachelors' degree two nights a week at Belmont Abbey College. After earning her degree, she was encouraged by her principal to become a teacher. Two weeks later, she found herself teaching 40 kindergarten students in a dual language program.

Rhonda is now in her seventh year of teaching and at the time of our first interview, she had just come from an awards ceremony to witness her daughter, now a senior in high school, signing with NC A & T on Decision Day, where her daughter was offered a full scholarship. Rhonda is a highly respected teacher in her building and serves as a mentor and grade level lead. She is frequently asked to offer coaching and support to her colleagues, and visitors are often brought to her classroom to observe her instructional practices. Rhonda was just awarded Teacher of the Year in her school building. This is the second time she has earned this distinction in two different schools. Rhonda is confident in her skills as an educator but admits to initially feeling less confident about her role in this research collaborative. When asked why she was willing to join the collaborative despite her busy schedule, she admitted she didn't know much about it and had been surprised to learn she wasn't implementing NC ELI as intended. She had previously regarded it as something they had to get done and then she forgot about it until next year.

Alice

Alice is the only Pre-K teacher on the RPC and was invited to join because she offers a unique early child perspective to bridge the divide between NC Pre-K and kindergarten. Alice

identifies as a white female in her thirties who works in an NC Pre-K / Head Start classroom located in a city school system with a high percentage of economically disadvantaged and minority students. Alice is an experienced educator, licensed in Birth through Kindergarten, and is proficient in Teaching Strategies *GOLD*® and the NC ELI platform.

Alice describes knowing that she wanted to a teacher since she as a child. She attended the Early Childhood Education program at UNC Charlotte and continues to work in the same county where she did her student teaching. She went on to earn a master's degree in Child and Family Studies and is currently working on her National Teacher Board Certification. When asked why she decided to join the RPC, Alice replied "I keep adding to the layers, just continuing the work of something that I feel in my heart is very important".

Elizabeth

Elizabeth identifies as a white female in her late forties who works as a curriculum coach in a Title 1 rural school serving minority students, the majority of whom are ESL learners (Elizabeth works in the same building as Rhonda). Elizabeth has been an educator for 20 years, with occasional breaks to raise her two children. She holds a master's degree with a background in literacy and is currently responsible for writing the instructional plans for the K-5 classrooms in her building. She is an avid reader of educational research and literacy strategies and has frequently invited authors to partner with her school. She has a passion for curriculum development and actively participates on national research collaboratives and podcasts with Scholastic. Elizabeth describes herself as a natural skeptic when it comes to policy mandates and brings a critical lens to the project.

Research Assistant #1

Heather identifies as white female between the ages of 25-35 and is a third year Ph.D. student in the Educational Research, Measurement, and Evaluation program at UNC Charlotte. Heather is a former elementary educator from Vermont with an M.Ed. in Curriculum and Instruction. As part of her graduate work, Heather has been involved in researching implementation fidelity with the NC ELI and has also conducted statistical analysis examining the psychometric properties of the NC ELI. Heather had also been closely involved in developing a manual of acceptable evidence to substantiate ratings on *GOLD®* progressions. During her time on this project, Heather welcomed her first child and moved back to her hometown in Vermont to be closer to family.

Research Assistant #2

Carlos is an international Ph.D. in the Educational Research Measurement and Evaluation Program at UNC Charlotte. Leo is a male in his late forties who is currently on sabbatical from his university in Colombia, where he formerly served as Dean in the education department. Leo has a background in elementary education and previously spent time in the U.S. teaching Spanish as a dual language instructor in public schools in Maine and Virginia. In his role as a graduate research assistant, Leo has conducted analysis of NC ELI outcomes and analyzed the psychometric properties of the NC ELI. Leo's research interests include the use of formative assessment in higher education.

Primary Investigator

The primary investigator on this project identifies as a white male is his early sixties who is a tenured professor in the Department of Educational Leadership in the CATO College of Education. Dr. Lambert is an expert in the field of educational research, measurement, and evaluation, with specific research interests in Rasch Modeling analysis, inter-rater reliability,

authentic formative assessment in early childhood education, and teacher stress and coping. He has a long professional relationship with the OEL and has been contracted to examine the psychometric properties of the NC ELI and to conduct a standard-setting study for the NC ELI developmental progressions. He also supervises a large team of evaluators for the Early Educator Support program, which evaluates BK licensed educators in NC Pre-K classroom. Dr. Lambert has worked as a consultant writing the technical manual for Teaching Strategies *GOLD*®, the developers of the NC ELI, giving him unique expertise with this assessment and in the field of early childhood education.

State Agency Representative #1

Phil (pseudonym) was our point of contact at the state agency that funds this project and serves in an administrative role within the department. He identifies as a white male in his early fifties and has been with NC DPI for close to 20 years but began his career as an early childhood teacher. With a gentle smile, Phil frequently recalls memories and anecdotes from teaching preschool. As an administrator, he specializes in projects related to implementation of educational initiatives designed to strengthen NC's early learning system. He currently oversees projects related to the NC Read to Achieve policy and works closely with a team of regional consultants.

Phil met with the research leads monthly to discuss tasks associated with the larger partnership between the two agencies. Phil and Dr. Lambert have a long-standing professional rapport, which contributed to the support for the RPC implementation study when proposed to the agency. Phil has demonstrated a genuine interest in the activities of the RPC and joined meetings when invited, but he embodies the role of observer and remains careful and thoughtful with his words, remaining slightly guarded with what he shares with the research team.

State Agency Representative #2

Lisa (pseudonym) identifies as a white female in her forties and works as an educational consultant at the state agency. Representing the northwest region of the state, she works closely with Phil and a team of regional consultants on implementation policies related to early childhood educational policies. In this role, she is closely connected to coaching, training, messaging, and the development of resources for classroom educators. Lisa is a direct line of access for sharing feedback and recommendations that emerge from the RPC. Likewise, Lisa communicates her team's vision and goals for implementation to the research team. As a former teacher and administrator, Lisa is more candid about the challenges her team has witnessed with NC ELI implementation practices. Lisa is receptive to findings from our research and analysis and uses data to inform training and messaging.

Research Question One:

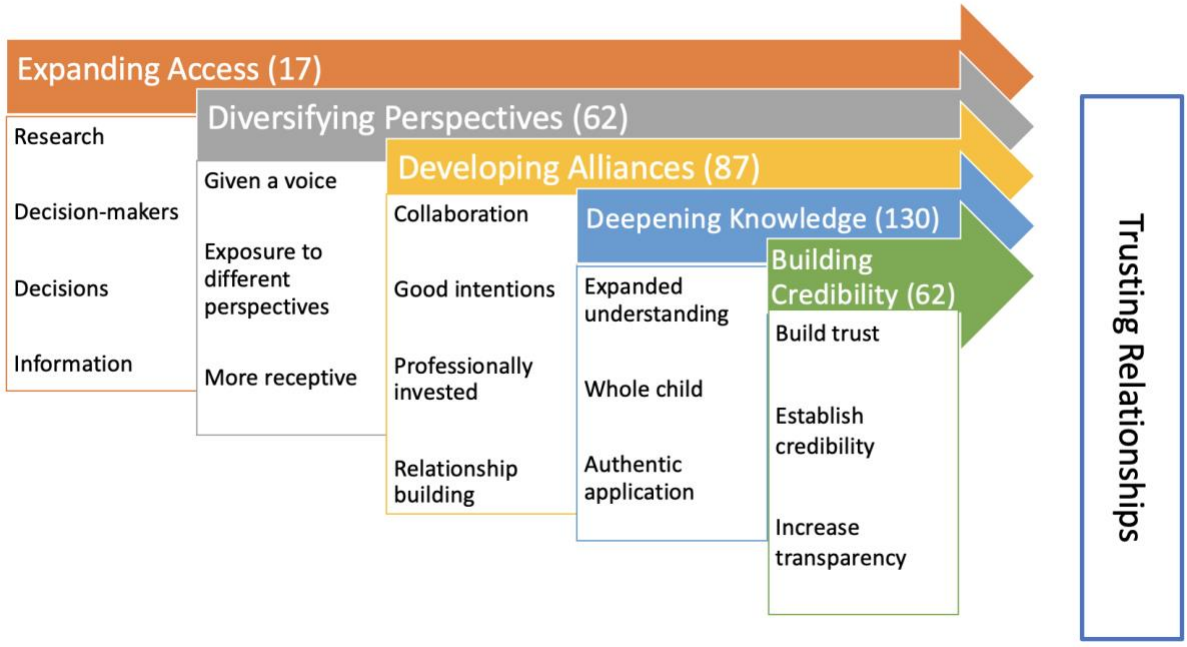
How does an RPC model facilitate the process of creating usable knowledge for stakeholders?

The first area of inquiry began with an exploration of the inner workings of a teacher-centric RPC model designed to bolster implementation and productive integration of a state-wide policy initiative that was experiencing known implementation challenges. Understanding *how* an RPC model facilitates the process of creating, or contributing to, usable knowledge was foundational to subsequently exploring what contributions the RPC made to the fidelity of implementation and productive integration of the NC ELI, which will be addressed in the second research question. CR calls upon the researcher to examine causal mechanisms within a system to draw inferences on observed outcomes (Fletcher, 2017). Therefore, this question attempts to understand the preconditions for creating usable knowledge.

All data sources contributed to the development of themes for RQ1; however, teacher interviews generated the greatest source of codes, which were triangulated with meeting transcripts and discussions from the Padlets, emails, and post-meeting surveys. This resulted in approximately 358 codes, organized into 17 conceptual categories, resulting in five themes. Figure 5 illustrates the coding framework that informed how I contextualized the findings for the first research question, with consideration of the interplay between observations in the RPC meetings and the underlying structures that contributed to the complexity of collaborative work where a power differential exists among its membership.

Figure 4

Coding framework for RQ 1



Expanding Access

Expanding access, which surfaced as prerequisite for subsequent findings, describes the RPCs ability to facilitate access to information, research, and individuals. Through the lens of

critical realism, access must be examined within the context of social structures. As such, my analysis was contextualized through the power imbalance that exists within this partnership.

Access to Research

Dependent on their roles, members of the RPC experienced increased access to research in different forms. The teachers provided the research team access to their experiences using the measure, as well as access to the training and implementation practices in their building and district. Through an ongoing dialogue about teachers' experiences, the researchers were able to ask critical questions and probe deeper over an extended period to uncover nuances that might not have been revealed through traditional survey and interview research methods. Similarly, this open exchange gave teachers access to candidly voice their opinions and experiences. The nature of this relationship allowed for questions to evolve organically and take on new forms until members reached a place where they felt like they were exploring ideas that would lead to meaningful practice. The excerpt below illustrates a dialogue between a researcher and teacher engaged in a critical conversation around implementation as they explored challenges with the policy mandate:

> Researcher: On one hand, when we think theoretically of the formative assessment process, and everything we know about good formative assessment, that 60 days is long enough to do that in one sense, right? We can say, kind of to ourselves, that's enough. But on the other hand, I think it's a really good question to ask: To what extent is that really true? And should we be emphasizing some aspects of the formative assessment process over others, because 60 days is only 60 days…so I think that is a great question to wrestle with.

> Teacher: I think part of my question comes from a lens on the reality of what it's like to be a kindergarten teacher in those 60 days, and all those things they're trying to accomplish. And so, when they are done after 60 days, which I know isn't the messaging we want, but if it's the messaging they're receiving (based on the checkpoint), they're going to say, okay, I just have to get this done so I can move on to the next thing I have to do.

This exchange demonstrates how the RPC created access for researchers and teachers to engage in critical conversations related to the challenges of translating research to practice. They were able to share knowledge and experiences from their unique perspective, at times even defending their position with evidence and examples in context, which provided valuable insights that may have otherwise gone unrecognized. Operating within the confines of a mandate, teachers wrestled with how the measure could be most meaningful to teachers in practice, while the research team provided background knowledge related to concepts of validity and how the measure was intended to be used. In another exchange, months later, Elizabeth poses the question: "How much credibility is there, we're talking about credibility today, so how much credibility is there to a resource that expires after 60 days? I mean I think that's part of a conversation we need to continue to have as a group." To which Dr. L responds, "We don't want to compromise the validity of *GOLD*® by asking teachers to use it in a way that it wasn't designed to be used, so I think that is a really good question."

For teachers, the RPC facilitated access to elements of research that are not typically a part of teachers' professional development and research publications that are often behind paywalls. Despite pressure to engage in research-based practices, most research is not easily

accessible to teachers without university affiliation. Elizabeth describes how hard it is to not only access research, but also to participate in research:

> Our perspective is there's a paywall that prevents us from the research. I've also experienced this data wall that schools put up to outsiders. You know, I'm working on a pilot program, and it has taken since June to get the data sharing agreement done. I mean it was like an act of congress to get, and my county wrote the data sharing agreement, and the company I'm working with sent it to their team of lawyers. They signed off on it, and even though it was my county's document that they created, it still took us the longest time to finally sign it and to get everybody to agree to it. And so, we aren't going to be able to collect data on questions that we care about with those kind of obstacles in place.

As part of the RPC, under the umbrella of the existing RPP, the members were now presented with deidentified and aggregated data from over 92,000 students. They also received increased access to the TS *GOLD*® platform, with the ability to view and investigate features that were not previously available to them. Increased access allowed members to contribute to the creation of usable knowledge and resources because they gained a broader understanding of implementation practices statewide. It also filled in gaps in their understanding of what happens to the data they upload into the NC ELI platform and how that data is analyzed and interpreted. This created a level of transparency for the teachers.

As teachers gained access to research processes, protocols, and design, this sparked a growing awareness to the amount of time, rigor, and thoughtfulness that goes into research. This established a level a credibility for the teachers, as reflected in Rebecca's comment, "I definitely feel a lot more in the loop with things and have a better understanding about things that I've never really obviously kind of chosen to even think about, like the survey, and how much

thought has to go into a survey before it's fully launched. So, you know, being a part of all of that has just really been, I mean, things that I just would not have thought about…I have really learned, you know. I've learned a lot." While Rebecca acknowledged that many aspects of research are beyond her area of expertise, or even her area of interest, she found it valuable to gain background knowledge and a growing awareness of research processes.

Access to Decisions

Access reappeared as a theme in relation to decision-makers in positions of higher authority, as well as access to participate as a decision-maker. This experience appeared to be heightened for most teachers when they participated on the NC ELI Interpretation Panels, which were responsible for setting NC ELI item-level thresholds to determine the skills and abilities typical of a child at the 60th day of school. These panels included subject matter experts from universities and educational agencies across the state, including curriculum coordinators from NC DPI. During panel participation, the teachers reported they felt they were gaining access to inside knowledge. They engaged in processes and decision-making they would not have been exposed to otherwise. They noted the RPC gave them the opportunity to make a statewide impact, affecting thousands of children and teachers, which was very empowering. The following quote portrays one teacher's experience when she thought she might have had a statewide impact:

> When I got the email from DPI about how they dropped the kindergarten readiness score off of the report card, and I was like, oh my gosh, we talked about that! And I thought we might have had…like we might have just impacted a big decision that doesn't just impact our schools, but like the whole state. You know, I immediately sent that to my principal, and I was like, we talked about this in the RPC meeting and the standard-setting panels

> with DPI, and look, look at what a difference. Now I don't know if our conversations caused that to happen, but it still made me feel like my voice was heard.

The State Superintendent of Education has publicly spoken on the need to revamp the NC School Report Card. Ultimately, we do not know why NC DPI elected to remove the readiness score from the report card, but teachers were given access to voice their concern that NC ELI data could be misused when it is presented on the report card, and this fear contributed to a feeling of distrust for teachers. High ranking individuals participated in these panels and the teachers' concerns were again reiterated to NC DPI in CEME's final technical report outlining the two-year standard setting study. What seemed to matter most to the teachers in the RPC was the opportunity to have direct access to weigh in on decisions during those standard-setting panels, not as a subordinate but as a fellow professional subject matter expert.

Diversifying Perspectives

Following expanded access, exposure to diverse perspectives was a fundamental theme in the RPC's process. This began with creating an equitable space for members to share their perspectives. Acting in the role of boundary spanner, I was sensitive to the power imbalances associated with educational hierarchies, years of experience, and scholarly authority. Feedback on monthly surveys indicated that teachers found the space safe to share their perspectives.

To establish this climate, each meeting included non-threatening response options to encourage equitable participation, for example, members could anonymously type on a discussion board if they were not comfortable interjecting during verbal conversations. Meghan describes how the Padlets facilitated equity in sharing perspectives:

> I think sometimes it's easier for people to write out what they're feeling, and depending on, you know, especially if someone does feel a little bit more uncomfortable. They could

> write it out instead of saying it, and then that might give them the confidence to say it. I just think it was a place for us to go back to, to kind of get our thought process back to where we were from the last meeting with a month in between. It was a good, I like the Padlet.

The discussion boards remained active in our shared drive, which allowed members to reflect and respond later with a more composed response after the meeting had ended. They could also provide feedback to another members' post, which they may not have felt comfortable doing during the meeting. Elizabeth describes the value of being able to clearly articulate her perspective, "I'm a continual processor, so we'll finish this meeting and I'll be in my car driving home and I'll still be thinking about this conversation. So having access to go back and add more, or revise, or those kinds of things, helps you feel like, 'yeah' (nodding her head in agreement). I took full advantage of it, and I feel like from your end, you took full advantage of the perspectives that were available."

The surveys encouraged feedback and suggestions on how to cultivate community and credibility. Rebecca shares how the RPC format created a space for diverse perspectives, "You know, we always had the opportunity to express our opinions and our views, even if sometimes they were different. I just feel like everything was just well received and thought of and taken in, even when it was, you know, not popular…I mean, just some of the ups and downs." Both Rebecca and Meghan's comments reveal that power inequities were present and that natural tensions are inherent when a diverse group of people share personal perspectives. This highlights the importance creating a culture that intentionally makes space for diverse perspectives.

Members seemed to value the opportunity to learn from one another' perspectives as much as they valued the opportunity to share their perspective. Rhonda states "When I replay our

conversations, our interactions, our times together, what's imprinted on me the most is what I heard, or the experiences, the suggestions, the comments, the input from other teachers." Meghan also appreciated the opportunity to learn from fellow teachers and notes how exposure to new perspectives is good for the profession:

> I've just learned a lot of new things and it's really good for teachers to share ideas and different points of views and perspectives on things. I just think it would be really good for every teacher to have to do something like that…whether it be NC ELI, or anything, just to kind of get those different points of views and perspective so that we can kind of all work together to cohesively make education better in general.

For teachers, sharing diverse perspectives transcended beyond just voicing their direct experiences with NC ELI. By sharing diverse perspectives, a community developed. Emily describes feeling part of a community, "I think a lot of times we get bogged down, like, you know, with everything that we're doing with our class inside our space, instead I feel like it went beyond that. Like, I'm part of an actual, like, community of people, you know, I think was nice."

This experience, allowed them, in turn, to be more receptive to the ideas and perspectives of others and to think on a larger scale about state policies. Rhonda stated "All of our voices were heard, and understood, and appreciated. So it made me feel comfortable to just open up into this experience and say, I can learn so much, and there is so much more I need to know and learn, and I was safe to do that in this space." Teachers appeared to become less defensive about what they thought they should have known and more curious.

Elizabeth notes that the perspective of the OEL was missing. She wanted more conversations with them and thought the RPC should have been a more balanced triangle between researcher, teacher, and the state agency responsible for NC ELI mandate, "because that

perspective is important. We need more conversations with them to hear their perspective to specific questions that practitioners have about this mandate." During face-to-face meetings with the OEL, the OEL consultants appeared cautious and assumed the role of objective observer. They provided space for teachers to voice their perspectives, but they rarely provided their own.

Developing Alliances

As members of the RPC gained expanded access and acquired different perspectives, productive relationships emerged. Members discussed shared values, recognized one another as having good intentions, and found value in collaboration. This initiated a shift for some of the teachers who entered the collaborative with a relatively low opinion of DPI as an agency and admitted to being skeptical of whether the RPC's recommendations would be valued.

Collaboration

As the RPC established a safe space to communicate, collaboration emerged through conversations and shared activities. During conversations about implementation challenges, some teachers expressed defensiveness towards the research to practice gap, and felt responsibility needed to be shared "It isn't always easy to translate research into instructional practices. Both researchers and practitioners need to acknowledge this and work together. Listen to each other. Both ways. Practitioners listening to and learning from researchers. Researchers listening to and learning from practitioners." Creating a forum with a willingness to look at what isn't working, fostered a sense of optimism about the potential impact they could have on their field. Kennedy states:

> I think this work is not only looking at how it's been effective and looking at the positive piece, but we're also looking at what, what's not working or what can be changed. And it's teacher voices. It is not just the higher ups. We have teachers that have actually put

> this into action and used it talking about our experiences. I think that's going to be weighted, you know, for other teachers, like when somebody has walked the walk, you know, you've been through this, you did it, I value your opinions, your stories or, the work that you did. So I think seeing what we put into it and knowing that it wasn't just something that was mandated and left alone. I think it's really going to be important for other people going forward.

As a result of the alliances forged within the collaborative, the members were able to identify potential alliances that could be forged back at their home schools. The team recognized that pre-K teachers and kindergarten teachers rarely collaborate in their building. Alice, the pre-K teacher posed the question, "How can we get kindergarten and preschool teachers to work together more frequently?" The RPC discovered this as an underleveraged collaboration that could be formed back in their school buildings, given that NC Pre-K teachers have expert knowledge of the 16 objectives on the NC ELI. A form of networking began to emerge as RPC members discovered the skills and abilities that individuals in different roles possessed.

Perhaps feeling confined by the virtual format, the group began discussing an in-person workshop to conduct some of the upcoming collaborative work. Most teachers acknowledged how much they enjoyed off-campus professional development opportunities and began to brainstorm an event. Ultimately, we were able to coordinate a hybrid campus event, where half of the team attended in-person and the remaining members, who were several hours away, could elect to attend virtually. During the session, we developed resources related to the NC ELI Teacher's Manual. This is how Rhonda reflected on the experience:

> I think every time we met, I left saying - oh, okay, I really felt like a contributor to the conversation and to the work that we were doing. But I think meeting together at UNC

> Charlotte and actually having that in-person experience and back and forth, and it wasn't like one person talking at a time, it was everybody kind of digging deep, diving in, and kind of hearing and understanding each other. Just being in each other's presence, having the writing on the board, to me, I felt most connected to it. And I felt like, oh, yeah. Oh yeah, this is what it's about.

Through these statements we uncover that *being spoken to* at professional development sessions is less meaningful to teachers than forums where they can question and engage in conversations. In reflection, the teachers noted the collaborative experience could have been strengthened by additional in-person sessions and thought it would have benefited if the project began with an in-person workshop to establish relationships with one another from the onset.

Creating a sense of community was an important part of collaboration. For teachers, their involvement in the RPC appeared to foster something that transcended beyond just voicing their direct concerns about the NC ELI. Emily describes feeling part of a community, “I think a lot of times we get bogged down, like, you know, with everything that we're doing with our class inside our space, instead I feel like it went beyond that. Like, I'm part of an actual, like, community of people, you know, I think was nice.”

Teachers reported the most significant collaborative moment was participating on the NC ELI Interpretation Panels, which was part of the larger research agenda CEME was contracted to conduct for the OEL. As discussed earlier, this gave teachers access to DPI staff, university professors, and teachers and administrators from across the state. Collaboration appeared to be most valued when it was connected to a shared task around a common goal that was perceived to have a significant impact, as evidenced in Meghan’s quote: “I think it made me feel like I'm something, I was a part of something outside of just my classroom and my kiddos, you know,

like feeling, hey, I'm part of this group of teachers and we're all working together across the state to accomplish the same goals."

Professionally Invested

The teachers' expressed a sense of pride in their involvement with the RPC and their contribution to a state-wide educational initiative. They believed their work would make a difference for teachers, and as their knowledge developed around NC ELI, they grew increasingly invested in the project. Meghan stated, "It feels like we are working towards a bigger picture of making it better, and that feels really good to be the little person here but be a part of a whole statewide thing. It just feels really good."

Collaborating with professionals from around the state heightened their sense of professional identity, as evidenced in this quote from Rhonda, "Seeing more people from around the state, and just getting a more professional feel, it almost makes you feel more professional in a sense, just because you are a part of something for the state." This appeared to trigger a deeper investment in the policy mandate. The teachers wanted to use NC ELI correctly, even if though they believed the data collected in the first 60 days was more valuable to understanding kindergarten readiness on a macro level than it was to their instructional decision making.

Kennedy, who was involved in piloting the kindergarten entry assessment for the OEL when it was first introduced, shares how her investment in this initiative makes her feel like an expert in her field: "I do feel empowered. I feel like every experience that I have, and this one especially just, you know, makes me more of an expert in my field, in kindergarten, and it's a good feeling to be able to say that and to be able to be treated as such." Kennedy and Rhonda help us understand how the hierarchy within public education positions teachers as subordinates,

and RPCs allow them to experience an elevated status by inviting them into a space where they can make a larger impact. This in turn makes them feel more invested professionally.

Good Intentions

Alliances were strengthened as members developed a sense that the researchers, teachers, and state agency were operating from a place of good intentions, with a shared goal. This belief in one another emerged organically through on-going conversations where members genuinely got to know each other and make judgements about one another based on individual merit, breaking away from existing hierarchies related to authority or academic status. In the current educational climate, teachers are often left to stand alone with the blame for failed educational outcomes. This teacher's statement conveys her need to be understood and her desire for a trusted alliance:

> We all have the same goal, let's do the work necessary to provide the most impactful instruction to our students. Whatever it takes. I believe most teachers strive for what we refer to as "best practices". Good intentions. And researchers want to improve what's happening in classrooms to make education more effective. Good intentions. Well, what does research say? I want my practice to align with research. If I know it, I'll do it. If you the researchers, know what works best, tell us! We'll do it!

The teacher recognizes that both practitioner and researcher have good intentions, but she is seeking genuine support through partnership. With this understanding, the RPC identifies that training and resources materials need to provide specific examples for *how* to implement NC ELI with fidelity.

Situated in an era of high stakes testing and accountability, there is an undercurrent of suspicion for teachers that that they are being judged in some way. This positionality makes them

naturally suspicious of state agencies intentions because they hold them responsible for that climate of accountability. Emily describes how the RPC facilitated a shift for her regarding the OEL's intentions:

> Like, it was a turning point for me when I realized what that data was used for. When it didn't feel necessarily punitive, like, oh, your kids aren't ready for kindergarten. And somehow, I felt bad. Like I hadn't done what I needed them to do. And I never really knew what happened to my data after I collected it. I did my 60 days, I turned it in, I got my green checks, everything was submitted, and then it was out there in the computer world somewhere. And I never knew what happened to it. But when I understood, okay, well they're wanting to see how the kids are coming in, like how they're coming to me and how that impacts like what I'm doing with them and what their needs are and what I need to catch them up and get them academically where they need to be to successfully move forward in school, then it made sense to me why we were doing it.

Emily was able to identify good intentions within the NC ELI mandate once misconceptions were clarified. This helped the RPC identify how messaging needed to be crafted for fellow educators around the state.

Deepening Knowledge

Teachers described acquiring knowledge that permeated deeper than learning about NC ELI implementation, "I feel more grounded, like my foundation is getting stronger in early childhood…". Rebecca, who had already earned National Teacher Board Certification and had long history contributing to KEA projects describes how the RPC process was a form of elevated professional development, "So I realized how much I really have learned through doing this and just how deeper being a part of this process has made it all for me and just more ingrained."

Through their exploratory work with full access to *GOLD*®, the teachers became aware of the instrument's full capacity, "I mean, a lot of people don't know the full extent of it. I mean, I didn't until it was all opened up to me. You really get into and look at it instead of looking at like something to check off your list." As teachers acquired new knowledge and skills, it shifted their opinion on the value and merit of NC ELI, "It did change my opinion about the instrument as it opened up areas that I didn't think to address, or look for, or notice in my students outside of what we normally do, and notice, and look for." As their knowledge developed, the teachers were able to identity recommendations for what information educators around the state need to strengthen their understanding of NC ELI.

Expanded Understanding

Within the RPC model, teachers also experienced connection to a larger purpose outside of the immediate demands of their classroom, "I feel like it gives you a deeper understanding, or a broader understanding I guess, of what we're doing. Like not just the 21 kids in my room, but the 21 in your room, and across the state. Like everybody's kind of like a state family, if that makes sense. Yeah. You know, like we're all kind of connected to one another and what we're doing trickles out to everybody else." As the RPC engaged in critical conversations around stakeholder needs, their ideas around the policy mandate also expanded:

> My understanding is growing on the reason for that, you know, and the RPC helped me with that, like, Oh - this is why this is important. It can help more people if I look at this data this way. Then it can help more people beyond just my school. And that, that was a huge light bulb moment for me when I thought about the ELI data and how we can use it in a way that that impacts other people positively.

Authentic Application

One of the challenges the RPC identified with NC ELI was related to authenticity, as such, they committed to exploring authentic implementation practices, which will be described in greater detail in the second research question. Because it was a focus of our work together, it appeared as a salient theme when attempting to understand how an RPC model can enhance usable knowledge. The strongest indicators that members were moving towards authentic implementation practices was a transformational shift in their conversations from discussions around how and when to collect evidence to how the progressions were informing their instructional practices. Emily describes how she supported a student with limited language development:

> I could actually see that he was making growth and making progress by following the progressions. He started out at a five, but, hey, look, we're up to a six. I could see that with the descriptions on the progression, I could see, hey, we're creeping up this color band, we're making some progress. So, yes, absolutely. And it gave me sort of things to look for or maybe target like, okay, this time I didn't see that, but maybe if I try this next time.

Through the support of the RPC, the members remained mindful of the resources available to them in the platform and reported using them to help students that needed additional supports outside of what their lesson plans could provide. Kennedy describes how she was able to support a student failing to show growth:

> She was low across the board academically and the progress monitoring and interventions that were in place were just not helping her to make growth. So I backed up and used

some of the activities that were suggested and available with her. And not only her, but some other students that were still low. And I was able to show growth that way.

While experimenting with the platform over seven months, the members were able to identify features that integrated naturally into their practice. They discovered resources and benefits that helped them formulate messaging and recommendations for authentic application.

Whole Child

Members experienced a renewed commitment to supporting the whole child. Amidst pressure on educators to demonstrate academic growth, members noted how the curriculum and state standards don't encourage educators to focus on children's social-emotional and language skill development. Rhonda explains, "I haven't thought a lot about the social-emotional. I mean, we a get a whole thing of lesson plans that we need to do and where should they be, and backwards planning, and this is where they should be by the end of the year. None of that is ever social-emotional." However, when teachers were asked to initially define what they look for in a child demonstrating readiness skills during those first few staggered entry days, they almost exclusively described non-academic developmental skills such as "able to listen and follow directions"; "eager attitude towards learning"; "can take care of basic needs (potty trained)"; "curious"; "socially and emotionally ready"; "excitement about learning and full of wonder."

After exploring all the objectives and dimensions in *GOLD's*® five developmental domains, the teachers reported it became an educational resource that deepened their understanding of child development, "As a result of using this tool, I have been able to now add supports that I didn't know, or didn't think I needed, in our core subjects that supported my student using his language, using his vocabulary in different areas… with partnerships, collaborations, and all of those things."

Discussions were often contextualized around the impact of the COVID pandemic closures on children's development, "And in an era where we're struggling, emotionally, relationship wise, you know, when you have a student who is not typically developing, we need to move into this (*GOLD*® progressions)… because that side of things is not addressed the way it needs to be." Each of the teachers were able to integrate the use of the progressions into their progress monitoring practice to support students who needed additional support in the classroom. A detailed description of how teachers used the measure to support their case study student will be further explained in an upcoming section.

Building Credibility

Collectively, the themes presented up until this point became preconditions for the establishment of credibility and trust. This was the most significant theme to emerge when conceptualizing the dynamics of the RPC model. Not only did it facilitate the process of creating usable knowledge for stakeholders, but credibility and trust became an outcome of their together. In other words, establishing credibility and trust resulted from the process of expanded access, the work of diversifying perspectives, developing alliances between agencies that didn't begin with a trusting relationship, and deepening knowledge around a policy that was plagued with misconceptions.

This process of developing credibility and trust began in our very first meeting where there was a palpable tension; a defensiveness related to how NC ELI was being used in practice and how authentic formative assessment was understood in the literature. This tension heightened around a conversation related to the reliability and validity of the instrument being used for its intended purpose. The group had to push past this initial tension to form an alliance. This required private emails and conversations with the boundary spanner to voice concerns

related to respect and credibility. Through this discourse, it was discovered that some members felt compelled to prove their credibility and worth to other members, and requested the group engage in teambuilding exercises to establish rapport. Given that we only met monthly, other members, who were more confident in their knowledge and worth, questioned if we had time for those activities, “There isn’t time to build relationships. We need to be able to roll up our sleeves and get to work without worrying about hurting each other’s feelings.”

As boundary spanner, I needed to maintain an objective, yet sensitive lens. As such, I observed that when less conversant members questioned practices, accomplished members of the group perceived that their work was being challenged. It was obvious the group still needed to establish a safe space for critical conversations. In response, we started the next meeting with a timed ice-breaker activity where each member was asked to share two things, 1) a highlight from their professional career, and 2) something they couldn’t live without. The ice-breaker was intended to build credibility and connection. The group learned a lot about each other professionally and personally, and because it was timed, we quickly transitioned to agenda items, ensuring that other members felt the meeting was still productive and efficient. That activity turned out to be a critical turning point for the group. Not only did it address the concerns of all members, it made us cognizant of the value of relationships even when we had limited time to accomplish our goals.

Conceptualizing credibility and trust as a process is captured in this teachers’ reflection:

> This is actually for the kids and we have to trust the intentions. Well, there's that word, right? Trust. We have to trust the intentions of everybody involved and see each other as credible. Not just like ethical <laugh>, but like credible, knowledgeable sources of information, and then credible in terms of how we're going to use information so that not

> just one group of kids are benefited, but a larger group of kids are benefited. So it becomes more questions that we need to ask. Without these collaboratives, do we really make progress, right? Because we can't build credibility or trust with each other if we don't have these relationships. But then also maybe the collaboratives are the doorway in to both the access to the information and the access to schools. So my principal is more willing to invite Dr. L to my school because of this.

We discover that credibility and trust is a necessary pre-condition for all the work we do as a collaborative. In its absence, we may have been able to produce materials, but it is unlikely those materials would be valued or used, and therefore they would have a very little, if any, impact on the teachers' implementation practices.

In addition to establishing credibility and trust amongst the immediate contributors in the RPC, this trust extended to our external contributors. The members who previously conflated DPI with policy makers were now able to humanize them and distinguish the OEL from elected legislators. One teacher reflects on this growing trust:

> That seemed to be a big message that emerged from our work together in the RPC, is that the more transparent we can be with each other, the easier it is to trust one another in terms of communication between these different levels of authority.

As the funding source for this study, the RPC members recognized the OEL as a partner in our work. While they did not directly contribute to our monthly meetings, and some members expressed a desire to hear their perspective more often, the OEL did provide members space and access to freely investigate the value *GOLD*® as resource. The teachers were able to investigate how the platform could support their work and they were given the freedom to use the resources

at their discretion. This conveyed a level of trust in the teachers that was then reciprocated back to the OEL.

Summary

Through the development of a credible and trusting relationships within the RPC framework, the teachers were able to identify their own concerns with NC ELI. Hearing those concerns echoed by other members of the RPC, who represent school districts across the state, enabled them to identify improvements for messaging, training, and resources that they anticipated would address the needs of teachers statewide. These concerns were validated by previous findings in the literature (Holcomb, et al., 2020; Holcomb & Holshouser, 2023; Little et al., 2020), which confirmed the teacher's belief that their recommendations would support the fidelity of implantation and productive integration of NC ELI.

Research Question Two:

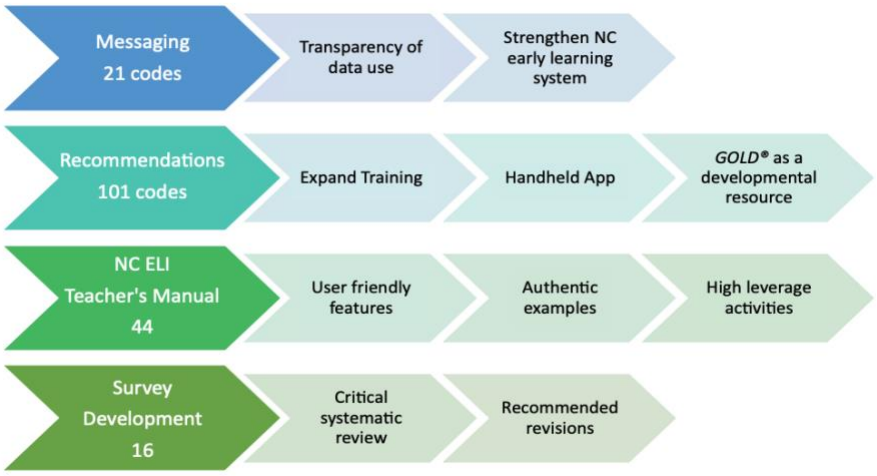
In what way did the RPC contribute to supporting the fidelity of implementation and productive integration of a state educational policy mandate?

In the first research question, I explained *how* the RPC facilitated the process of creating usable knowledge for stakeholders and discovered causal mechanisms within the collaborative model that led to credibility and trust. In research question two, I describe the RPC's tangible contributions to supporting the fidelity of implementation and productive integration of NC ELI.

This research question responds to recommendations in the literature indicating issues with training, messaging, and resources (Holcomb, et al., 2020). Within those broad categories, the RPC was given the freedom to determine what recommendations and resources they would provide. The following sections provide a descriptive account of their determinations. Figure 6 illustrates the descriptive coding structure used to inform my findings.

Figure 5

Coding Framework for RQ 2



Messaging

The members identified a credibility problem with the OEL's current messaging around NC ELI. They understood that NC ELI is intended to help teachers better understand children's skills and abilities to make immediate and ongoing adjustments to their instruction and learning, however, they were concerned the messaging was incomplete. The impetus for developing a state-wide kindergarten entry assessment was to understand kindergarten readiness on a macro level. Without this messaging, the RPC felt misconceptions developed for teachers who didn't understand "the why" behind requirements for recording ratings and uploading evidence to a platform by a specific checkpoint. Two themes emerged related to messaging: Transparency of data use and strengthening the early learning system.

Given that teachers are currently saturated with competing expectations for collecting data, the RPC felt it was important to promote the unique attributes of NC ELI. The RPC felt that messaging should emphasize how NC ELI contributes unique information to support the whole child, which aligns with most kindergarten teachers' pedagogy.

Transparency of Data Use

NC ELI data is aggregated at the school, district, and state level to provide a broad understanding of children's skills and abilities upon kindergarten entry. Transparency around how the data is used creates trust and credibility. Current messaging does not communicate that the data will populate into a state longitudinal data system. Members felt that teachers should know exactly how the data is used, "I think that's really important because there's a lot of questions that came up of like, well, where are they using this data? Who sees this? You know, that was a lot of the questions. I just think letting them know the why would be really important."

As noted in previous sections, teachers are very distrustful of submitting evidence if they suspect it is evaluative in nature. The teachers identified concerns they believe other teachers have with NC ELI data use, "How is my data being used? Who's looking at it? I'm skeptical about submitting data about my students to an outside source. Will they use it against me or my students?"

Many of the misconceptions related to uploading evidence can be situated in the pressure teachers feel with accountability. As a result, some teachers assumed if they must upload evidence to substantiate their ratings, it's being evaluated in some way. Rhonda reveals her thinking before becoming a member of the RPC, "I'm thinking about the first 60 days as the knowledge they had before and then the knowledge the grasped from us. So as teachers, we will automatically be a little defensive like, hey, do I need to prove the first 60 days of school that they have grown?" This example illustrates the distrust that exists with the current messaging.

The members also discussed if messaging only emphasizes the benefits of using formative assessment to inform teachers' instructional decision making, teachers may dismiss this process because they have other sources of data that are aligned with the scope and sequence

of required lesson plans. To address this common concern expressed by teachers in the literature and within this group, the members believed messaging would need to be connected to a larger purpose. They hypothesized that transparency on how NC ELI data informs our understanding of kindergarten readiness on a state level would stimulate greater buy-in, which in turn could improve implementation fidelity. The teachers suspect distrust over data use weakens NC ELI's credibility, which will negatively impact teachers using the measure with authenticity. Therefore, they recommend training and messaging that increases transparency around how the data is used and for what purpose.

Strengthening NC Early Learning System

The RPC offered an alternative message to generate greater buy-in from educators. First, emphasize to kindergarten teachers that NC ELI creates continuity between pre-K and kindergarten. Not only are educators using the same measure to assess child development in NC Pre-K, but the NC ELI data that kindergarten teachers collect provides North Carolina with an understanding of what skills and abilities children possess upon kindergarten entry. This informs stakeholders understanding of children's previous early learning experiences across the state and provides data for how to better prepare children for kindergarten. Without connecting the messaging to strengthening the early learning system, teachers felt like uploading data just didn't make sense:

> My biggest concern about using NC ELI: If I'm submitting data, it should be for me, to impact the instruction in my classroom. That's what I'm willing to spend time on. To have to submit data for someone else seems to be an inefficient use of my time.

However, if messaging emphasized that the evidence they were submitting contributed to strengthening the early learning system, as well as their own instructional decision making, this could shift teachers willingness to implement with fidelity.

This messaging allowed teachers to find greater credibility in NC ELI and disassociate the narrative that it was somehow evaluative of kindergarten teachers practice. It seemed important to address misconceptions that NC ELI is evaluating teacher's performance and recommended promoting the dual benefits of using NC ELI. Emily emphasized this point in a Padlet discussion:

> It is important that teachers understand this is a picture of what Kindergarteners look like when they come to school. What are they able to do? What are their struggles? It is also important that teachers understand this isn't a reflection on their teaching. Understanding WHAT the data we collect is used for would be super helpful to teachers.

Alice, a pre-K teacher, was surprised to discover the disconnect between pre-K and kindergarten. Having implemented *GOLD*® for years, she was unaware of kindergarten teachers' misconceptions and struggles with the measure. Alice discovers this disconnection between pre-K and kindergarten is relatively systemic after recently going through the Head Start Review process at her center:

> So they're asking all these questions about things, but then they asked about kindergarten readiness, and I was able to relay to them what I've been doing with you and UNC Charlotte. And they were just amazed to hear that we were making that connection. They were just really surprised because they didn't realize we had that much of connection with the public school, because in their eyes we're just a Head Start. They don't see how much we connect with the public schools and with kindergarten.

This example reveals how the pre-K system and public kindergarten classrooms are relatively independent of one another when they should be interconnected. Alice identifies the transition report feature in *GOLD*® as a promising way to connect the two systems and commits to engaging her team to completing the transition reports: “I'm gonna remind them that when they fill out the kindergarten transition reports that they really need to fill them out. Don't just check the boxes.” Alice added this recommendation in her final presentation to the OEL. Additionally, the kindergarten team recognizes that they rarely collaborate with the pre-k teachers in their building. They were surprised to discover those teachers were using *GOLD*® throughout the year. They identified pre-k teachers as a valuable resource for kindergarten teachers and felt that this relationship should be strengthened.

Recommendations

In addition to messaging, the RPC defined three additional recommendations to the OEL: 1) Target training to include administrators and all kindergarten educators, 2) make sure districts are providing technology support and internet access so teachers can collect evidence using the single sign-on app for hand held devices, and 3) encourage districts to provide access to the full *GOLD*® measure after the 60 day checkpoint as a resource to support progress monitoring.

Expand Training

Currently, training is mandated for beginning teachers and remains optional for returning kindergarten teachers. The RPC recommended mandating some form of refresher training for all kindergarten educators. Some felt this could be accomplished in an hour with a refresher course, while others promoted training that was collaborative, interactive, and delivered by someone experienced and relatable. All teachers agreed that the training should be personalized depending on the experience of the teacher. In the Padlet, one teacher wrote:

> Training that IS NOT scripted, but instead responsive to the audience-their knowledge, their experience, their belief systems. Start a session collecting participant's belief system about formative assessment, student observation, work analysis, etc. Then connect NC ELI with those belief systems-showing how it fits with what they already believe and do. For an audience that requires more professional learning about formative assessment and work analysis, content is prepared for delivery. This values teachers' voices and experiences, but also requires presenters to have a deep understanding of the purpose of ELI.

Teachers also encouraged a collaborative format, “collaborative sessions where teachers can get together and share ideas for when/how they collect evidence for the progressions and discussions on how to rate evidence (give examples and have teachers talk about what score they would give it and why).” These suggestions drive home the importance of teachers understanding the ‘why’ behind formative assessment, shifting away from compliance to authentic practice.

Conversations around training noted that beginning teachers (BT) are inundated with training in the first few weeks of orientation, on top of feeling overwhelmed setting up their classroom and preparing to welcome students on the first day of school. If BTs return from NC ELI training and their mentor teacher and the seasoned teachers in their PLC don’t have a strong understanding of NC ELI, or don’t place value in it, this diminishes their training and compromises the message the BT received. Training needs to be carefully timed given the demands of those first few weeks, “Recognize that there is already a lot of training happening at the BOY.”

The RPC also noted that if NC ELI is important to administration, it becomes important to the staff. If administrators look at the data and incorporate it into discussions around student growth, it will become more credible, “Credibility comes from a message within our own school community. When we see the value of something and when someone from the school itself says, "Hey this is what we're going to do, here's why we're going to do it, and here's how we'll do it," we get more buy-in.”

Administrators have the capability to ensure teachers have adequate technology support, they can correct misconceptions regarding NC ELIs purpose, and they can encourage authentic formative assessment as best practice. All of the RPC members reported that their principal was unaware of what the NC ELI was or how the data was used by the state, “The admin didn't really have that general understanding of what it even really was.” This lack of awareness communicated a lack of importance to the kindergarten teachers, “As different kind of administrators came in and didn't know as much about it, it was like, we have to get this done, check it off, do it, hurry up, finish it, do what you gotta do to finish it.” This highlights the need to target administrator for training.

Rebecca recalls that during the initial KEA roll out, training started with administration, “So to start, we knew that principal buy-in was going to be very important. So we first met with the principals because what we did was, although it was an assessment, it was whole child based, so we really took that as like our jumping off point that, you know, we have got to meet the needs of the whole child.” It is not uncommon, after an initial policy roll out, that school fails to establish a protocol for onboarding new staff, including administrators, which over the years resulted in significant gaps in knowledge of NC ELI.

Handheld App

Teachers in rural counties identified that WIFI access in buildings posed a barrier for using personal devices to capture video and photo evidence. The app facilitates uploading evidence to the platform easily and efficiently, increasing authentic implementation practices. Teachers were able to download the app onto their personal devices but if their data plan could not get an internet signal in the building, they were typically blocked from joining the schools' WIFI. At the same time, they had to have authorization from someone in their district to download the app onto school owned devices. The team recommended that districts ensure all kindergarten teachers have access to the app through handheld devices:

> Making sure that people know about the app and have access to the app. Because in my opinion, the only way that in kindergarten that you're really going to get quality evidence, high quality, is through the app. I am not gonna take a picture on my phone and then upload it to my computer. I mean, you know, that's just too time consuming.

What seems like an insignificant barrier becomes a significant deterrent for teachers uploading artifacts and evidence.

GOLD® as a Developmental Resource

As part of the RPCs exploratory work, which they conducted between monthly meetings, teachers were asked to investigate different platform features. They were given the discretion to determine which features and objectives best supported their instructional practice with their case study student. While these features are available to all users within the platform, teachers were not familiar with the full capacity of platform features. Alice, a seasoned *GOLD®* user served as a valuable resource for the group. The OEL provided access to all 60 dimensions, which can be

done at the discretion of each school district, although most districts limit access to the 16 progression in the NC ELI..

The teachers found tremendous value in the developmental progressions for progress monitoring and as an educational resource for understanding growth and development in each of the five domains of learning. They reported the dimensions gave them the language to discuss their students with greater confidence and the ability to identify next steps in their development, "I really felt like I had the language and the tools and the knowledge to talk about incremental improvements in progress, but in a way so different than just the mClass data."

The RPC believes the OEL should promote the value of this resource to districts. DPI pays for access to all TS *GOLD*® features for the entire academic year, yet districts discontinue its use in November after the mandatory check point closes. The OEL reports that only one school district is using an expanded version of *GOLD*® beyond the 60-day requirement, the rest of the districts in the state only access the 16 dimensions that are mandated, and they only do so for the required 60 days out of a possible 180 days.

The teachers in the RPC utilized the progressions beyond the 60-day checkpoint to support their case study student. As discussed previously, *GOLD*® is the only resource that supports the whole child. It was interesting to note, that all the teachers in the RPC selected social-emotional, cognitive, and/or language domains for their case study student. Table 3 outlines the different objectives the teachers selected for their case study students and how they utilized the measure as part of their instructional practice.

Table 3

Teachers' Case Study Student Profile

Teacher	Case Study Profile	Selected Domain	Perceived Benefit
Kennedy	Student with a family history of learning disabilities	Social-Emotional, Language, Cognitive, Literacy & Mathematics	• EOY retention meeting: Able to demonstrate evidence for promotion. • Strengthened parent-teacher relationship.
Meghan	Student with autism who had never attended pre-school	Social-Emotional, Language, & Cognitive	• Used all 60 dimensions as an inventory to understand students' skills and abilities to determine where to target support. • Progress monitored Obj. 11: Demonstrated full year of growth.
Emily	Student exhibiting unusual communication patterns & fine motor delays	Language & Physical	• Increased communication skills (8a, 10a, 10b) • Reached grade level expectations for handwriting development (7a, 7b)
Rhonda	Student with communication & engagement concerns	Social-Emotional, Language, & Cognitive	• Dedicated focus in the developmental domains strengthened instructional practices in the academic domains (supported MTSS) • Student progressed from one-word sentences to turn taking in conversations.
Rebecca	Parent requested testing	Social-Emotional, Language, & Cognitive	• Able to articulate student strengths in IEP meeting. • Demonstrated evidence to substantiate typical growth. • Established credibility with challenging family
Elizabeth	Coaching BTs & Curriculum Development	Language, Cognitive & Literacy	• Progressions were a valuable tool for conversations around student work

The RPC found value in access to all the dimensions in *GOLD*® and supported districts promoting the use of *GOLD*® as developmental resource for teachers, "It just opens your eyes so much more as a teacher and you get so much more meaningful data from it." The members found value in using this tool prescriptively and flexibly to personalize learning and support the unique needs of students. As evidenced in Table 3, the teachers utilized the evidence generated from progress monitoring to not only support personalized learning, but as a form of evidence to support their recommendations during critical decision making.

Rebecca describes how she knew the progressions were valuable to her, "Now that I have the 60, I don't want them to go away. I mean, I want to keep them, and that reaction tells me that they're useful." However, the members were very clear that they do not support mandating the use of the progressions. They also cautioned the timing of when teachers are given access to the additional dimensions. They concluded this should occur after the 60-day NC ELI checkpoint, so teachers do not feel overwhelmed.

NC ELI Teachers' Manual

Much of RPCs collaborative work focused on the development of the NC ELI Teacher's Manual. The team identified the manual as the most significant contribution they could make to improving implementation practices in the classroom. That identified specific design elements that they believed would enhance implementation, "And so having the pictures and the examples, I think will be such a benefit. I think it will make it so much easier and less daunting when you're going to do it (NC ELI). If you're like, oh, okay, well this is the way I can get this piece of data and this is what it should look like. I think the visuals are going be a very, very helpful."

Members also believe the manual would improve authentic implementation practices, “So I think that's one way, just having the manual right there with real life experiences. And it'll certainly look like their classroom. It won't be the same students, but it'll be some of the same situations and they'll know. They’ll understand, hey, this is not an assessment that I have to give. This is something that I can use to document my students' growth and experiences.”

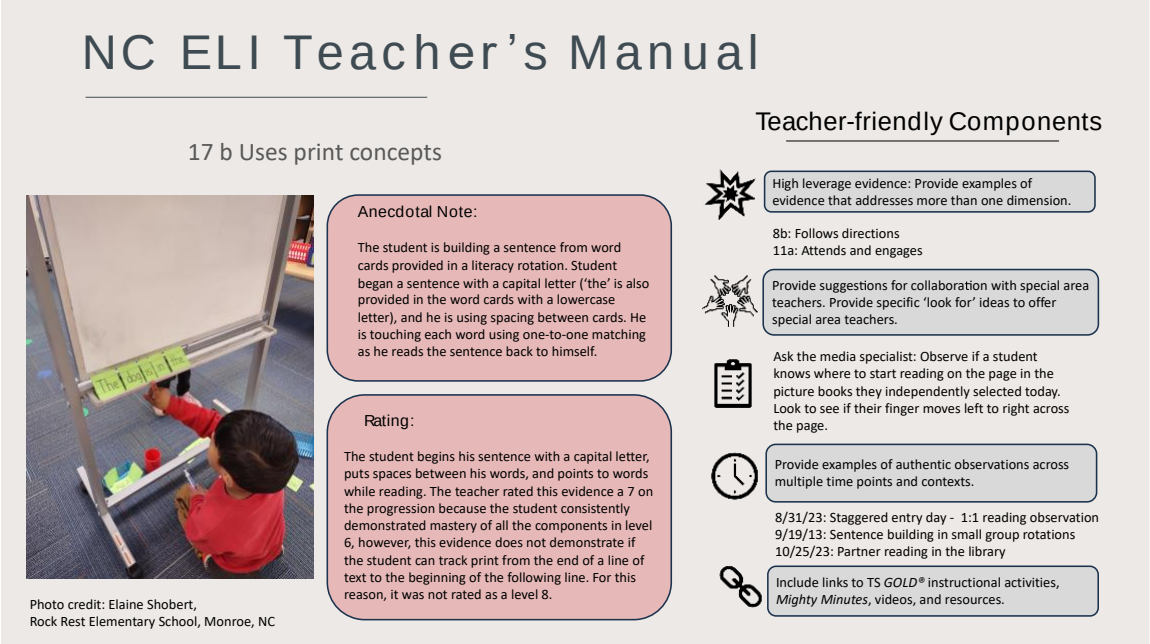
The collaborative worked to develop an outline for the manual with the following recommendations:

- Introduction to six stages of authentic formative assessment (links to training videos)
- Photographs and explanation of high-quality evidence
- Photographs of evidence that captures authentic formative assessment
- Sample rating for each dimension with a detailed explanation of how the evidence in the example substantiates the assigned rating
- Examples of high-leverage evidence that addresses more than one dimension
- Suggestions for collaborating with special area teams
- Recommendations for collecting evidence across the instructional day
- Links to instructional activities, videos, and resources
- Colorful icons that repeat for each dimension to make the manual user friendly

Figure 6 highlights the features the RPC recommended when designing the manual, which they imagined as a two-page spread for each NC ELI objective.

Figure 6

Recommendations for the NC ELI Teacher's Manual



Survey Development

RPC members contributed to the development of a state-wide NC ELI implementation survey designed to understand kindergarten teachers' knowledge, training, and proficiency with the NC ELI. The RPC members played a valuable role in enhancing the quality of an initial survey draft developed by CEME's graduate research assistants. During survey development, RPC members helped the research team identify appropriate response options that reflected the experiences of teachers in the classroom. The teachers also assisted in wording response options to minimize the likelihood respondents would feel pressured to select a socially desirable answer.

In the second stage of survey development, the RPC members conducted a critical systematic review. This process required each teacher to pilot the survey with a kindergarten colleague in their school setting. During this process, they asked the participants to "think out loud" while they recorded their responses. These observations were used to make final revisions

to the survey. The teachers were able to identify the need for skip logic features that would change the question a respondent sees based on their previous answer. This feedback derived from teachers who had not received training but were forced to answer questions on the quality of training they received. This also applied to questions related to use of the app, but the teachers had not downloaded the app. The RPC members recognized how design features could compromise the quality of the data we were collecting. They also provided recommendations to shorten the length by eliminating questions that felt redundant.

The teachers felt the survey development was an interesting part of our work together and acknowledged they didn't realize how much thought went into survey design. Some teachers expressed disappointment that the collaborative would end before the survey was distributed statewide, and they wouldn't be a part of looking at the data. One teacher felt so invested in the materials we had developed together, she stated:

> I wouldn't mind continuing this, the meetings, just so I can see the results of the survey or to see how the manual is, you know, helpful or introduced to other teachers. I would love to see some of that going forward, even if it means just us meeting just to talk about those things or hear about those things, without the compensation or anything like that. Just so we'll know…Hey, this is what we worked on, this was our goal, and this is where we are now or where the project is now."

Summary

This section outlined the specific contributions of the RPC in supporting the fidelity of implementation and productive integration of the NC ELI. By collaboratively creating a safe space for teachers to explore their own misconceptions and challenges with NC ELI, they identified the most pressing problems of practice. They used this knowledge to inform the

quality and specificity of recommendations and products provided to the OEL. During a formal presentation of findings, the RPC members presented specific recommendations to increase data transparency, emphasize how NC ELI data connects to the broader early learning system in NC, and expand training to include seasoned educators and administrative leaders. As a result of the teachers' exploratory work conducted with their case study student, they were able to demonstrate to the OEL how the NC EL/*GOLD*® measure supported their formative assessment and progress monitoring practices beyond the 60-day checkpoint. During this final presentation, teachers were able to disseminate the knowledge created in the RPC and transfer their work on the NC ELI Teacher Manual, as well as the NC ELI Teacher Implementation Survey to the state agency.

Research Question Three:

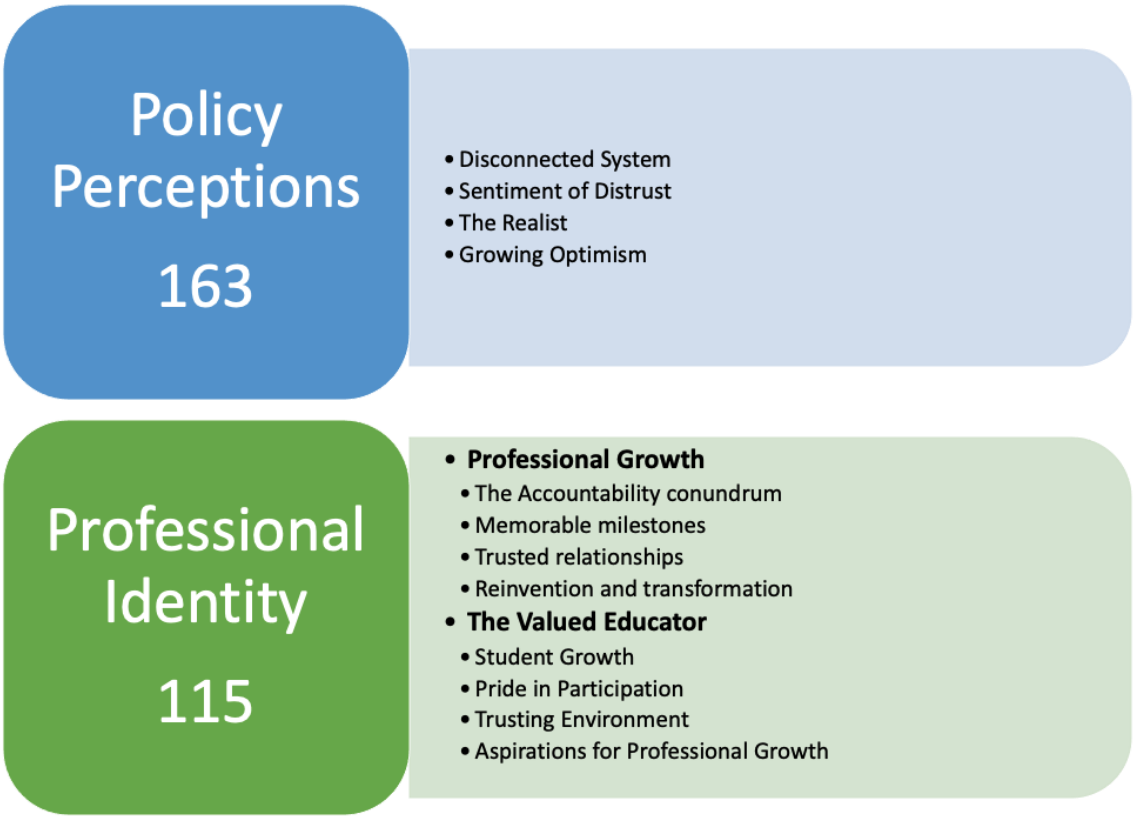
How does the confluence of teachers' professional identity and their understanding of policy unfold in the context of research-practice collaborative?

This section explores how teachers' participation in an RPC impacts their professional identity as it intersects with their understanding of the mandated policy initiative. The findings are situated in the inherent power imbalance that exists for teachers working within the confines of a policy mandate.

Question three was primarily investigated through pre and post semi-structured interviews, however all data sources contributed to the development of themes during axial coding and pattern matching. The analysis yielded 278 unique codes that were organized into two categories: Policy Perceptions and Professional Identity. Within Policy Perceptions, analysis revealed four themes. Under professional identity, two themes emerged with four subthemes. The coding framework for RQ 3 is illustrated in Figure 7.

Figure 7

Coding Framework for RQ 3



Policy Perceptions

To understand the potential benefits of an RPC model on teacher's professional identify as it conflates with their understanding of educational policy, I first needed to uncover teachers' perceptions of the state educational agency before joining the RPC. This allowed me to better recognize changes in the teachers' belief system because of their involvement in the RPC. Four themes emerged that conceptualized the teachers' previous policy perceptions.

Disconnected System

Pre-interviews revealed teachers perceived a sense of disconnect between their work in the classroom and the priorities of DPI at the state level. They reported that state administrators were out of touch with the daily demands they faced in the classroom, "It's hard because, as a

teacher, I feel like a lot of people that make these policies have not walked the walk that we've walked. If they were in our shoes, it's been a long time."

This sentiment of disconnect was echoed by another teacher who felt the needs of teachers were misunderstood, "They need to spend more time in classrooms so they can really see what goes on in the school and what our needs are, and where our concerns are, where our heart is, and where things need to be settled. You know, where money needs to go." These statements convey that teachers don't feel the state agencies priorities are in alignment with their own and they are out of touch with the needs of teachers.

Some teachers felt misunderstood by the state agency. For one teacher, this disconnect created a sense of feeling almost invisible. She reported that she felt unsupported by the state agency, "I kind of feel like we're seen but not heard. They're not hearing us when we say - hey, we're struggling with this, or we need your help to adapt this to make it more successful." This perceived lack of support contributed to this teacher feeling like they were not on the same team.

Teachers also questioned the motives behind educational policy and felt that they were heavily influenced by test scores and accountability "I think the policies are supporting the work in order to increase test scores. So I feel like they took a close look at third grade and what was missing, or maybe fourth grade, and their trying to fatten us up in kindergarten and in first grade." This reveals that she perceives test scores and accountability are the main priority for the state agency. The teachers perceived that policies affecting them are driven by producing stronger test scores in subsequent grades, which compromises what is developmentally appropriate for kindergarten. Disconnect seemed to provide fertile ground for distrust, as evidenced in this teacher's statement, "I'd say a lot of what comes down I don't feel like is really

in line with my beliefs and, um, just child development knowledge. So do I have a lot of trust in policy? I don't."

The teachers also expressed frustration with the regulations that derive from policies. The concern that educational regulations focus on the wrong priorities turned into frustration for one teacher as she describes what it's like to go through the accreditation process for her pre-k classroom:

> I mean, it's very frustrating to have a classroom all set up, everything ready and they pull three markers out of a bin, and that bin could have 45 markers in it, and if one doesn't work, they can say you have inadequate supplies. There's something else you should focus this attention on, the fact that one glue stick was dried out versus children that need more support for their IEPs, or we need a one-on-one in the room. You know let's look at the learning in the room versus a few supplies that may or may not be there.

As a result of repeated frustrations, some teachers elected to remain focused on their circle of influence to avoid feeling frustrated for what they did not have control over, "Education has a lot of policy and a lot of things that you have to follow. You teach the standards and do this, and there is a lot to take hold of. I just feel like with me, I just decided to take it day by day. I'm going to reach these kids the best way that I can and just do what I can while I'm here."

One seasoned teacher describes how she has resolved herself to the frustrations after 27 years of teaching, "I just stay within my circle. I mean, you know why let it frustrate me when it's got to happen. There have been things that have frustrated me through the years, so I just tend to not get caught up in things that could be frustrating because it's a waste of my energy." This attitude demonstrates her coping mechanism given her lack of control over educational policy.

At times, the same teacher expressed moments of indignation for what she perceived as politically motivated decisions. She referenced money invested in programs that lasted “a hot second” and attributed these changes to lobbyists:

> I just feel like it's politically motivated. It's whoever's got more of the lobbyist. And look, another thing I haven't told you, I'm a scorer for the edTPA, okay, so I benefit from Pearson, but it all comes down to Pearson in the end. I mean, like, they're making all the money. I sound like I'm being a conspiracy theorist, but it is.

While teachers noted frustration over changing agendas, the seasoned teacher refused to put her energy into the politics, “I just can’t give the mental energy to things like vouchers versus no vouchers. I know that’s going to take away from public education, but I can’t give it the mental energy”. Her willingness to work for Pearson despite her opinion of them, and her disassociation from the ‘politics’ in education demonstrates how she reconciles with her disappointment and lack of control. Her disconnection is the strategy she uses to remain a resilient educator after 27 years in the system.

Teachers’ perceptions of the state agency seemed to be associated with the educator’s previous affiliations with DPI and the OEL. As teachers’ interactions with DPI increased, their attitude shifted, and they were more likely to believe OEL was operating from a place of good intentions. Three of the educators on the RPC stated their motivation to participate in the RPC was because of previous positive experiences on projects with the OEL. They recognized OEL staff as good people who valued their contributions. Kennedy shares, “I enjoyed the previous projects and getting to hear from teachers and professionals throughout the state. I miss that. I miss being able to come together and to learn from each other and do different things.” This finding is congruent with the finding is RQ 1, which suggests that collaborative models serve as

a vehicle for building relationships between practitioners in the field and those working at the state level.

Sentiment of Distrust

The next finding to emerge when exploring teacher previous policy perceptions was a sentiment of distrust. Teachers who reported a disconnect with DPI attributed it to an overall sense of distrust. When asked about their perceptions of the state agency, one teacher responded, "I don't, I really don't trust it. I do locally, I do with my local board of education for the most part, but state-wise, I don't." One teacher noted a change in the culture at DPI over the years and attributed that to the previous state superintendent, "A lot of really good people have left DPI as a result." She reflects on her initial pilot of KEA and notes how the direction of the work changed with a change in administration. She recalls the OEL's disappointment when the new administration decided to put the kindergarten readiness indicator on the report card:

> It was very much always said that it was never going to be evaluative of a teacher or a school. And that was something that the Office of Early Learning was very proud of and adamant about in the beginning. And then when there was a change in the state superintendent, that is when I think it became that it was going be put on the school report card. And they were all very upset about that, just because that went against what they had kind of said.

For this teacher, her previous association with the OEL allowed her to see that they were at the same mercy of policy makers as teachers were. This allowed her to trust them more and not feel as disconnected as some of the other educators on the panel. Rebecca and Kennedy, who had previously piloted the KEA, had direct and frequent contact with regional consultants from the OEL during that time. They met for meetings at restaurants and traveled across the state for

presentations and conferences. As a result, they came into the RPC with a more positive attitude of the OEL, “The Office of Early Learning is kind of near and dear to my heart because I have worked with them. They are just trying to the best they can with what they have to do. I still think that they're in it for the children and really have, you know, their best interests at heart” This direct contact with OEL staff allowed them to build a trusting relationship.

Teachers on the RPC, who didn’t have a previous relationship with the OEL, noticed they weren’t really hearing the perspective of the state agency as often as they would like. Instead of direct access in monthly RPC meetings, the CEME team acted as a go between to express the needs the OEL, and this was a notable weakness of the collaborative for some teachers:

> Practitioners don't get a lot of interactions with policymakers or with DPI. So they listened a lot when they were part of the Standard Setting panels, but we didn't necessarily hear their perspective. So that might be something to consider because their perspective's very different from a practitioner's perspective. And so that is a key part of that cycle.

For this teacher, it was a missed opportunity to build a more trusting relationship. By hearing information second hand, it positioned them as a subordinate within the group.

Teachers without a prior relationship to the OEL brought a disposition situated in the culture of accountability. In this positionality, teachers reported feeling defensive because they are constantly being measured and evaluated. Teachers expressed concern and distrust related to submitting evidence for NC ELI, “It’s very tricky when we get into like uploading the evidence, which to, to me as a teacher, it seems like, prove it. Like, I want to see what you, how you came up with this determination a little bit. It can make you feel like, do you trust me as a teacher, as a kindergarten teacher?”

One teacher explains how she views the relationship between teachers and policy makers as a circle of distrust:

> If this is misleading, then maybe the intention of a formative assessment tool and the progressions offered aren't really what you say they are. If that's the case, then you won't ever honestly change the mindset of educators. They'll continue to distrust DPI and simply be compliant, while DPI will continue to distrust whether educators are capable and knowledgeable. The cycle continues and more expensive and useless legislation gets passed. The more that happens, the less credible these mandates become. Teachers continue to think, "They have no idea what it's actually like to be in a classroom" and policy makers continue to think, "These teachers aren't doing a good job, so we'll pass a law to make them better." I believe we can break that cycle.

In this statement, the teacher wants to hold the state agency accountable for being credible, yet she maintains optimism that the RPC can improve relationships between the state agency and educators in the classroom. She declares "I wouldn't have joined the RPC if I didn't believe that to be true", but her comment also reveals the fragility of her trust.

The Realist

While teachers expressed frustration, findings indicate that they temper it with an understanding for the need to have educational policies. Meghan, who recently entered a master's program in school administration now sees management from a different lens, "I understand more why things have to be mandated because if they're not, they're not going to do it." The teachers began their work in the RPC with some empathy for the challenges faced by educators at the state level, "Adulting adults is not easy, and sometimes it can be seen as a micromanaging piece, but you know we all have to have a baseline and start somewhere."

Despite frustrations and distrust for having to work in a climate of accountability, teachers acknowledged that state assessments can support student growth. Elizabeth shares "I think the merits are that any teacher sees value in getting to know their students and where they start so that they have a place from which they can measure growth." Teachers also believed policies create consistency. Emily states, "We need policies so expectations can be consistent across the districts. I know in our area kids move around a lot within our six elementary schools during their K-5 years." They also believed that the mandates come from a place of wanting to make education better. One teacher referenced the recent training requirements related to the science of reading:

> So I think that state mandates can support professional knowledge growth for teachers and opportunities in schools that don't already prioritize that…teachers deserve the opportunity to keep learning. I also think that state mandates are intended to make education a better-quality experience and consistently high quality. I think it's important that in a school, every kid in that building has the same access to the same quality of education. We want to make sure that all the teachers are equipped to do a good job.

As noted in RQ 1, the RPC model increased teachers access to the needs of different stakeholders, which allowed them to wrestle with some of the same challenges faced by the OEL. In doing so, they became more empathetic to the challenges of managing educational quality at a state level.

Growing Optimism

As a result of the mechanisms operating within the RPC framework, which were explicated in the first research question (increased access, diversified perspectives, forged alliances, deepening knowledge, and established trust and credibility), the teachers reported a

significant shift in their perceptions of the state agency and educational policy. For Rhonda, exposure to the research process created an awareness that helped her see the measure and NC ELI data as more credible:

> So to know that so much work is put into this. So much work is put into the Early Learning Inventory, beginning of year assessments for kindergarten, Teaching Strategies *GOLD*®. I was just surprised by it because it was honestly something that was 'just get it done and get it over with' at every school. To know that it means so much, it was surprising to me. Seriously. Honestly.

This quote highlights a shift in thinking for Rhonda. As she begins to find credibility in the measure because of her involvement in the RPC, she moves from a position of compliance to a willingness to contemplate how or if the measure can contribute to her practice.

As noted earlier, teachers began to recognize good intentions behind staff at the OEL and the policies they were charged with implementing. They began to identify state employees as fellow educators who were trying to find the best way to comply with legislative mandates. They expressed appreciation that the OEL funded a project like the RPC that valued their voice and allowed them to contribute on a state level, increasing their faith in the agency. This is reflected in a quote from a final meeting with the OEL:

> I think it's such a win-win when we put researchers and practitioners and these agencies together. And to be honest, if this is the approach that North Carolina starts taking to making education stronger in this state, I truly believe more teachers will want to teach here. I truly believe that because our voices are valued and we're seen as the same team.

Teachers who had previously conflated the OEL with elected officials and state policy makers, were now able to identify the OEL as fellow educators. This seemed like an important

shift because some of the teachers had significant distrust for administrative figures. Evidence of this shifting perspective can be found in the following quotes. The first was recorded during a pre-interview while a teacher was discussing trust:

> Pre-interview:
>
> So if I'm with people in a public school or people that work in a public school, and I'm with like practitioners, I feel very much more safe. If there's somebody that maybe used to be a practitioner that now is doing things like policy or higher ed, or a supervisor role where they're at the district office then I'm like, wait - they're really listening for a 'gotcha'. They're listening for more mandates that they're going to have to create to "fix" the teachers who don't know better.

Initially the teacher reveals genuine skepticism towards educational administrators. She acknowledges that she doesn't feel trusted by them, and her comment suggests she perceives administrators view teachers as inferior. However, through the RPC process she begins to soften her position. During a final meeting, after the RPC presented their findings to the OEL, the same teacher shares her new perceptions:

> To the office of early learning, in terms of what we learned about you through this opportunity to do a research-practice collaborative, is that it brought faces and names of people who care about the same things that we care about to the conversation. And that has changed things for me. Like I get a lot of emails (laugh) and so I would see an email coming… Right? You do, too, I'm sure! And I'd see them and I'd scan it and then move on, right? Because it was separate, DPI is separate from what we're doing, and it felt like that. But through this collaborative, I realized we're not separate. So now I get an email and I read it and I click the links and I realize how many resources you have for the

> teachers there, and I am bringing them to my team and I'm saying 'this came from DPI, this is really good.' You know that was never part of our conversations before, so because of this research to practice collaborative, it does change our perspective about people who really are on our team, and I hope that that is reciprocal, and it keeps going on beyond talking about ELI. There's so much more that you have to offer, that we can learn from you, and that then you can learn from us, and that's a win-win for everybody.

This teacher has become more trusting of the OEL because she has grown to believe they have good intentions. The RPC has allowed her to position herself as a valued contributor. She loosens the reigns on her believe that authority is looking for a "gotcha" and becomes open to the idea that the OEL wants to support her work by providing good resources, which she has now become more receptive to receiving. Instead of dismissing their contributions out of contempt, she is more willing to look for the good in them.

Lastly, teachers gained new insights into how policy regulations work. For example, the teachers in the RPC became aware that after all our time together working to improve implementation, the contract with Teaching Strategies *GOLD*® would soon be revisited. The members learned that state law necessitates time limits on contracts with educational partners, requiring a DPI to issue a request for proposal that solicits bids from qualified competitors. This is intended to prevent a monopoly and allows the agency to revisit the effectiveness of the partnership. Lengthy market analysis research is conducted, outcomes are assessed, and practitioner feedback and implementation practices are evaluated. This information helped teachers understand the why behind decisions made at the state level and provided background knowledge to dismantle the culture of *othering*. Transparency contributed to greater

understanding and trust. Had they received news of a new provider without this information, they may have returned to a place of distrust and frustration.

Professional Identity

To understand how teachers conceptualized their professional identity before entering the RPC, pre-interviews investigated the development of teachers' professional growth up until this point, including an exploration of when they felt most valued and diminished as a professional educator.

Professional Growth

Previously, we discussed what motivated the RPC members to enter the teaching profession, with all of them reporting a "calling" to the field, some as early as childhood, while others discovered their propensity for teaching while studying education at the university level. Next, I explored how the teachers conceptualized their development as an educator throughout their career. This revealed four key findings: a) Teachers largely conflated their growth as an educator with the success of their students, b) teachers marked their growth by memorable accomplishments, c) growth occurred during periods of reinvention and transformation, and d) teachers experienced growth in trusted relationships.

The Accountability Conundrum

Student growth, situated in an era of academic accountability, had both a positive and negative impact on teachers' perceptions of their professional growth. Most teachers reported feeling accomplished as an educator when they were recognized for student growth. This recognition earns them leadership roles within their school, visitors are brought to their classroom to observe their practices, and they serve as a model for colleagues. One teacher describes how it feels to be recognized in front of her peers:

> In a staff meeting, she said that she wanted to share out about a nice observation. She didn't say any names, but I just knew it was my observation that she was talking about, and that the kids were very engaged and there was just a lot of learning going on. It was just kindergarten, but it was nice to be valued and really kind of called out for just trying really hard to get these kids to do everything that they can do. Everybody likes to have a pat on the shoulder <laugh> and hear about it.

Some teachers described more of a symbiotic relationship between their confidence as an educator and student growth. In the statement below, Rhonda recognizes that as her confidence grows as an educator, student growth increases, as student growth increases, the teacher gains more confidence:

> I've never grown learners and critical thinkers more so than I have this year. And it's amazing to see how much they wonder and notice and ask so many open-ended questions and want to know so much more. And I think that comes from me being more comfortable and more confident in trying to find ways to make them learners. Just not getting to the answer, but how and why. So, I think to me, it's been a great year to see the growth in my kindergartners.

The double-edged sword of teachers' conflating their growth as an educator with their students' success is the obvious risk that when test scores don't reflect their effort, teachers' feel devalued and defeated. One teacher reflects on a time in her career when she felt the most diminished as an educator:

> It was very frustrating. A lot of people didn't meet growth. Some administrators haven't been (teaching) in the classroom in a really long time and, you know, they just see the

> numbers of not meeting growth and they're mad, not mad, but you know what I mean, they're just disappointed.

This theme arose often when teachers were asked to describe moments in their career when their professional identity felt diminished. Several teachers reported lackluster student growth as a low point in their career. This made the teachers question their efficacy and worth. One teacher describes how this experience made her consider leaving the profession early in her career:

> And it was, it was scary for me. I even, I mean, for my fourth- or fifth-year teaching, I thought about leaving, because I felt like I wasn't valued. I felt like I had put all these hours in and I just, I love these kids with everything, and I just wasn't receiving anything. And not that I expect to receive anything, but it just seemed like it was just an undervalued job. And I was just like, why am I doing this?

As noted in previous sections, accountability in terms of student growth can create an environment where teachers feel defensive. One teacher describes how the evaluative climate feels to her, “Our work is very personal so whenever we feel like we’re threatened or we're going to be critiqued or judged, then we will be very quick to be defensive as well, because our work is so personal.”

I discovered that the metrics that validate a teachers’ practice and elevate their sense of professional identity are also the same metrics that make a teacher feel defensive and devalued. Kennedy describes how she reconciled with that conundrum, “I realized that the gain needed to be based on where they started, not necessarily where someone says they should be at the end of kindergarten.” By focusing on growth, she can recognize her efforts even when metrics on the Education Value-Added Assessment System say otherwise.

Similar to Kennedy, Emily also places greater value on her individual journey with students because she knows what they've been through together:

> When you see them struggle, and you struggle with them, and you're trying to figure out what that breakthrough point is, and then they make it, you know? You kind of have this aha moment and you see all that you put into it all year long, all kind of come together for them and see, hey, they got it. They made it. Like, I'm sending them out to first grade and they're gonna be good <laugh>. You know, I think that's, that's really validating 'cause you feel like you've done what you were supposed to do and you've given them what they need so that they can be successful moving forward.

This reveals that student growth is a significant contributor to teachers' sense of professional identity.

Memorable Milestones.

When asked to describe moments in their career when they experienced growth in their professional identity, all of the educators reflected on moments of recognition, accomplishment, and meaningful professional development experiences as milestones in their professional growth. They attributed changes in their perception of themselves and the trajectory of their careers to these significant moments. For one teacher that was earning National Teacher Board Certification:

> Honestly, that was the most powerful experience I ever went through. Because the National Board process is not about what you're doing, it's why you're doing what you're doing….I was super proud to have done it. The pay raise was great. My daddy was proud. All those things. But it was, it was the most, um, powerful thing that I did as a teacher or have done.

Another teacher describes being recognized as teacher of the year within their school as a highlight in her professional growth, “I became teacher of the year, and then somehow I made top 20 and then I made it into the top 10 in the district.” Some described being invited to serve on advisory panels outside of their school setting, or being involved in special projects that affirmed their expertise. One teacher describes her experience:

> When we started the KEA, like the big training when it first started, we had to meet with different school districts, and it was different leaders from each district, from like central office on down. I felt like they were looking to me and the other kindergarten teachers as the people who had the most experience. I realized that somebody is looking to me for my expertise. So I do have that. I need to share it. I need to be comfortable with sharing it. Going to conferences with the Office of Early Learning, um, and presenting at those conferences. It was really, um, mind blowing to me because I was really, I have stage fright. I don't like being upfront but having to put those presentations together and share at the NCAEYC conferences and, you know, places like that. It was, it was like, I just blossomed. I, I came out of my cocoon.

One teacher describes how her growth recently evolved as her awareness of culturally relevant pedagogy developed. In this quote, she describes attending a conference with a black colleague:

> The first thing that comes to mind was receiving the opportunity to go to NCTE, National Council for Teachers of English, and this is a convention, an annual convention that happens. The first year was in Houston in 2018 and Selia, Rose and I went, and it was such a good group. They talked a lot about student voice, elevating student voice, and they had a lot of educators of color just say like, listen, white people, you're getting it wrong. <laugh>. And I had no idea, Kristin. I was like, I had no idea what I was doing

> with my white lens. And, um, to be able to go to that with Selia was like, I mean, I could get emotional just talking about it. I learned so much. And it has completely changed me as an educator. Going to that and having a thinking partner to process it with was amazing. I'm not the same educator because of that experience at that NCTE.

All of these experiences are rooted in the opportunity for teachers to share their knowledge as they engage with other professional colleagues. From National Board Certification, teacher of the year recognition, or professional conferences with colleagues, it was memorable for teachers when they were being highlighted for, or focusing on, the development of their craft, and doing so in the company of other professional educators.

Reinvention & Transformation.

The theme of reinvention and transformation emerged when asked to describe moments of professional growth. Many of the teachers referenced the COVID-19 pandemic. This experience forced them to redefine how they provide instruction, and some saw it as a period of reinvention. Alice describes this experience, “Learning how to teach both online and in-person, and how to reach the little ones through Zoom, because it was a totally unexpected thing. We had to basically stop and recreate our curriculum, recreate our everything.” The pandemic reminded teachers of their value within public education and how important their classroom space is as a learning community for children’s growth.

> I just think it made me understand how much I am giving to these kids and how much I can change what they're doing, and just make them grow. In kindergarten, you see them come from nothing to just reading and flourishing and doing all these things. During Covid, when we were virtual, we didn't see it as much… there just wasn't a lot of growth that I was used to seeing. And it just made me realize that all the time, that time matters,

> you know, instructional time matters, and to come here and do everything you can to make 'em grow.

Finding ways to connect with children and families was a transformative experience for some of the teachers in the RPC as they managed the social and emotional needs of children and families during a time of crisis. Teachers described how it gave them a window into their students' home life:

> I grew as an educator. In school, it was easy to say 'where's your book bag? Did you turn in your report card' but actually going to the homes of these students and no one had devices, no one was able to afford devices. So we had to do packet work and students and parents were getting on Zoom on cell phones. It just made me realize, they have so much more going on than letters and sounds and fluency and number bonds. They are literally living through harsh situations. So it made me, from that moment on, it made me look at kids so different because I had fourth graders watching my kindergarten kids, and they're trying to do their work and I'm worried about them getting it… it just made me have so much more empathy.

Teachers described recording themselves reading stories to post to Facebook, dropping off pizza to families who got their kids on Zoom that day, and even delivering toilet paper, "To have parents reach out to me and say, I feel so comfortable telling you, but we don't have essentials that they would need at home, and if you have just a roll of tissue." These experiences transformed how the teachers viewed their students, their families, and their belief system about what children need during kindergarten. For Meghan, the COVID-19 pandemic was a call to leadership:

> It was my job to take charge and make sure that we were reaching these kids, even if we weren't in the building. During Covid, you could slack off if you wanted to, and that definitely happened in schools everywhere, I'm sure, but trying to make sure the people around me were still staying motivated and keeping those kids interested and, you know, along with parents trying to get them on the computer. In a rural county like we are, a lot of kids don't even, some kids don't even have internet, so it was just trying to reach kids in every way possible. And it was difficult, but it, it made us better.

Despite the hardships of the pandemic, the teachers were proud of how they responded and their ability to adapt and transform their practice. This led to a heighten sense of professional growth.

Trusted Relationships.

The final theme to emerge when exploring the teachers' professional growth was Trusted Relationships. The theme of trust is threaded throughout this study and appears most often when teachers discuss relationships. Teachers described the importance of trusting relationships with their colleagues, their administrators, and feeling trusted by their community and the families they serve.

One teacher describes describe her professional growth journey as a black educator joining a staff of predominately white educators and working to establish trust with her new colleagues:

> Last year I didn't feel like I was in a space to be myself or to ask questions. I was wondering a lot - I don't know if I'm safe yet, to say what I feel. This year I was determined to find my way. And it's not a lot of diversity in staff, especially like where we are. I think this year I just decided to be open and honest and take 'em on a journey. We might not have the same experiences, but just let's grow and learn together.

She describes how professional growth occurred for her once a trusting relationship was established amongst her colleagues. Once trust was established, she could engage in critical conversations:

> So now this year, knowing that I am in a safe space… How can we support each other and what it looks like. And that has helped me so much. That has helped us as a team so much. It's really awesome. Now, we literally will go back and forth 'cause we're passionate and we want each other to understand and we have the why. Here's why I believe in this. Here's why we've changed assessments, we've changed lessons. We've changed 'cause you're right. We're right. Nobody's wrong. It's what's best for kids, what's best for our kindergartners. And it's been beautiful to see.

For this teacher, trusting relationships allowed professional growth to happen when she felt safe enough to be vulnerable, “Now our PLCs are much more vocal, much more - can you show us what that means? Can you show us what that looks like? And a lot of us are like, okay, I'm just confused. And it’s okay to be in a space to do that.”

Another teacher discussed how trusted relationships with parents relates to her professional growth and identity, “For me it's building those relationships where the parents know that they can come to me and know that I've got their child's back. I'm going to do everything in my power to see to it that their child succeeds and give them all the resources I can give them.”

Trusted relationships between teacher and administrator were also associated with teachers’ professional growth journey. Rebecca describes her relationship with the districts’ superintendent of schools:

> I've always kind of been selected as a leader in our district and, um, especially in kindergarten. And I've just always been asked to do a lot of these things…I still have a very good relationship with him. He values pretty much anything that I have to say or share and wants me on a lot of the committees that he's able to get me on <laugh>.

The importance of trusted relationships also surfaced when teachers described moments in their career when their professional identity was diminished. One teacher describes how diminished she felt as an educator when trust was abandoned:

> We're also in a time when really there's not a lot of support for teachers in terms of like, we appreciate what you're doing and we trust you. I think this is the time when I feel personally very defensive about what I do. I feel like I have to defend myself in terms of my belief system and what really is happening in the classroom. I have to defend it to not just the society around me, but also in realms like my faith community. They don't trust public schools right now. I feel like I have to even be defensive in terms of like central services. They don't trust that we know what we're doing.

Through the exploration of teachers' professional growth, I discovered the importance of trusting relationships. Similar to the findings in RQ1, trust is threaded throughout each of the findings but then emerges as the most salient theme when conceptualizing teachers' professional growth. These excerpts illuminate how trusted relationships were always embedded within teachers' professional growth experiences.

The Valued Educator

After establishing a clear understanding of how teachers' professional growth and identity emerged prior to participating in the RPC, I then analyzed how contributing to the RPC impacted their perceptions of professional identity as it conflated with their understanding of a

policy mandate. I looked for evidence to determine if the teachers' integration of NC ELI throughout the year impacted student growth and how this impacted the teachers professional identity (*Accountability Conundrum*). I also examined if the RPC served as a *Memorable Milestone* in their career. I examined if *Trusted Relationships* were developed, and finally I looked for evidence of *Reinvention and Transformation*.

Student Growth.

As teachers integrated *GOLD*® into their progress monitoring practices, they each reported unique ways that the resource benefited their instructional practice and student growth. These findings were presented in Table 3. Through exploratory work with the instrument, teachers began to see themself as having expert knowledge. This surfaced when teachers could demonstrate student growth. Rebecca describes this feeling while in an IEP meeting, "To show that they are making some progress and to have it (evidence in the progressions) just made me, I mean confidence is true, and it kind of just added to me sort of feeling more like an expert and having the language to use to do that." Rhonda described "feeling like a boss" when she used the developmental progressions to help her articulate her student's needs during MTSS meetings.

Kennedy describes the power she felt when she was able to demonstrate growth for her students during a retention meeting "I was able to, you know, send her to first grade and it just, you know, gave me like… I had some power, and I had some proof that I could use in that MTSS meeting."

As a result of experiencing student growth from integrating of *GOLD*® into their instructional practice, findings revealed evidence that the RPC experience did contribute to their perceptions of feeling like a valued educator.

Pride in Participation.

Teachers reported pride in their involvement in the RPC. This theme surfaced in conversations with their administrators, with their family, and through their experiences of student growth. Elizabeth describes being recognized by her principal as having expert knowledge with NC ELI because of her involvement in the RPC:

> At the principal's meeting recently, one of the instructional coaches here at the district level was presenting about ELI. And my principal was like, I don't admire having this lady do it. I've got somebody that's working with UNC Charlotte and DPI that's learning about this. Why didn't you ask my person <laugh>? Like, what does that person know? My person knows more now <laugh>. It makes me feel like, okay, my principal acknowledges the workload.

Melissa reports feeling proud of what we were able to accomplish together in the RPC, “I feel like we got a lot accomplished as far as, especially with how far apart and… we came together, you know, remotely and gathered all this data, and we got things together. I think it was really, it was really beneficial.”

Teachers noted they will add this experience to their record of professional development. Kennedy joked, “And of course, I added it to my resume.” As Rebecca recorded her participation on her Professional Development Plan, she reflected on her pride for having participated, “so at the end of the year when I'm typing out the ending goals and some of the things that we've done and accomplished through this, you know, I was proud to put that in there and to be able to further explain it to my principal.”

These examples provide evidence that the RPC was in fact a *Memorable Milestone* for many of the participants, contributing to their professional identity as a valued educator.

Trusting Environment.

Through the exploration of teacher's professional growth journey, and discovering the importance of trust, I examined if and how an environment of trust was cultivated within the RPC. This required an exploration of members perceptions of safety to express opinions, raise questions, generate ideas, and share experiences. Findings conclude that trust developed over time, but only when the environment felt safe for members to be honest and transparent.

In the early stages of the RPC, it was evident trust would need to be nurtured with sensitivity to the inherent power imbalance that existed between the RPC members. Meghan, one of the youngest educators on the RPC, reflects on her feelings from the first meeting:

> When we first met the very first time, I guess I didn't have any idea of, you know, what it was gonna look like. Like y'all are very, you know, rehearsed and, and knowledgeable about it. And like with me and a lot of teachers, you know, I've done it (NC ELI) for years, but not really dug into it. And I kind of felt, in a sense overwhelmed - like what have I gotten myself into? Who am I to be telling, you know, what we should be doing with this? You know, I'm just a little person in Harnett County. Um, but that's the only time that I can think of that I felt, you know, kind of overwhelmed and felt like diminished, I guess, in a way.

Finding trust within the RPC was critical to teachers feeling valued in that space. Some acknowledged feeling initially intimidated by those with more experience and authority, and questioned whether they could be honest about their actual implementation practices. Rhonda shares her initial apprehension, "That's what I was afraid of. I'm like, I don't think I'm gonna know as much. But I was very honest, and at first I'm like, 'I don't know if I should say it.' But then I felt very comfortable to say, 'Being realistic as a kindergarten teacher in a Title I

school'…." This statement reveals the initial intimidation she experienced, yet through repeated encounters, she was able to abandon self-doubt and contribute in meaningful ways. She eventually felt safe to speak her truth, even when it made her feel less knowledgeable, because it helped the group identify real problems in practice and contribute to the creation of resources that would meet the needs of teachers in the classroom. She recognized how her willingness to be vulnerable, and share how she struggled with NC ELI, contributed to the creation of better products for teachers across the state who were also struggling.

The teachers reported the trust they gained in the RPC process gave them the courage to speak out more during the standard setting panels with DPI and have the confidence to be honest:

> So just having those conversations with DPI individuals who were there, everybody that was involved, all the stakeholders, just hearing everybody say, 'Well, they should be here.' And then hearing teachers say, 'Well, we're in the classrooms and they're not.' To me, that is something I would see as progress. So for me, that was really really meaningful, really impactful for all.

Findings demonstrated that trusting relationships were formed in the RPC but it had to be cultivated due to the inherent power imbalance amongst the teachers, research team, and state agency.

Aspirations for Professional Growth.

Finally, I analyzed if participation in the RPC transformed teachers in any way. I concluded that the RPC process encouraged some of the participants to see themselves in more elevated professional roles. Elizabeth intends to apply to Ph.D. program at UNC Charlotte, "I really am thinking about continuing my education and thinking about maybe pursuing a doctorate. That is something that is in my future which is, it makes me emotional to kind of think

about, but it's exciting." Kennedy reports feeling more confident to contribute her expertise to the field:

> I think overall, like at school I've become more of a voice where before I, you know, kind of kept things to myself and I often went to like my principal after a staff meeting. But after, you know, working with you and, and hearing from other people throughout the state, if I had a concern or a question as far as early childhood, then I would bring it up and advocate more for our students and our teachers. So it has, it has strengthened me as an educator. Definitely. Just having this experience might impact my career moving forward. I'm at the point where if I had the opportunity to do something outside of the classroom and I felt like I was being led in that direction, I would certainly go.

Summary

To fully understand how teachers' professional identity and perceptions of educational policy unfolded in the context of an RPC, I closely examined the development of each participants' perceptions prior to their involvement in the RPC. This included an investigation of their professional growth, their previous experiences with NC ELI, and their underlying perceptions of the state agency. Through this investigation I was able to identity patterns across participants that illuminated the contextual factors contributing to this identity. Armed with this knowledge, I was able to draw comparisons and examine shifts in their perceptions resulting from their participation in the RPC. Findings concluded, the RPC experience did align with the conditions that influenced their professional identity, including evidence of student growth, pride in participation, the development of trust, and aspirations for continued transformation and growth in their professional careers.

Chapter Four Summary

Chapter Four began with an examination of how the RPC model facilitated the process of creating usable knowledge. Through this inquiry, I first discovered the conditions for collaborative knowledge creation. I was then able to conceptualize how these conditions formed the RPCs process for creating usable resources and recommendations to address the fidelity of implementation for the NC ELI. This included expanding access, diversifying perspectives, developing alliances, and deepening knowledge. This led to the development of credibility and trust.

In research question two, I outlined the RPCs contribution to supporting the implementation fidelity of the NC ELI and how we anticipate this will contribute to teachers' productive integration of this policy in their daily practice. Recommendations included improved messaging that connects NC ELI's contribution to the early childhood landscape, recommendations for expanded training to increase data use by engaging experienced teachers and administrators, and the resolutions to technical barriers that impede implementation practices. The RPC identified beneficial resources within the NC ELI platform and highlighted how those resources integrated into their progress monitoring practices after the 60-day checkpoint. Finally, teachers created specific recommendations for resources that would support teachers' direct application of the instrument in practice.

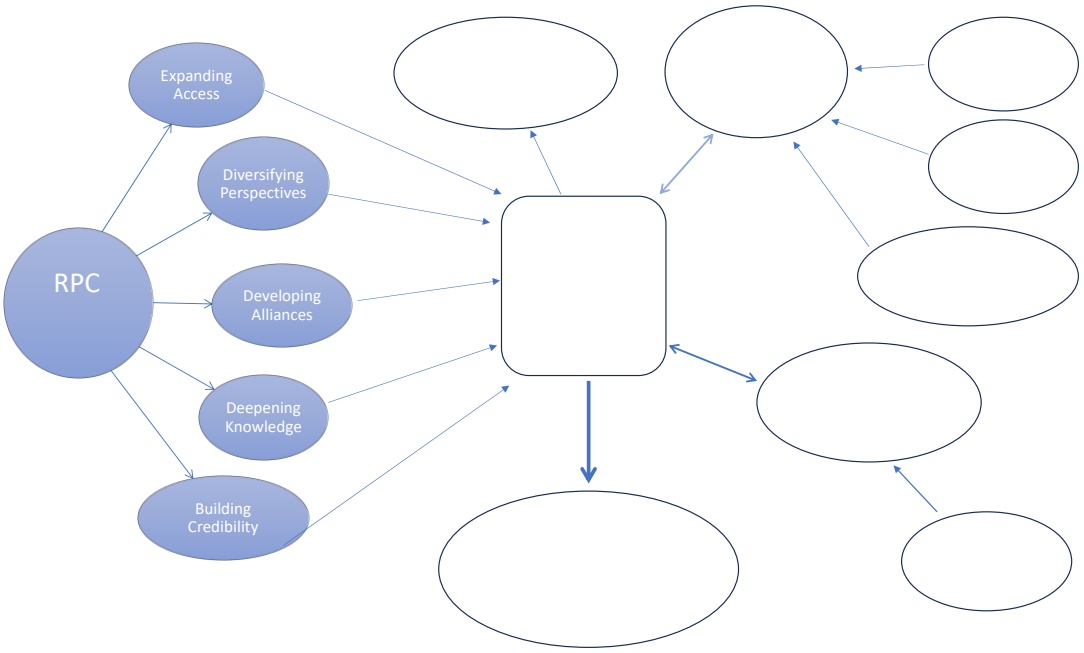
Research question three explored how teachers conceptualized their professional identity and investigated their positionality within the state agency, as well as their understanding of educational policy. This allowed me to understand how participation in an RPC impacts teachers' professional identity and perceptions, which are hidden mechanisms influencing

teachers' implementation practices. This revealed four mechanisms, including student growth, heightened professional experiences, reinvention and transformation, and trusted relationships.

In conclusion, the RPC provided an opportunity for educators to share their expertise and foster trusting relationships. Hence, the RPC became a vehicle for not only contributing to usable knowledge, but also heightening teachers' professional identity in the process. Through the exploration of these three research questions, findings revealed an association between the mechanisms operating within the RPC framework and the factors that heightened teachers' professional identity. In the end, I discovered that the most salient theme in RQ 1, credible and trusting relationships, is also the bedrock of the valued educator in RQ 3. Through this discovery, I recognized the interconnectedness of RQ 1 and RQ 3 and how that impacts RQ 2. The third research question cannot be fully answered or understood without situating it in the findings of *how* the RPC model facilitated usable knowledge for stakeholders (RQ 1). Figure 7 displays a visual model of the relationship among several patterns in the findings, demonstrating the connection between the research questions.

Figure 8

Relationship Between RPC Outcomes (RQ1) and Professional Identity (RQ3)



This diagram illustrates the mechanisms within the RPC framework that resulted in trusting relationships. As a result of trusting relationships, educators were able to contribute to the production of usable knowledge, which were detailed in Q2. Trusting relationships also emerged as a necessary condition for teachers feeling valued as professional educators. Their professional identity developed as they experienced success with their students, memorable milestones in their career, and through a process of reinvention and transformation. Their professional identity is heightened when they are given an opportunity to share their expertise, as they did in this RPC, which allowed them to feel respected as an educator. However, those experiences were rooted in an underlying condition of trusting relationships. In chapter five, I explore how this pattern in the findings led to the development of a conceptual framework.

CHAPTER FIVE: DISCUSSION

This critical realist qualitative case study aimed to investigate the inner workings, process, and outcomes of a teacher-centric research-practice collaborative formed to address ongoing implementation challenges with the NC ELI. Through the lens of critical realism, I gained an in-depth understanding of how a sub-level RPC model enhances support for the implementation fidelity of policy initiatives and how participation in an RPC impacts teachers' professional identity as it conflates with educational policy. This chapter provides a synthesis of my findings, an exploration of my discoveries, and significance to the larger scholarly discourse. This chapter also includes implications for practice and limitations of my study and concludes with recommendations for further research in the application of RPCs to strengthen implementation.

Reiterating the Need for this Study

Operating from the presumption that evidence-based decisions lead to improved policy and practice, interdisciplinary teams create space for a more democratic approach to evidence-building (Campbell et al., 2019; Jackson, 2022). This investigation responded to a call in the literature for research exploring the benefits of RPPs in context (Coburn & Penuel, 2016; Henrick et al., 2017; Weiss, 2022). This study was rooted in the belief that RPPs and approaches associated with research-practice models (such as design-based implementation research, design-based professional learning, improvement networks, etc.) are promising methods to enhance the implementation of evidence-based strategies in practice (Bryk et al., 2010; Fishman et al., 2013; Friesen & Brown, 2023). The current body of literature exhibits a notable scarcity of studies employing DBIR principles to enhance educators' implementation practices in K-12 classrooms. This study informs our understanding of how RPCs bring teachers closer to research (Welsh,

2021; Wentworth et al., 2017) and explores ideas on who gets to be a part of knowledge creation (Friesen & Brown, 2023).

This case study focuses on the NC Early Learning Inventory (NC ELI), a state-mandated authentic formative assessment measure used to understand children's skills and abilities upon kindergarten entry. NC ELI is a revised version of the state's original kindergarten entry assessment introduced in 2016. Since its introduction, teachers' implementation practices have experienced minor improvements, but studies indicate challenges with implementation fidelity persist, including teachers' understanding of the measures intended purpose and authentic application of the formative assessment process (Ackerman, 2016; Holcomb et al., 2020; Holcomb & Holshouser, 2023; Little et al., 2020). Nested within a more extensive research-practice partnership between a state university and the state education agency, this study examined the benefits of inviting kindergarten practitioners into a collaborative partnership to address real and persistent problems of practice with the NC ELI.

Over the course of eight months, a collaborative of seven educators and four university-affiliated educational researchers met monthly to explore the creation of resources and recommendations for improved training and messaging to address implementation fidelity for the NC ELI. The analysis included transcripts from over 17 hours of recorded meetings, 14 hours of recorded interviews, written communications, and products. Qualitative coding strategies included deductive and inductive methods, leading to an iterative axial coding and pattern-matching process. A plethora of data sources allowed for triangulation, contributing to my findings in response to the following research questions:

1. How does an RPC model facilitate the process of creating usable knowledge for stakeholders?

2. In what ways did the RPC contribute to supporting the fidelity of implementation and productive integration of a state educational mandate?
3. How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

In this chapter, I present a summary and discussion of salient themes that led to developing a conceptual model for enhancing alliances within a research-practice partnership. Findings will be situated within the theoretical framework of critical realism (Danermark et al., 2019; Bhaskar & Hartwig, 2016) and aligned with the Collaborative Research Logic Model created by Kochanek et al. (2015). I discuss these findings in relation to the current literature presented in Chapter 2.

Recapitulation of Findings

RQ 1:

How does an RPC model facilitate the process of creating usable knowledge for stakeholders?

The first area of inquiry focused on *how* the RPC model facilitated the process of creating usable knowledge for teachers. By examining the inner workings of the RPC, findings revealed the mechanisms that contributed to this group's productive environment for creating functional resources for practitioners and knowledge transfer to policymakers. Situated within Kochanek et al.'s conceptual model (2015), RQ 1 produced five salient outcomes.

Expanding Access

This process began when members experienced expanded access to information, research, and decision-making. Penuel & Gallagher (2017) posit a primary tenant of RPPs is their ability to bring teachers closer to the research process. Expanded access becomes a form of

democratizing information related to the NC ELI (Tseng et al., 2017). For the educators, expanded access becomes a form of transparency, which helps dismantle misconceptions that were known barriers to fidelity of implementation (Holcomb et al., 2022).

Diversifying Perspectives

As a result of enhanced access and interactions between decision-makers at the state agency with teachers in the field and academic scholars involved in education research, the members started to broaden their perspectives. Diversifying perspectives was a critical step toward solving real and contextual problems of practice, which requires multiple perspectives (Bryk & Gomes et al., 2010; Coburn & Stein, 2010; Roderick et al., 2009). Most importantly, the perspective of the educator becomes illuminated, which is of critical importance given that "practitioners in the field have the keenest understanding of the relevance of context to educational research, and this understanding is crucial to addressing the nation's educational challenges" (Hong & Rowell, 2019, p. 139).

Developing Alliances

Through a deeper understanding of stakeholder needs and increased transparency, the group was able to forge meaningful alliances. Interdisciplinary teams contribute to a more democratic approach to evidence-building (Campbell et al., 2019; Jackson, 2022). Members experienced a professional investment in collaborative work once they recognized good intentions in one another.

Deepening Knowledge

As the RPC formed an alliance, members became more receptive to learning from one another. Through their exploration of integrating *GOLD*® into their instructional practice, teachers experienced a deeper understanding of their pedagogy, child development, and the implications

of data collected from this formative assessment process. This exploration led to a more authentic use of the measure and an authentic application of data to drive instructional decision-making (Lambert et al., 2014; Little et al., 2020).

Credibility and Trust

Woven throughout this process was the development of credibility and trust. As credibility and trust emerged, teachers were more open to sharing their concerns, misconceptions, and implementation challenges with NC ELI, which allowed the group to get closer to real and contextual problems of practice. Trust and credibility also created an environment where members could engage in critical conversations, share opposing viewpoints, and wrestle with complicated questions (Barton et al., 2014; Drahota et al., 2016; MacMahon et al., 2022). Credibility and trust are fundamental to cushioning the "clash" of worldviews between RPP members (Labaree, 2003).

RQ 2:

In what ways did the RPC contribute to supporting the fidelity of implementation and productive integration of a state educational policy mandate?

In the second research question, I took a descriptive approach to identifying the RPC's contributions to the fidelity of implementation and productive integration of the NC ELI. This section details their contributions to addressing those challenges in three broad categories: 1) Messaging, 2) training, and 3) usable resources for the classroom.

Messaging

Translating research into effective practice is a persistent challenge for those using evidence-based strategies (Joyce & Cartwright, 2019; Neal et al., 2019; Tseng et al., 2017). In NC, this challenge begins with educators understanding the purpose of NC ELI (Holcomb et al,

2022). As such, messaging focused on strengthening the 'why' behind NC ELI and connecting its value to the larger landscape of early childhood experiences in NC.

Members also identified the importance of developing messaging that increases transparency around data use. This area was a challenging topic for the group to navigate because NC ELI's primary purpose is as a formative assessment measure to improve instructional decision-making. However, in NC, the data contributes to a secondary purpose of understanding kindergarten readiness on a macro level. The Standards for Educational and Psychological Testing caution against using an assessment for reasons other than its intended purpose (AERA, 2014; Lambert et al., 2015). In NC, the OEL has fully committed to promoting NC ELI for instructional improvement only. However, underplaying the secondary use of the data creates a trust and credibility problem for teachers. As such, the RPC promotes transparency of data use to bolster credibility. They speculated that teachers would be more fastidious in their data collection if they understood that the data populates into their students' Data Profiles.

Teachers identified the developmental progressions within *GOLD*® as a valuable resource to their practice and understanding of child development. They reported using the progressions to articulate the skills and abilities of children during IEP meetings, MTSS meetings, and retention meetings. They felt the progressions provided valuable insight into child development to address the whole child (Garver, 2020), particularly for social-emotional and language domains not directly addressed in state curriculum standards. They noted that many educators have limited training in child development, especially given the influx of educators through lateral entry (Carver-Thomas & Darling-Hammond, 2017), so the developmental progression becomes a valuable reference for understanding how children's skills and abilities develop in those domains.

Training

Recommendations for training included expanding training to all kindergarten teachers to ensure consistency with messaging. They also promoted personalized professional development through refresher courses based on teachers' strengths and needs for growth (Schiffer, 2016). They suggested using district implementation teams to offer training by a local educator regarded as a credible expert by their colleagues. Finally, training must include administrators and leadership within the school. Teachers reported focusing on the initiatives that matter to their local leaders and the data sources that drive decision-making in their building (Holcomb et al., 2022). Therefore, when the administrator emphasizes NC ELI, it becomes credible to the teacher.

Resources

Aside from the developmental progressions, RPC members identified the creation of the NC ELI Teacher's Manual as one of the most impactful resources they could provide to classroom teachers. As such, a significant amount of time, including an on-campus workshop, was devoted to its creation. Members provided input on content, alignment, design, and delivery. The members also offered revisions to the NC ELI Implementation Survey. Through a critical review of survey items and pilot testing, they enhanced response options and design (Fowler, 2014).

RQ 3:

How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

In research question three, I explored how teachers conceptualized their professional identity before joining the RPC and how their professional identity and understanding of state policy unfolded in our partnership. This inquiry revealed four mechanisms associated with

professional identity: Student growth, memorable milestones, reinvention and transformation, and trusted relationships.

Student Growth

Student success emerged as a contributing factor to how teachers conceptualized their professional success. Being recognized for student growth contributed to teachers' feeling of competency as educators. Literature on educator value-added systems (EVAS) suggests that teachers who receive high EVAS are more valued by the principals and are perceived to demonstrate better teaching practices (Goldhaber, 2015). Conversely, low student performance diminished the educators' perceptions of their professional identity. This finding is consistent with studies describing how teachers' hope and ambition for what they can achieve contribute to their sense of professional identity (Murphy et al., 2016). Gee posits that identity unfolds within an intersubjective context and can be conceptualized as a continuous journey of how one sees oneself and is recognized by others (2001). Therefore, professional identity is not fixed but flexible and dynamic.

Memorable Milestones

Teachers connected their professional identity to significant moments in their careers. Memorable milestones included moments of recognition and engagement in advanced forms of professional development with credible and trusted colleagues. These moments served as a form of validation of their expertise and knowledge and gave rise to the development of new knowledge and expertise. Teachers regarded the RPC experience as a memorable milestone in their professional identity journey, in part because they perceived it as an exclusive opportunity to participate in a statewide initiative, but also because it became a community of practice, which Perry et al. (1999) define as "nurturing learning communities within which teachers try new

ideas, reflect on outcomes, and co-construct knowledge about teaching and learning in the context of authentic activity" (p. 218).

Reinvention and Transformation

Teachers' professional identity was also rooted in transformative moments in their careers where they redefined themselves as educators or transformed their practice in some new way. Within the literature, professional identity is viewed as transformative and dynamic; as such, teachers are not asking, "Who am I?" but also, "Who do I want to become?" (Drahota et al., 2016). Bolstered by their experience in the RPC, teachers began to envision new and more prominent roles for themselves as knowledge contributors.

Trusting Environment

Themes related to trust surfaced time and time again throughout this investigation. Trusting relationships, trust & credibility, and trust through transparency all contributed to the trusting environment that underpinned the members' sense worthiness of our work. In this trusting environment, members were empowered to feel like valued contributors, enabling knowledge production. I arrived at this finding by exploring members' perceptions of safety to express opinions, raise questions, generate ideas, and share experiences. I concluded that trust developed over time, but only when nurtured with sensitivity to the inherent power imbalance between the RPC members and with sensitivity to the members' positionality to the policy mandate. The theme of trust is consistent with the literature on nurturing collaborative relations; Vangen and Huxham (2003) found in their synthesis of the literature on trust that "trust building is problematic, and that management of trust implies both the ability to cope in situations where trust is lacking and the ability to build trust in situations where this is possible" (p. 5). When power imbalances exist, trust becomes reciprocal; McAllister (1995) suggests, "I trust because

you trust" (as cited in Vangen & Huxham, 2003, p.9), and Creed & Miles (1998) remind us "Trust begets trust" (as cited in Vangen & Huxham, 2003, p.9). Members of the RPC conceived this trust-building process as part of establishing credibility with one another, which became an enabling condition in our work.

Discussion

Educational RPPs are commonplace in both the fields of Implementation Science and Improvement Science. Although this study focused on developing support to strengthen teachers' implementation practices with a state policy mandate, the RPP's development was influenced by strategies from Design-Based Implementation Research and was more closely aligned to pragmatism. The teachers in the collaborative explored the usefulness of this measure in various contexts and applied that knowledge to improve practice (Nilsen et al., 2022). This approach is distinguished from studies rooted in the positivist research because focused on improving rather than proving the effectiveness of this research-based measure (Peurach et al., 2022).

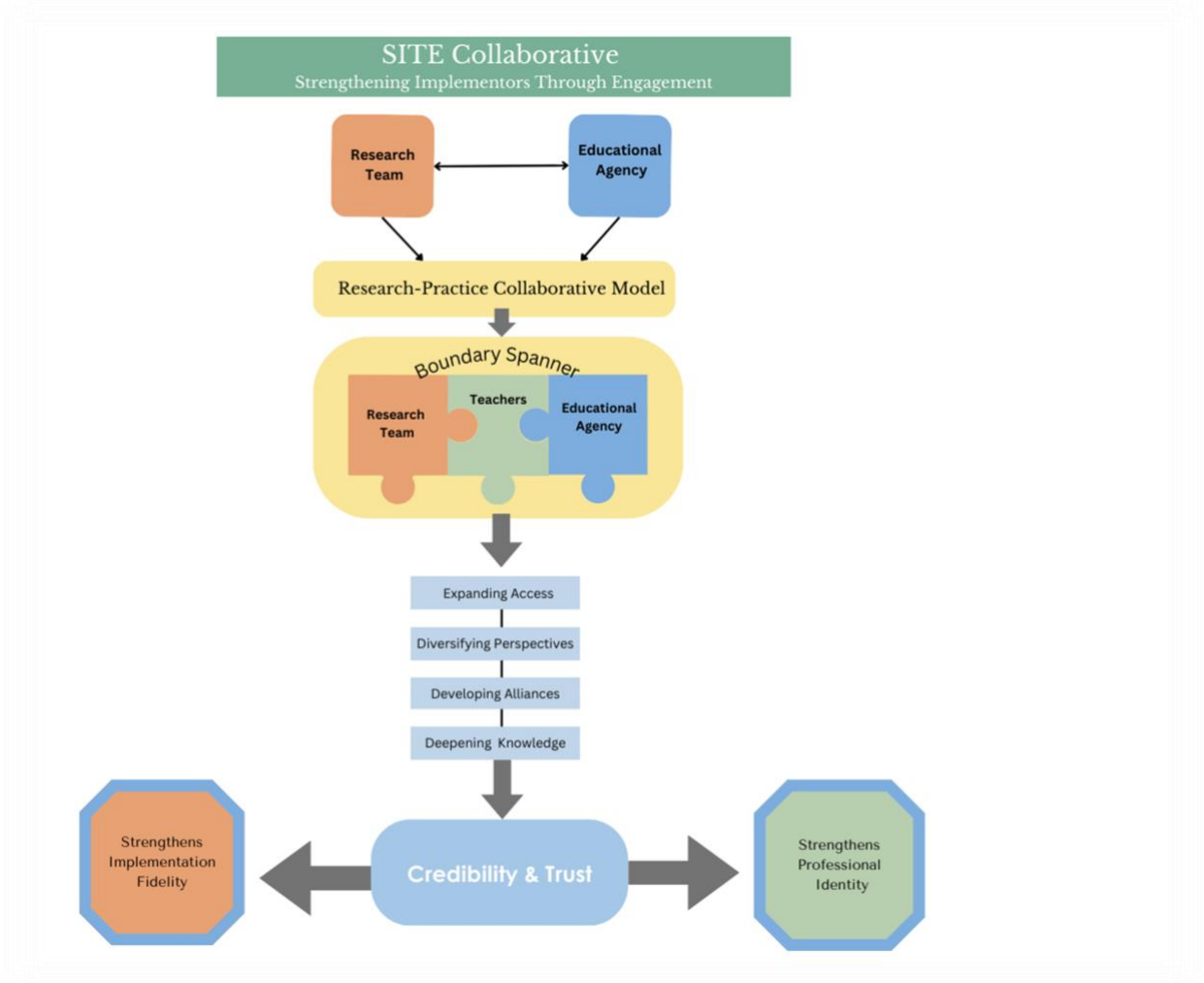
The focus of our work was on identifying what works, for whom, when, and why (Walshe, 2007). This approach empowers teachers to develop a deeper and more authentic application of the evidence-based practice. Honeg & Rowell (2019) call for the democratization of knowledge creation: "In this context, a specific challenge in education in the U.S. is to confront the state of practitioner research being viewed as lesser valued knowledge or not knowledgeable at all" (p. 127). This study contributes to dismantling the hierarchy of knowledge production and dissemination by elevating the voices and expertise of teachers in the classroom. Rather than presuming that researchers and administrators understand the needs of teachers better than they know their own needs, this case study partnered seven practitioners and four researchers to investigate real and contextual problems of practice to develop and disseminate

knowledge and resources that are presumed to have an immediate and direct impact on classroom practice (Penuel & Gallagher, 2017; Peurach et al., 2022). The members in this RPC "peeled the onion" on implementation practices with the NC ELI, guided by strategies in DBIR (Supovitz, 2013), to address what they believed to be the most salient implementation challenges associated with the state-mandated policy.

Situated within the hierarchy of educational systems, the RPP model allows the teacher-practitioner to transcend the confines of their classroom, contributing to their sense of value and worth. Through this investigation, we begin to understand the impact on teachers' professional identity when encouraged to participate in knowledge creation that contributes to their professional craft. What I discovered through this inquiry is the mechanisms that facilitated the process of creating usable knowledge for supporting the fidelity of implementation and the productive integration of evidence-based strategies *simultaneously* contribute to the development of educators' professional identity and understanding of educational policy. I present this finding in the form of a conceptual model that I refer to as the SITE Model: Strengthening Implementors Through Engagement. By inviting classroom practitioners into the development of knowledge creation, we strengthen not only the resources that will contribute to the fidelity of implementation but also the educator. RPCs have significant implications for valuing and retaining high-quality educators, given that teachers with positive perceptions of professional identity are more likely to persist through challenging conditions or periods of dissatisfaction (Beijaard et al., 2004; Moore & Hoffman, 1988).

Figure 9

The Multi-Level SITE Collaborative Model



Relevance of the SITE Model

In the context of this case study, the SITE Model addresses challenges with implementation fidelity that arose after the measure had been brought to scale, but initial support had waned (Dusenbury et al., 2005; Gottfredson & Gottfredson, 2002; Ringwalt et al.,2008). This can occur for a myriad of reasons, including competing demands, depleted funding, external implementation supports that have left the project, or training and messaging that was

insufficient from the beginning. RPCs provide a sustainable solution to address the immediate implementation needs of practitioners to increase efficacy throughout the life of the innovation.

The SITE model is situated within an existing partnership between researchers and an educational agency. This existing parent partnership is necessary to support funding and provides access to data sources, privileged information, and decision-makers. These partnerships are typically brokered with a particular objective related to implementation that is outlined in the partnership agreement. It is at this stage, that I promote the establishment of a teacher-centric, sub-level, RPC. I call it an RPC to distinguish it from the parent RPP. This collaboration requires the educational agency to identify a diverse group of classroom practitioners who are active implementors of the evidence-based strategy and express a unique interest in the project. It is critical that teacher practitioners voluntarily elect to participate out of a genuine interest and connection to the research topic. While the RPC benefits from the inclusion of administrators and decision-makers, the focus should be elevating the voice of the classroom practitioner; hence, it becomes a teacher-centric model, and the proportion of teachers to researchers and administrators should reflect this commitment. The development of this model can be introduced at any stage of implementation, but ideally, it should be formed when the innovation is initially brought to scale. This group helps sustain the fidelity of implementation when other partners have left or turned their attention elsewhere.

The process begins with identifying a boundary spanner to foster the collaborative relationship and serve as a facilitator of the groups' activities. Below, I outline my role as the boundary spanner in this present study.

The Role of Boundary Spanners

Establishing credibility and trust became an important outcome of our work as a collaborative. Members of the RPC actively engaged in trust-building through an ongoing process that I closely facilitated as the boundary spanner. The role of boundary spanners, also referred to as *brokers* in the literature, is well defined in the collaborative research (Burt, 2017; Long et al., 2013; Tushman & Katz, 1980; Williams, 2012). My positionality within this study was guided by Williams' (2002) definition of boundary spanning. Williams posits a competent boundary spanner is, among other attributes, one who effectively builds sustainable personal relationships, manages through influencing and negotiation, manages inter-organizational complexities, and manages members' roles, accountabilities, and motivations. Throughout the partnership, I continued to seek guidance in the literature on the characteristics of effective boundary spanners, as well as the characteristics of healthy research-practice partnerships (Penuel & Gallegher, 2017). This need for support was consistent with findings from previous studies advocating for boundary spanner training (Adams, 2014; Warren et al., 2016; Wegemer & Renick, 2021).

In this project, I self-identified as the boundary spanner because I stood at the intersection of partnership as a current graduate research assistant, a former classroom educator, and the acting project manager. This unique positionality allowed me to bridge structural holes for our partners to create access to diverse information (Burt, 2017). However, Long et al. (2013) conducted a meta-analysis on boundary spanner identification that suggested most partnerships have used some form of social network analysis informed by Burt (2017) or Tushman (1981) to identify the boundary spanner or broker.

Mangematin et al. (2012) examined primary investigators (PIs) as potential boundary spanners, describing PIs as the linchpins bridging academia and industry, but acknowledged the risk of decreased productivity given the competing demand for PIs as administrative managers, scientific fiduciaries, and market shapers. This study contributes to the existing literature on the role of project managers as boundary spanners (Brion et al., 2012; Tushman & Katz, 1980) and affirms the integral role the boundary spanner plays in the health of the collaborative model. In some cases, this can be a graduate research student; however, Wegemer & Renick (2021) caution against the power inequities graduate students can experience in the absence of experience.

Because I occupied this "middle space" as the project manager, as a graduate research student, and as a former teacher practitioner, I was accepted by the group to be uniquely qualified for the role, which Wegemer & Renick (2021) describe as an assets-based approach. In the context of this case study, I attempted to democratize knowledge creation (Hong & Rowell, 2019) by maintaining multiple forms of communication and multiple opportunities for contribution (i.e., shared Google Drive, recorded meetings, communication Padlets, feedback surveys, etc.). I was cognizant of inherent power dynamics, remaining sensitive to when members could feel intimidated to participate, and I countered this by intentionally drawing members into the conversation if they had not had an opportunity to contribute. I frequently paraphrased and restated members' comments as a form of validation and initiated discussions with question prompts. I vigilantly monitored the climate of our RPC and adjusted as needed to maintain effective communication. This created a level of contribution and transparency that strengthened credibility and trust. In the SITE Model (Figure 9), the puzzle pieces represent how the boundary spanner actively negotiates stakeholder needs and voices to form a complete picture, one that doesn't diminish individual members' knowledge and experience, but is

collectively credible and leads to the development of trust. Like working a puzzle, experiences, and perspectives must be examined from all sides to recognize how ideas best fit together to tell a complete story. Therefore, the boundary spanner should be an individual who identifies with both researchers and practitioners and is regarded as both approachable and trustworthy.

Collaborative Process

The collaborative process involved maintaining a commitment to building trust and credibility by expanding access, diversifying perspectives, developing alliances, and deepening knowledge. As illustrated in the model, the steps in this process unfolded in a linear path. However, the collaborative process was iterative, with members continually contributing to and maintaining these principles throughout our work. As a result of this commitment, the participants experienced a heightened sense of professional identity and strengthened their individual implementation fidelity to the educational initiative. Teachers began to identify themselves as having a deeper level of understanding than their grade-level colleagues and quickly became ambassadors of implementation back at their individual schools.

To strengthen teachers' professional identity within this model, several conditions need to exist: a) the teacher-practitioner should voluntarily participate because of a genuine interest in the research topic, b) teachers should be compensated for their knowledge and contributions, c) the teacher should indicate a readiness for this advanced form of inquiry, and d) the collaborative should meet in professional environments outside of the school building but within professional hours. Additionally, teachers must be included in sharing research outcomes and knowledge creation with professional communities and networks. Finally, trust and credibility are achieved when teachers feel liberated to take a critical stance to evaluate the impact on their practice (Borko & Klinger, 2013; Combs et al., 2022; Joram et al., 2020).

Implications for Theory and Practice

Within the hierarchy of public education, classroom teachers are relatively limited in their autonomy. They are confined by a system that largely dictates what content they will teach, what materials to use, and how to provide instruction. According to the 2022 NC Teacher Working Conditions Survey, approximately 35% of teachers reported they did not have an appropriate level of influence on decision-making in their school (NC TWCS, 2022). Nationwide, about 30% of the teachers who move to another school do so because of limited influence on decision-making (Carver-Thomas & Hammond-Darling, 2017). As public servants, teachers navigate limited autonomy with administrators, parents, governing school boards, and policy legislators. RPPs foster equity by providing teachers the opportunity to contribute feedback and work collaboratively to address real-world problems of practice, creating an opportunity to democratize the creation of usable knowledge and expand teachers' circle of influence (Hong & Rowell, 2019; Penuel & Gallagher, 2017; Suppovitz, 2013).

Due to the growing demand in public education for research-based practices, classroom teachers need opportunities to experience and participate in the research process (Welsh, 2021; Wentworth et al., 2017). Educational researchers have the power, privilege, and responsibility to design multi-level partnerships that connect systems of practice. In doing so, teacher-centric RPCs will help dismantle the "knowledge monopoly" often associated with academic research while improving educational practices (Coburn & Penuel, 2016). The RPC model not only elevates teacher's professional practice but also directly counters the narrative that classroom teachers are "technicians who are not seen as capable of producing new knowledge to advance education as a core component of democratic society" (Hong & Rowell, 2019, p. 128).

As the application of RPPs continues to expand (Farrell et al., 2021), this study offers a model for incorporating an inclusive participatory approach. This study proposed a multi-level RPP model by identifying a teacher-centric, multi-district, collaborative design, which resulted in the development of collective knowledge building that was shared back to the state agency and local schools in districts across the state, leading to what Zhao & Anand (2013) define as a *collective bridge.*

The timeliness of this study contributes to its relevance for educational research in North Carolina. NC DPI recently launched The NC Recovery Practitioner Network in partnerships with UNC Chapel Hill, the NC Collaboratory, Harvard University, and Georgetown University. The Network is "aimed at providing opportunities for building research and evaluation capacity with local leaders" (NC DPI, 2023, para 2). Currently, sixteen school districts in NC have partnered with researchers at local universities to explore Pandemic-related learning loss and recovery efforts. This is an exciting development for education in North Carolina and provides a prime opportunity to consider how teacher practitioners contribute to and benefit from direct involvement in these partnerships. As one of our teacher participants noted: Research that reports what teachers are doing wrong and policies created to "fix" teachers fail to bridge the research-to-practice divide. Catherine Truitt, the Superintendent of NC DPI, states, "Utilizing evidence-based decision-making is the best way to ensure our students are receiving support that is proven to move the needle on pandemic recovery." (NC DPI, para 3). The key word in her statement is "utilizing". RPPs provide an opportunity to intentionally design connected levels of partnerships that create space for the contributions of classroom practitioners who are directly responsible for "utilizing evidence-based decision-making" in their classrooms every day. I posit that the best

way for educational leaders to "move the needle" on student growth is to fund multi-level RPP models that vertically connect systems within a partnership to deepen relationships.

By inviting teachers into research collaboratives, we strengthen credibility, increase transparency, and benefit from the knowledge and expertise of classroom practitioners to strengthen implementation. When teachers are given the opportunity to critically examine educational practices and are valued as knowledge creators within their profession, practice becomes more closely aligned with research, professional identity is heightened, and we can envision a professionalization of the teaching profession that leads to improved teacher retention. Finally, as RPPs continue to transform (Coburn et al., 2013; Wagener, 1997), the research community is responsible for the promotion of equity and access to educational research (Oyewole et al., 2022). To meet his challenge, this study proposes vertically connected authentic discourse through a teacher-centric sub-level partnership.

Limitations of the Study

This study contains several limitations worth discussing. The time constraint on this grant-funded project significantly limited the scope of our work. It eliminated the opportunity for a mixed methods investigation to determine the empirical evidence of the RPC's impact on the fidelity of implementation. Based on the experiences of educators within the RPC, I can only postulate how the materials produced by RPC will influence the classroom practice of educators state-wide. In addition, the work produced within the RPC was delivered to the OEL as recommendations, as such, we do not yet know how those recommendations will be utilized by the OEL. Therefore, our examination of teacher participants' implementation fidelity was somewhat artificial and examined within a controlled environment.

Another significant limitation of this study was the lack of direct participation from OEL staff in the RPC model. While RPC members may have felt more comfortable to take a critical stance because the OEL played an external role, it inhibited the development of stronger partnerships and minimized the opportunity for classroom practitioners to feel like equal contributors to decision making with state partners. Literature on improvement science encourages the inclusion of stakeholders from different levels of power and influence, while cautioning the researcher not to underestimate the influence of power and politics (Peurach et al., 2022).

To address the concern of power imbalances, I conducted this qualitative case study through the lens of critical realism (Bhaskar, & Hartwig, 2016) and remained cognizant of contextual and structural influences. Critical realism requires the researcher to remain sensitive to the influence social structures and institutions play in shaping members perceptions of reality (Danermark et al., 2019). Within the larger partnership and our RPC, members held distinct positions of power and influence. In education, there is a hierarchy related to degree attainment. All educators study and train under professors while earning licensure credentials, therefore academic researchers should anticipate how this will influence dynamics within the group. Similarly, teachers may feel uneasy around educational researchers who investigate student and teacher performance, and teachers' implementation practices. Additionally, teachers' previous feelings of distrust towards the state agency, whom they had initially conflated with state legislators, created an undercurrent of skepticism. Finally, the primary investigator in this study also identifies as a contributor to Teaching Strategies *GOLD*®, which may have inhibited teachers from being as critical of the measure under investigation as they would have been otherwise.

While investigating problems of practice with NC ELI, this study fell short of taking a true critical lens on the policy mandate (Young & Diem, 2017), which would have required us to interrogate the education reform. I did, however, attempt to understand the teacher's ideology and resistance to the policy mandate (Peurach et al., 2022). For the most part, we operated with the confines of the state policy, in other words, we did not challenge the policy, rather we focused on improving implementation by finding ways to make the policy valuable and meaningful to teachers.

Future Directions for Research

Future research directions related to the case study include examining how the NC ELI Teacher Manual impacted practice, how the recommendations for NC ELI training impacted teachers' application of NC ELI, and how the recommendations for messaging influenced teachers' understanding of NC ELI. In addition, it would be beneficial to determine if teacher participation in developing these materials increased trust and credibility for practitioners in the field. I believe we started a process of investigation, but RPPs need to have a long-term relationship, typically 3-5 years, to fully understand the benefits of the partnership (Penuel & Gallagher, 2017).

I was attracted to taking a critical realist lens in this investigation because it encompasses both epistemology and methodology. As a methodology, it supports both empirical investigations and theoretical analysis, which is compatible with advancing this study to a mixed methods design (Danermark et al., 2019). As the prevalence of research-practice partnerships continues to expand, future investigation is needed to evaluate the impact of RPPs on teachers' professional identity, how RPPs impact the retention of experienced educators committed to classroom practice, and the benefits and challenges of forming multi-level RPPs.

Concluding Remarks

Beginning with the conceptual framework of Kochaneke et al.'s (2015) Collaborative Research Logic Model, this qualitative case study focused on both the collaborative formation process and the implementation support process. The RPC was able to address real and contextual problems for teachers implementing the NC ELI while also breaking down systemic barriers that undermine implementation. Through the project formation process, members were able to create usable knowledge and products to enhance support and training. Through the collaborative formation process, this study outlined the conditions leading to a productive RPC framework that strengthens teachers' professional identity and sense of agency with mandated policy initiatives. (Borko & Klinger, 2013; Klinger et al., 2013). At the institutional level, this study challenges academic researchers to establish new expectations for multi-level RPP designs to create authentic and equitable partnerships that empower and strengthen educators in the classroom.

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APPENDIX A: POST-MEETING FEEDBACK SURVEY

RPC Feedback: March

Hello team! Please provide feedback on our last meeting held on March 16th. I also invite you to use this opportunity to expand upon the "Rose, Bud, Thorn" conversations we started during our last meeting.

Email

1. As a member of the RPC, I am given the opportunity to contribute to the direction of our work.
2. I feel that the RPC is a safe space for me to freely share my experiences, thoughts, and ideas (without pressure to provide socially desirable feedback).
3. The purpose of our work together is clear.
4. I understand the needs of multiple NC ELI stakeholders.
5. I believe this project will help bridge the divide between research and practice.
6. I have a clear understanding of the tasks I will engage in before our next meeting.
7. Please share any feedback that will help improve the quality and efficiency of our work together.

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8. What domains are you currently monitoring with your case study student(s)? Select all that apply.
9. How frequently do you record placements on the developmental progressions based on the evidence you collected for a specific skill?
    - More than one time weekly
    - One time weekly
    - Once every two weeks
    - Monthly
    - I have only made an initial rating
    - Other _____
10. Have you uploaded evidence to the online portfolio? Select all that apply.
    - No, I haven't started collecting evidence yet.
    - No, I prefer a paper portfolio system or anecdotal notes
    - Videos
    - Photo of student work
    - Voice memo
11. Have you tried out the Mighty Minutes activities?
    - Yes
    - No

12. If you have explored the Mighty Minutes activities, do you think they are a beneficial resource for you and your kindergarten team during the first 60-day data collection cycle? Please explain.
13. What features, if any, have you found particularly useful or interesting in the *GOLD* platform? Please explain.
14. Have you used the *GOLD* platform to communicate with colleagues or parents about your student's skills and abilities? Please explain.

15. Thinking about the "Rose, Bud, Thorn" activity we started during our last meeting, please describe a "Rose" or successful experience you have had since you started using the full *GOLD* measure.

16. Please describe a "Bud", or skill you have been developing since you started using the GOLD measure.

17. Please describe a "Thorn", or challenge that exists in your application of the full GOLD measure.

APPENDIX B: PARTICIPANT INTERVIEW GUIDE 1

The purpose of this initial qualitative interview is to understand how teacher participants in the collaborative conceive their professional identity and to further explore how it developed within the context of public education. This interview seeks to understand what experiences contributed to your sense of being a professional educator and, conversely, what experiences diminish your sense of professionalism. This interview will also explore your perceptions of educational mandates and how they support or confine your work in the classroom. This interview, along with interviewing other RPC participants, will help inform the following research question as part of my dissertation study:

1. How does the confluence of teachers' professional identity and their understanding of educational policy unfold in the context of a research-practitioner collaborative?

Warm-Up Question:

How has your school year been going so far?

Interview Questions:

Part I: Professional Identity

1. When did you first think about becoming a teacher?
2. Tell me about a time when you felt you truly grew as an educator.
3. How has your professional identity developed as an educator?
4. Tell me about a time in your career when you felt like a valued professional.
5. Can you tell me about a time when you felt that your professional identity was diminished?
6. How does participating in this research-to-practice process influence your sense of professional identity?

Part II: Bridging the gap between research and practice

7. Tell me about your experiences implementing NC ELI this fall.
8. In what ways do you think state policy supports your work as an educator?
9. Tell me about a time when you experienced frustration with educational policy mandates.
10. Why did you decide to say yes to being a part of the research-practice collaborative?
11. How do you think this collaboration can improve teachers' experiences with the NC ELI mandate?
12. How could we improve the divide between research, practice, and policy?

APPENDIX C: PARTICIPANT INTERVIEW GUIDE 2

The purpose of this post-interview is to understand your experience participating in the NC ELI RPC. We will explore how this project influenced your professional identity, new perceptions you may have developed about research to practice challenges within the context of educational mandates, and your feelings of efficacy in this process. Finally, we will explore your satisfaction with the work that was accomplished through this partnership and recommendations you may have for future partnerships.

Part 1: Professional Identity

1. Describe a moment during this project when you experienced a heightened sense of professional identity.
    a. Did you feel empowered as an educator? Explain why.
2. Tell me about a time during this project when you may have felt that your professional identity was being challenged or diminished in some way.
    a. Did this surprise you, tell me more about how that made you feel.
    b. Did you feel like an equal contributor alongside the researchers? Tell me more about that.
3. In what ways could this project have further capitalized on your craft knowledge as a professional educator?
4. How will this experience impact your career moving forward?
    a. Do you see yourself differently than you did before participating in the RPC? Tell me more about that.

Part 2: Bridging the Gap Between Research and Practice

1. Describe your initial reaction to discovering more about the NC ELI policy mandate.
2. As we worked through the juxtaposition of stakeholder needs, how did this impact your understanding of state policy challenges?
3. In what ways will our work impact teachers' implementation practices in the classroom? Tell me more about why you feel that way.
4. What do you believe are the merits of state-wide kindergarten entry assessments?
    a. Do you believe we are on the right path? Tell me more about why you feel that way.

Part 3: Perceptions of the RPC's Effectiveness

1. Tell me about a time during this project when you felt like a valued contributor.
2. How do feel about the amount of time you invested in this project in relation to the work we were able to accomplish?
3. Describe some of the limitations with this RPC model?
    a. How do you think we could overcome _____?
    b. What would you recommend we do differently in future RPC models?
4. What was your overall impression of our effectiveness in addressing NC ELI implementation fidelity?

APPENDIX D: NC ELI STATE-WIDE IMPLEMENTATION SURVEY (Initial Draft)

Background:

1. How many years have you taught kindergarten?

2. How many years have you worked in education?

3. Which licensures/teaching certifications do you currently hold?
    a. Birth-Kindergarten
    b. Elementary (K-6)
    c. Middle grades (6-9)
    d. Secondary grades (9-12)
    e. Special subjects (K-12)
    f. Exceptional children (K-12)
    g. Other

        Please specify.

4. Which region do you currently teach in?
    a. Northeast (1)
    b. Southeast (2)
    c. North Central (3)
    d. Sandhills (4)
    e. Piedmont-Triad (5)
    f. Southwest (6)
    g. Northwest (7)
    h. Western (8)

5. Are you a nationally board-certified teacher?
    a. Yes
    b. No

NC ELI Knowledge and Value:

6. In your own words, please describe the purpose of the NC ELI.
7. What other assessments are you required to complete during the first 60 days of the academic year?
    a. mCLASS
    b. DIBELS
    c. MAP
    d. District-level common assessments
    e. iReady
    f. Other

        Please specify

Training, Messaging, and Support:

8. Which of the following options best describe the training you received to support you in implementing the NC ELI? (Select all that apply)
    a. I did not receive any training.
    b. A colleague at my school oriented me to the NC ELI.
    c. I completed a self-guided set of online modules.
    d. I participated in one or more synchronous online training session(s).

e. I participated in one or more in-person school-level training session(s).
f. I participated in one or more in-person district-level training session(s).
g. I participated in one or more in-person state-level training session(s).
h. Other
    i. Please specify.

9. How many NC ELI training sessions have you participated in?
    a. 0
    b. 1
    c. 2
    d. 3
    e. 4 or more

10. When you received training, which topics were covered? (Select all that apply)
    a. The purpose of the NC ELI.
    b. Data collection.
    c. Data use.
    d. Making placements along progressions.
    e. Calibrating ratings across raters.
    f. Resources to support making placements.
    g. Resources to support instructional next steps.
    h. Other
        i. Please specify

11. Are you *GOLD*® interrater reliability certified?
    a. Yes
    b. No

12. To what extent do you agree with the following statements? (1 – Strongly disagree, 2 – Disagree, 3 – Agree, 4 – Strongly agree)
    a. The purpose for the NC ELI has been communicated to me clearly.
    b. The training that I received on how to collect evidence using the NC ELI was adequate.
    c. The training that I received on how to use the NC ELI/*GOLD*® platform was adequate.
    d. During training, I received information about how NC ELI data can be used to support teaching and learning in my classroom.
    e. During training, I received information about how NC ELI data is used by the Department of Public Instruction.

13. To what extent do you agree with the following statements (1 – Strongly disagree, 2 – Disagree, 3 – Agree, 4 – Strongly agree)
    a. My school was prepared to implement the NC ELI.
    b. I feel supported by my district/school administrator(s) to implement the NC ELI.
    c. I have the knowledge necessary to implement the NC ELI successfully.
    d. I have the resources necessary to implement the NC ELI successfully.

14. What structures and resources are in place to support NC ELI implementation within your school?

15. Of the professional development, supports, and resources available to help support NC ELI implementation, which do you find the most helpful and why?

16. What suggestions do you have to improve the professional development, supports, and resources available for NC ELI implementation?

NC ELI Evidence Collection and Data Use:

17. What evidence types have you collected to inform placements along NC ELI progressions? (Select all that apply)
    a. Photos
    b. Videos
    c. Participation in whole-class activities
    d. Participation in small-group activities
    e. Anecdotal notes/observational records
    f. Data from other assessments
    g. Child work samples
    h. Teacher-created checklists
    i. Skills-based screeners
    j. General/overall sense of performance/ability
    k. Data from other assessments (Please explain)
    l. Other (Please specify)

18. When have you collected evidence for the NC ELI? (Select all that apply)
    a. During routine classroom learning activities.
    b. During transitions, recess, lunch, etc.…
    c. During meetings/conferences with parents and families.
    d. Center-based activities designed to match NC ELI objectives.
    e. During staggered entry days.
    f. Other
        i. Please specify.

19. During the 60-day assessment window, how frequently did you collect data for the NC ELI inventory?
    a. At the 30-day checkpoint and the 60-day checkpoint
    b. Monthly
    c. Weekly
    d. Daily
    e. Other
        i. Please specify.

20. During the 60-day assessment window, on average, how many evidences did you collect to support each final rating for each student?
    a. 0 evidences per rating
    b. 1-2 evidences per rating.
    c. 3-5 evidences per rating.
    d. 6-10 evidences per rating.
    e. 11 or more evidences per rating.
    f. Other
        i. Please specify.

21. Describe your process for making a placement for one student along one NC ELI progression.

22. During the 60-day assessment window, how frequently did you engage in the following activities? (1 - Never, 2 - Occasionally, 3 -Sometimes, 4 – Often)

I used NC ELI data to…

a. plan for whole class literacy instruction.
b. plan for whole class math instruction.
c. plan for small group literacy instruction.
d. plan for small group math instruction.
e. set literacy learning goals.
f. set math learning goals.

23. During the 60-day assessment window, how frequently did you engage in the following activities? (1 - Never, 2 - Occasionally, 3 -Sometimes, 4 – Often)

I used NC ELI data to…

a. support students in developing social-emotional skills and competencies.
b. help my students develop necessary motor skills.
c. identify students who may need additional supports in my classroom.
d. identify students who may need additional supports from other teachers or specialists.

24. During the 60-day assessment window, how frequently did you engage in the following activities? (1 - Never, 2 - Occasionally, 3 -Sometimes, 4 – Often)

I used NC ELI data to…

a. guide conversations with families regarding students' academic abilities.
b. guide conversations with families regarding students' developmental progress.
c. communicate with specialist teachers (e.g., speech and language pathologists, physical therapists, occupational therapists, or special educators) who work with my students.
d. communicate with administrators about the needs of my students
e. communicate learning targets or goals to my students.

25. Describe any other ways you may use NC ELI data in your classroom or school.

Features, Strategies, and Resources

26. During the 60-day assessment window, which of the following features, resources, and strategies did you use to aid in collecting data and making placements along NC ELI progressions? (Select all that apply)
    a. Teaching Strategies *GOLD*® mobile app
    b. Teaching Strategies *GOLD*® digital portfolios
    c. Teaching Strategies *GOLD*® progressions, rating scales, indicators, and examples.
    d. Paper portfolios
    e. Teacher-made checklists
    f. Other
        a. Please specify

27. Which resources, features, and strategies were most useful in assigning ratings along developmental and learning progressions? Please explain.

28. In what ways do you collaborate with your grade-level colleagues while engaging with the NC ELI? Select all that apply.
    a. We identify opportunities for data collection together.
    b. We use common student learning artifacts as evidence for a particular progressions.
    c. We identify other assessment items that can serve as evidence for the NC ELI.
    d. We work together to identify evidences that correspond to specific steps along developmental and learning progressions.
    e. We make preliminary placements together.
    f. We finalize placements together.
    g. N/A - I do not work with colleagues, I am the only Kindergarten teacher at my school.

    h. N/A – there are other kindergarten teachers at my school, but I work independently to collect NC ELI data and make placements.
    i. Other
        i. Please specify.

New Items

29. In 2022, the item, *uses and appreciates books and other texts* was added to the NC ELI. Please indicate your level of agreement with the following statements. (1 – Strongly disagree, 2 – Disagree, 3 – Agree, 4 – Strongly agree)
    a. The new item provides useful information for teaching and learning.
    b. The new item reflects skills that are not assessed directly using mCLASS Amplify.
    c. The new item reflects an important component of my LETRS training.

30. In 2022, the item, *uses print concepts* was added to the NC ELI. Please indicate your level of agreement with the following statements. (1 – Strongly disagree, 2 – Disagree, 3 – Agree, 4 – Strongly agree)
    a. The new item provides useful information for teaching and learning.
    b. The new item reflects skills that are not assessed directly using mCLASS Amplify.
    c. The new item reflects an important component of my LETRS training.