

“I CAN, BUT I CAN’T”: KINDERGARTEN TEACHER PERCEPTIONS OF SELF-EFFICACY AND AGENCY IN THEIR USE OF FORMATIVE ASSESSMENT IN THE CURRENT HIGH-STAKES ACCOUNTABILITY CLIMATE

by

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## ABSTRACT

ANGELA M. FERRARA. “I can, but I can’t”: Kindergarten teacher perceptions of self-efficacy and agency in their use of formative assessment in the current high-stakes accountability climate. (Under the direction of NICOLE D. PETERSON)

Early childhood formative assessment (FA) is a process by which teachers gather data about their students’ knowledge and skills across the five domains of early childhood development in order to scaffold and support their students’ unique learning needs (Heritage, 2013). FA has been the cornerstone of kindergarten instruction for generations (Cuban, 1992); however, with the establishment of the annual accountability mandates of the No Child Left Behind Act in 2001, nearly two decades of “academic shakedown” (Hatch, 2002) have transformed kindergarten from a play-based, child-centered space to one focused on developing literacy and other academic skills. In 2014, The North Carolina Office of Early Learning created the North Carolina Kindergarten Entry Assessment (NC KEA), a whole-child focused FA designed to both inform the development of programs to support kindergarten readiness across the state by providing a snapshot of the knowledge and skills children possess at kindergarten entry, and to provide kindergarten teachers with data to assist them in individualizing instruction for their new students at the beginning of the school year. This study analyzes three years of qualitative data gathered from educational practitioners across North Carolina to understand teacher perceptions of their self-efficacy and agency in implementing the NC KEA in its developmentally intended manner in the current heightened accountability climate.

## DEDICATION

I dedicate this thesis to my husband, Joey, and my son, Orin.

Joey, my decision to return to graduate school and change careers was a huge gamble, but your support never wavered and for that I am eternally grateful.

Orin, one day I hope you hear the story of the long, crazy road that led to the completion of this thesis, and that you learn from it that you can accomplish anything you set your mind to. Believe in yourself and never give up on your dreams.

I love you both with all my heart.

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## LIST OF ABBREVIATIONS

AYP	annual yearly progress
B-K	birth through kindergarten teaching license
EOG	end of grade standardized assessment
ESSA	Every Student Succeeds Act
K-6	kindergarten through sixth grade teaching license
NC KEA	North Carolina Kindergarten Entry Assessment
NCLB	No Child Left Behind Act of 2001
OEL	North Carolina Office of Early Learning
PLC	professional learning community
SBE	North Carolina State Board of Education
TRC	text reading comprehension assessment

## CHAPTER 1: INTRODUCTION

In the wake of the implementation of the No Child Left Behind Act (NCLB) of 2001, early childhood teachers are faced with a number of challenges as they struggle to meet the oft-competing demands of supporting the developmental needs of their students while also accommodating numerous new state-, district-, and school-developed academic accountability mandates (Goldstein, 2008). Prior to the policy's enactment, kindergarten's primary role in public education was to prepare students for "real school" (Graue, 2001; Hatch, 2005) by providing scaffolding in the fundamental areas of childhood development that are necessary for later academic achievement: social and emotional development, health and physical development, cognitive development, language development and communication, and overall approaches to learning. This whole-child pedagogy differed greatly from the standards-based systems in place in the upper grades which focused primarily on strictly academic subjects. Given their unique place in the U.S. education system and their specialized early childhood training, kindergarten teachers were often given the autonomy to leverage their professional expertise to make independent decisions regarding their curriculum and instruction (Bredekamp, 1997; Chaille et al., 2002).

No Child Left Behind, however, led to an increase in centralized-control, usually at the state and/or district level, over curricular and instructional decisions (Goldstein, 2008), and to the development of kindergarten standards defining the specific academic

knowledge and skills students are required to master by the end of the school year (Goldstein, 2007). These new constraints limit kindergarten teachers' autonomy to base their instructional decisions on students' prior knowledge, interests, and needs. Furthermore, the academic emphasis of the standards and their added accountability pressures have made it difficult for kindergarten teachers to justify the use of play-based, open-ended, and formative instructional practices that have been a hallmark of kindergarten instruction (Cuban, 1992) to skeptical stakeholders, such as administrators and students' families (Booher-Jennings, 2005; Goldstein, 2007; Hatch, 2005; McDaniel et al., 2005). As a result, kindergarten teachers are struggling to incorporate the developmentally appropriate teaching strategies they understand to be best-practice in early childhood instruction into their daily lesson plans while fulfilling their obligation to teach to the new standards (Goldstein, 2007; McDaniel, et al., 2005). As a result, kindergarten is now often described as looking more and more like first grade (Bassok et al., 2016; Ferrara & Lambert, 2015) since the accountability pressures have necessitated kindergarten teachers limit instructional time for supporting their students' physical, social, and emotional development in favor of literacy and mathematics curriculum (Bassok et al., 2016) often taught utilizing instructional methods many early childhood researchers contend are developmentally inappropriate for young children (Datar & Sturm, 2004; Raver & Knitzer, 2002; Shonkoff & Phillips, 2000; Stipek, 2006).

In the fields of anthropology and sociology, the struggle kindergarten teachers face in enacting what they believe to be developmentally appropriate instruction within the current accountability climate can be viewed as a tension between their perceptions of self-efficacy and their sense of agency as situated within their current professional

worlds. Educational anthropologists George and Louise Spindler (1989) define self-efficacy as a person's prediction that they will effectively meet the demands of a given situation or task. It is an internal understanding that one possesses the knowledge and skills necessary to complete a task effectively (what the Spindler's term "instrumental competence"), including predicting how their actions will work within the social and physical environment in which they will be enacted (Spindler & Spindler, 1989). The Spindlers' definition of self-efficacy is heavily influenced by Albert Bandura's (1977) self-efficacy theory which distinguishes an individual's perceptions of self from perceptions of oneself in relation to their social environment. He does so by differentiating efficacy expectations and outcome expectations. The former refers to the one's belief that they have the ability to perform a particular action, while the latter is an estimation that a given action will lead to a particular outcome within their current social context (Bandura, 1977). Bandura's later work links self-efficacy to human agency by connecting both efficacy and outcome expectations to behavioral change (1982). He writes, the "initiation and regulation of transactions with the environment are...governed by judgements of operative capabilities. Perceived self-efficacy is concerned with judgements of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). In other words, a person's decision to act in a given situation is influenced not only by their belief in their ability to perform the act (self-efficacy), but also by their perception of whether their actions will succeed given their environmental context (agency). Expanding upon Bandura's agency theory, anthropologists and educational researchers recognized that aspects of personal and collective/group identity also affect an individual's sense of agency within their

professional environments (Holland et al., 1998; Lave 1991; Hökkä et al., 2012; Vähäsantanen, 2015). Furthermore, factors external to the individual, such as social, cultural, or bureaucratic power structures (Abu-Lughod, 1990), resource availability, professional environment/climate (Vahasantanen, 2015), administrative and/or peer support and buy-in (Briggs et al., 2018; Ferrara et al., 2017), and time constraints (Ferrara & Lambert, 2015), also affect an individual's decision to act in a given situation.

Taking these theoretical conceptualizations of self-efficacy and agency as a starting point, the recently implemented North Carolina Kindergarten Entry Assessment (NC KEA) provides a unique opportunity to study kindergarten teachers' perceptions of their own self-efficacy and agency within the current heightened accountability climate. The NC KEA was created in response to a North Carolina legislative mandate requiring the development of a kindergarten entry assessment that would provide data about the emergent literacy and mathematics skills of young children at kindergarten entry. Rather than developing another direct, standardized, summative assessment, The Office of Early Learning (OEL) at the North Carolina Department of Public Instruction created a more developmentally appropriate formative assessment process that focused on all five areas of early childhood development. To support the statewide roll-out of this educational innovation, OEL constructed a strategic implementation plan following the implementation frameworks model developed by Dean Fixsen and his research team from the National Implementation Research Network. Fixsen's implementation frameworks draw heavily from the fields of organizational psychology and public administration, and thus focus on systems' level change enacted through tiered systems of support, administration, and authority for the purpose of efficient decision making

(Fixsen, Blase, Metz, et al., 2013; Fixsen, Blase, & Van Dyke 2009). The NC KEA, along with OEL's strategic implementation plan, are being used by ten other US states as a model for developing their own kindergarten entry assessments as part of the federally funded Race to the Top Early Learning Challenge. The NC KEA piloted in 193 kindergarten classrooms during the first 60 instructional days of the 2014-15 academic year (Ferrara & Lambert, 2015), implemented statewide in all North Carolina kindergarten classrooms during the 2015-16 academic year (Ferrara & Lambert, 2016), and has continued to evolve through iterative implementation improvement cycles over the last few years (Ferrara et al., 2017).

However, little is known about whether this implementation model was effective in supporting teachers' implementation of the assessment. Furthermore, not only does Fixsen's rather macro view of implementation give little attention to teacher self-efficacy and agency in enacting change at the classroom level, the artificial implementation tiers create additional power structures teachers must navigate in order to act. Utilizing an anthropological lens to study teacher perceptions of self-efficacy and agency in utilizing the NC KEA in the current accountability climate, then, may hold significant implications for the fields of implementation science and educational policy.

Qualitative case studies conducted by researchers from the University of North Carolina at Charlotte's Center for Educational Measurement and Evaluation throughout the pilot and first two years of the assessment's use afford the opportunity to study kindergarten teacher perceptions of self-efficacy and agency as they implemented the NC KEA within the current high-stakes accountability climate.

The following summarizes the findings from a secondary analysis of qualitative data gathered over three years of research on the NC KEA. This data includes 16 case-studies, 2 electronic surveys, and 8 focus group interviews with district and building level implementation support personnel. This analysis seeks to answer the following questions:

1. What are kindergarten teachers' perceptions of their self-efficacy in utilizing the NC KEA formative assessment process to inform their instruction?
2. What is their perceived agency in incorporating developmentally appropriate formative assessment practices into their instructional routines within the context of the current heightened accountability climate?
3. How can an anthropological understanding of self-efficacy and professional agency inform implementation science and its use to support large-scale educational innovation?

## CHAPTER 2: REVIEW OF THE LITERATURE

Since its inception, the No Child Left Behind Act has become one of the most debated and researched pieces of U.S. educational policy since 1954 when the supreme court ruled in favor of desegregating public schools in the famous *Brown v. The Board of Education of Topeka* case. In some ways, NCLB finds its roots in the *Brown* case, as they both dealt with educational inequality in various forms. Where *Brown* sought to ensure equal access to quality education regardless of student race, NCLB seeks to decrease the learning gap in academic achievement that exists among schools supporting historically underserved populations, such as low-income communities, racial and ethnic minorities, and English language learners (Sleeter, 2004). To achieve that goal, NCLB mandated the creation and use of English literacy and mathematics standards from kindergarten through twelfth grade, standardized testing measures to monitor academic achievement in these areas beginning in the third grade, state-level development of annual yearly progress (AYP) benchmarks, and increased accountability measures to assess teacher, school, district, and state instructional quality.

Perhaps it is not surprising that with NCLB's plethora of novel mandates, much of the early policy literature focused strictly on explaining its language and outlining its implications at the local and state level (Peterson & West, 2003; Borkowski & Sneed, 2006). Later, as states began developing the legislation's required proficiency benchmarks, researchers shifted their focus to these benchmarks' effects. Researchers

found that individualized benchmark development produced significant differences in cut-off scores between states, preventing them from being meaningfully compared (Pandya, 2011) or reliably analyzed for annual yearly progress (AYP) as defined in the initial legislation (Porter et al., 2005; Lee, 2008; Reed, 2009). These benchmarking discussions continued until the first AYP metrics became public. Several districts and states failed to achieve their minimum AYP requirements and sought accountability waivers to avoid sanctions to their federal funding. Researchers debated the potential impacts of withholding funding from underperforming schools and hypothesized its potential for widening the learning gap rather than shrinking it, as those found to be underperforming were often located in historically underserved communities (Koyama, 2012; Rush & Scherff, 2012).

Outside of direct policy analysis, educational research on the impact of NCLB's mandated standards, testing requirements, and accountability measures is both abundant and diverse. A significant portion of research focuses on the increase of high-stakes, high pressure standardized tests. Pandya (2011) qualitatively documented bias in newly developed standardized assessments which prevented English language learners from achieving proficiency. Other research focused on the emotional stress and heightened test anxiety caused by the increased focus on failure, and how such emotional distress led to lower test scores (Embase & Hasson, 2012). Rubin (2011) identified testing and accountability impacts on teacher instructional practices, while Levine (2013) documented the high cost and economic impacts of NCLB's standardized testing regime.

The accountability mandates were also analyzed in the context of teacher education and teacher retention. Selwyn (2007) identified a disparity between student-

teacher expectations and the realities of teaching in the current NCLB environment. He cautioned both faculty and administrators of teacher preparation programs that new teachers may not persist in the profession if they are not adequately trained to handle the high pressure NCLB accountability measures (Selwyn, 2007). Several long-term, ethnographic studies document similar worries for teacher retention, but in regard to educators who were longer established in the profession (Hill & Barth, 2004; McNeil, 2000; Pennington, 2003; Sloan 2004, 2006).

Effects on student learning outcomes based on specific demographic categorizations have also been varyingly analyzed. Darling-Hammond (2007) argued that NCLB left several dynamics untouched which have led to racial disparities in education. For instance, she claims that the policy's equal standards in proficiency levels for both affluent suburban districts, which are traditionally white, and poorer urban districts, which traditionally have higher percentages of students of color, disadvantage urban districts, because the urban districts are forced to make greater gains with far fewer resources (Darling-Hammond, 2007). Similar assertions were made in studies of urban minority youth (Sloan, 2007; Valenzuela et al., 2007), schools serving impoverished populations (Ladd, 2012; Singh, 2013), and the continued low-achievement of students of color nationwide on AYP measures (Macedo, 2013; Tanner, 2013). Gutierrez and Jarmillo (2006) also focused on the 'sameness as fairness rule,' but unlike Darling-Hammond and others who concluded that this led specifically to racial inequality, they focused on unequal outcomes for English language learners. They postulate that the English literacy focus of NCLB has made language a proxy for race in the current US

social order in comparison to the *Brown v. Board of Education* era (Gutierrez and Jarmillo, 2006).

Cultural and linguistic anthropologists added their unique perspectives to NCLB studies by researching the effects of the policy's English literacy mandates in various ways. Monzo and Rueda (2009) discuss the shift from culturally and linguistically responsive teaching techniques to a focus on English only instruction techniques, and how this affected Latino/a student identities in an immigrant community. Along similar lines, researchers Fine, Jaffe-Walter, Pedraza, Futch, and Stoudt (2007) synthesized research from a number of qualitative studies to illustrate how school-, district-, and state-level literacy policies that developed in the wake of NCLB acted as "border guards" by denying diplomas to immigrant English language learners (p. 77). They go further to describe school and community grass-roots projects that developed in resistance to those negative aspects of the policy (Fine et al., 2007).

In comparison to the widespread research of NCLB's effects on student educational realities and outcomes, there have been few studies of teacher self-efficacy and agency in the context of NCLB and fewer still focusing on early childhood educators. In one ethnographic study, however, Lisa S. Goldstein (2007) performed in-depth classroom observations and teacher interviews to better understand the responses of kindergarten teachers to the changing curricular and instructional expectations for their students. She found that the teachers embraced pedagogical 'multiplicity' by employing three different strategies to varying degrees in their daily routines to accommodate both the new academic standards and developmentally appropriate instructional practices: 1) integration, where teachers embed mandated knowledge and skills in meaningful, child-

directed, play-based activities; 2) demarcation, where clear boundaries are drawn around activities expressly designed to teach the standards and activities designed to offer children developmentally appropriate learning experiences; and 3) acquiescence, or the deliberate use of apparent developmentally inappropriate materials or instructional strategies to teach the standards in order to satisfy the expectations and desires of administrators or students' families (Goldstein, 2007). She goes on to explain how aspects of self-efficacy, including teachers' perceived knowledge of the standards and of developmentally appropriate instructional practices, influenced the teachers' selection of each strategy; furthermore, she illustrates how external pressures, such as administrator support and student family expectations of what education should look like, affected the teacher's agency to enact preferred strategies in their classrooms (Goldstein, 2007). Ultimately, Goldstein concludes that "kindergarten must find ways to accommodate the emphasis on the development of academic skills, the achievement of predetermined and standardized learning outcomes, and the displays of uniformity and accountability that will not require the sacrifice of the fundamental principles most central to kindergarten's purpose" (2007, p. 397).

Goldstein's conclusion is powerful and her study illustrates the tension between teacher self-efficacy and agency I mentioned earlier; however, the research has significant limitations. First, the study included only two kindergarten teachers who both taught in the same affluent, predominately white, suburban elementary school. This small sample and narrow demographic scope limit the generalizability of Goldstein's findings. Additionally, factors which could influence teacher perceptions of self-efficacy and agency, such as socioeconomic constraints, ethnic and cultural diversity, English

language learning needs, etc., were not documented in the study. My research on teacher perceptions of self-efficacy and agency in the implementation of the NC KEA provides an avenue for testing Goldstein's conclusions in a larger, more demographically diverse and representative sample.

## CHAPTER 3: THEORETICAL FRAMEWORK

### *3.1 Self-Efficacy*

Social psychologist Albert Bandura is attributed with developing the cognitive theory of self-efficacy. His theory builds on the central tenants of social learning and symbolic interaction theories, exemplified in the work of Mead (1934) and Piaget (1954), which view the ‘self’ as an actor within an environment whom is simultaneously shaping and being shaped by that environment and the other actors within it. From this viewpoint, an individual’s sense of control and their beliefs about causality stem from interactions with their environment, or more specifically their environment’s responsiveness to their actions. Each interaction of an individual with their environment, then, provides context to understand the effects of one’s actions both on the environment and on ones’ self, which in turn informs one’s decisions on how to act within that environment in the future. Furthermore, if the environment is changed by the initial action, the individual develops a stronger sense of ‘self’ as a causal agent within that environment (Gecas, 1989).

Bandura’s seminal work, *Self-Efficacy: Toward a Unifying Theory of Behavioral Change* (1977), expands on this actor-environment learning interaction by distinguishing between efficacy expectations and outcome expectations. Efficacy expectations are internal self-judgements about one’s ability to perform an action, while outcome expectations are an estimation of whether a particular action will lead to a certain result (Bandura, 1977). The former is a belief about one’s personal competence and

capabilities, while the latter is a belief about the responsiveness of one's environment to change (Gecas, 1989). Bandura further postulates that judgements of self-efficacy "are based on four principal sources of information...performance attainments; vicarious experiences of observing performances of others; verbal persuasion and allied types of social influences that one possesses certain capabilities, and physiological states from which people partly judge their capability, strength, and vulnerability" (1977, p. 195). Together, these information sources act as an internal compass, guiding one's decisions about whether or not to act, as well as what action(s) to take. In his later work, Bandura explains this internal decision-making process as follows:

Efficacy in dealing with one's environment is not a fixed act or simply a matter of knowing what to do. Rather, it involves a generative capability in which component cognitive, social, and behavioral skills must be organized into integrated courses of action to serve innumerable purposes...Perceived self-efficacy is concerned with judgements of how well one can execute courses of action required to deal with prospective situations (1982, p. 122).

Educational anthropologists George and Louise Spindler draw from Bandura's work in the development of their own self-efficacy theory. They define self-efficacy as "a prediction that one will be able to meet the demands of a situation effectively" (Spindler & Spindler, 1989, p. 38). These predictions are made based on what the Spindler's term instrumental competence, or an internal assessment of whether one possesses the knowledge and/or skills necessary to achieve a goal as situated in a particular context (Spindler & Spindler, 1989). The Spindlers further explain that self-efficacy "varies across different behaviors in different situations" and is not passive, but actively "constructed by self-determined perceptions and predictions of behavior" of one's self and others (1989, p. 38-39).

While the Spindler's self-efficacy theory seems nearly identical to Bandura's, there is an important, nuanced difference. Bandura's version of self-efficacy posits that an individual's efficacy expectations regarding a current or future task will remain constant until stimuli produced from interactions with their environment or information provided by an outside source (i.e. encouragement from a peer) changes the individual's belief about their own capabilities to successfully act. The Spindlers' version of self-efficacy, however, includes the notion of a "situated self" which adapts to the immediate realities and context of a given environment (Spindler & Spindler, 1989, p. 37).

In this study, I draw from both Bandura and the Spindlers' theories, operationalizing self-efficacy as an individuals' perception of their own ability to achieve a goal as situated within their particular environmental context. Self-efficacy is neither passive nor immutable, but actively shifts as influenced by both internal and external forces. As situated in the professional realities of those implementing the NC KEA, factors affecting teachers' perceptions of self-efficacy may include: content knowledge and skills gained through previous educational and experiential learning opportunities; professional development provided specifically for NC KEA implementation; personal or professional beliefs regarding formative assessment practices; the presence and actions of others, including students, parents, teaching assistants, administrators, and peers; location and the physical elements of the environment; and temporal considerations, such as time of day, time limitations, etc.

### *3.2 Agency*

Parsing a definitive definition of personal agency from the social science literature is difficult, because the term agency is often used in conjunction (or even

interchangeably) with other related concepts, such as self-efficacy (Duggins, 2011). The term agency, however, generally refers to the ability of individuals to act independently, make decisions freely, and enact those decisions on the world (Barker, 2005).

Bandura (2008) defined agency as the ability of individuals to directly influence their own behavior and the course of environmental events. For Bandura, then, self-efficacy is the belief that one has the knowledge and skills required to perform an action, while agency is an estimation of an individual's power to act and, by doing so, affect environmental change. Put more simply, it's the difference between believing oneself capable of performing a behavior (self-efficacy), and having the power to act and create change with that behavior (agency).

Bandura (1982) viewed self-efficacy as a central component in the overall mechanism of personal agency by influencing an individual's thought patterns, emotional responses, and motivation. He explains:

Those who judge themselves inefficacious in coping with environmental demands dwell on their personal deficiencies and imagine potential difficulties as more formidable than they really are. Such self-referent misgivings create stress and impair performance by diverting attention from how best to proceed with the undertaking to concerns over failings and mishaps. In contrast, persons who have a strong sense of efficacy deploy their attention and effort to the demands of the situation and are spurred to great effort by obstacles (Bandura, 1982, p. 123).

In other words, what one thinks they can do (self-efficacy) affects what they think about what they can do (emotional response), which in turn affects what they actually do (agentic action). Furthermore, the individual's emotional responses can be influenced by environmental factors outside of their loci of control.

Bandura's agency theory provides a foundational lens for researchers interested in the agent-environment interactive relationship as it does not specifically define the environment(s) in which agency may occur or bound the factors which affect a person's

decision to act. This opened the door for social scientists in various disciplines to expand upon Bandura's theory by studying agency in a number of contexts over the last three decades. Anthropologists Holland, Lachicotte, Skinner, and Cane (1998) utilized multiple case studies and qualitative meta-analyses to highlight the interrelatedness of identity and agency. They note that individuals have both egocentric (individual) and sociocentric (group) identities which are developed as part of their interactions in, through, and around social and cultural environments, which they call "figured worlds" (Holland et al., 1998, p. 41). They further postulate that individuals develop "conscious conceptions of themselves as actors in [figured worlds], and...these identities, to the degree that they are conscious and objectified, permit these persons, through the kinds of semiotic mediation described by Vygotsky, at least a modicum of agency or control over their own behavior" (Holland et al., 1998, p. 40). In other words, a person's identity, both as an individual and/or as a member of one or more groups, is continually (re)created as they negotiate the socially and culturally accepted activities of the environment(s) they inhabit. Information gained over time by observing others within a situated 'world' and through personal experiences, influence the individual's decision as to whether they should act and, more importantly, how they should act in a given situation. Lave (1991), through her case-studies of engineering apprenticeship education in cross-cultural contexts, further expanded this anthropological view of agency by situating identity formation and agency in the context of teaching and learning. Her situated learning theory problematized the issue of agency in cross-cultural professional interactions, whereby an individual's chosen action, which is based on training within their own culturally defined world, can often be viewed as an illegitimate or counterintuitive action by those trained in a different

cultural context. This is an important consideration when situating research in today's globalized contexts and applies to the current study on the NC KEA when I consider the varied school cultures that exist depending on the participants' locations, the communities they serve, and the training of the educational practitioners they employ.

Where the previous studies outline internalized influences on agency, a number of ethnographers have highlighted external forces affecting agentic actions, and more specifically actions taken in professional teaching contexts. These forces include professional environment/climate (Vahasantanen, 2015) and administrative and/or peer support and buy-in (Briggs et al., 2018; Ferrara et al., 2017). Perhaps the most salient to my current study, however, is the work of anthropologist Abu-Lughod (1990) who elucidates the ways in which social, cultural, and bureaucratic structures of power influence not only socially and culturally accepted actions in a given situation, but also acceptable ways of resisting those actions and their reification. She postulates that this mechanism provides the ability for individuals to enact change, even though they may not be in a position of power within the overall societal structure. This is an important mechanism to consider in my current study, as kindergarten teachers work within structures of power along with their administrators who may differ in their views of what are developmentally appropriate instructional practices in early childhood education.

Drawing from Bandura, Holland et al., and Abu-Lughod, I define professional agency as: the ability of an individual to act by exerting control or change on and within their professional environment. Agency can be either supported or limited by internal and external influences, which can enhance or mitigate the effects of self-efficacy beliefs regarding a situated decision. In the context of implementing the NC KEA, these

influences may include: kindergarten teacher professional identity; federal, state and local policy mandates outside of the NC KEA; educational climate within the sample school and writ large; administrator identity, support, buy-in, and involvement; peer identity, support, buy-in, and involvement; and available resources to support KEA implementation (i.e. time, materials, professional learning communities, formalized building and district implementation teams, etc.).

## CHAPTER 4: METHODOLOGY

### *4.1 Research Phases*

Since the assessment's inception, researchers from the University of North Carolina at Charlotte's Center for Educational Measurement and Evaluation have conducted three separate qualitative research studies on the NC KEA. The purpose of these studies was to inform potential changes to the assessment content, online assessment platform, professional development, and implementation support structures, and to better understand overall practitioner perceptions of the formative assessment process.

The first study was conducted on the 2014 pilot assessment and consisted of eight in-depth case studies conducted in schools which closely matched the socioeconomic, racial, and language demographics for the NC State Board of Education (SBE) region in which they were located. The school principal, any instructional support staff members trained in the pilot process (i.e. intervention specialists, instructional coaches, etc.), and all participating pilot teachers at each case study school were included in the study. In total 23 kindergarten teachers were observed in their classroom and later interviewed, 8 school principals were interviewed, and 6 instructional coaches were interviewed. All interviews utilized semi-structured protocols worded specifically for each participant type. Additionally, an electronic survey informed by the case study interview questions was open to all 305 pilot participants and closed with 72 responses representing 33 of the 51 participating pilot districts (Ferrara & Lambert, 2015).

The second study was conducted during the 2015-16 academic year. This study built upon the 2014 pilot research by capturing practitioner perspectives on the changes to the finalized NC KEA content and process that were informed by the pilot research. Three original pilot study schools were included in this phase and an additional three schools not involved in the initial pilot were added for a total of six case study schools in three school districts. In total, 19 teachers were observed and interviewed, 6 principals were interviewed, and 5 instructional coaches were interviewed during this research phase. Following these case studies, an electronic survey open to all NC kindergarten teachers was conducted, and closed with 736 responses representing 102 of North Carolina's 115 school districts (Ferrara & Lambert, 2016). This survey also sought to gather in-depth teacher perspectives of the assessment outside of the three case study districts by soliciting volunteers for a follow-up telephone interview. Of the survey participants, 106 volunteered to be contacted for a follow-up interview, of which 43 were completed with representation from 26 school districts (Baddouh et al., 2017).

The third study, conducted during the 2016-17 academic year, differed in its focus. Instead of studying classroom level implementation, researchers gathered feedback regarding the team structures put into place to support implementation at the state-, region-, district-, and building-level. Researchers observed implementation team meetings at each level and conducted semi-structured interviews with team members in leadership roles within each team. In total, 8 implementation team meetings were observed, and 30 interviews were conducted with 5 state-level team members, 16 region-level team members, 4 district-level team members, and 5 building implementation leaders. Interview participants represented all 8 State Board of Education regions and 4

targeted sample districts selected for their representation of statewide demographics (Ferrara et al., 2017).

#### 4.2 Participants and Data Sources

Data collected from all three of these research phases are salient to the current study; however, only those participants with direct knowledge of classroom level KEA implementation were included in my secondary analysis. My final sample consists of all 2014 and 2015 case-study participants, the 43 teachers who participated in a follow-up phone interview after completing our online survey during the 2015 statewide implementation study, and the 9 district- and building-level implementation team interviewees from the 2016 implementation supports study. Table 1 summarizes the final sample and data included in my analysis from each NC KEA study phase:

**TABLE 1**  
*Sample participants for secondary analysis by research phase*

<b>Study</b>	<b>Participants</b>	<b>Districts Represented</b>	<b>Data Type</b>
<b>Phase 1 - 2014 Pilot</b>	23 Teachers 8 Principals 6 Instructional Coaches	8	Observation & Interview
<b>Phase 2 - 2015 Statewide Implementation</b>	19 Teachers 6 Principals 5 Instructional Coaches	3	Observation & Interview
	43 Survey Follow-up Teachers	26	Survey & Interview
<b>Phase 3 - 2016 Implementation Support</b>	9 District and Building Implementation Team Members	4	Observation & Interview
<b>Unique Totals:</b>	104*	38*	

\*Note: Numbers reflect unique totals with 9 teachers, 3 principals, 3 instructional coaches, and 3 districts removed for participating in multiple studies.

#### 4.3 Data Analysis

This study consists of a secondary analysis of qualitative data gathered across three phases of an ongoing research project on the NC KEA. While formal self-efficacy and agency inventories, such as the Teacher Self-Efficacy Scale (Bandura, 2006), the

Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), or the Dimensions of Professional Agency Scale (Vahasantanen et al., 2017), were not utilized as part of these initial KEA studies, grounded discourse analysis utilizing qualitative codes informed by the anthropological theorizations of both self-efficacy and agency revealed clear evidence of teachers' perceptions of these concepts.

The primary analyses of the 2014, 2015, and 2016 NC KEA studies each consisted of a grounded discourse analysis of all researcher observation notes, interview transcriptions, and survey responses collected during their respective study. These analyses were performed in NVivo by three researchers who underwent qualitative research training and participated in a code norming process during each research phase to ensure inter-rater reliability within and across each study. In total these studies identified 352 unique themes (codes) in the data, with more than 15,000 references to those codes across all data sources.

To begin my secondary analysis, I imported the primary NVivo analysis files for each research phase and merged them into a single file. This merged file included all participant observation notes, interview transcripts, and survey responses collected across all three study phases and their associated primary analysis coding. From there, I removed all data sources except those outlined in Table 1. Next, I performed a new grounded discourse analysis on this smaller sample, focusing specifically on elements of self-efficacy and agency in their use of the NC KEA. I began this analysis by generating parent codes for both self-efficacy and agency, to identify these themes as they are broadly conceived. Then, while reanalyzing the data with this new theoretical lens, I identified elements affecting the participants perceptions of their self-efficacy and agency

as they discussed their NC KEA implementation experiences. I created sub-codes for each of these self-efficacy and agency elements, nesting each within their parent code. A sample of the elements identified include: prior experience, knowledge of early childhood development and developmentally appropriate instructional practices, NC KEA specific professional development/training, resources available to support assessment implementation, peer collaboration and perspectives, power differentials between implementing parties, and established early childhood focus and school culture, among others. Additionally, I added sub-codes to both the self-efficacy and agency parent codes that indicated whether the participant perceived an element as either facilitating or limiting their self-efficacy or professional agency, and others which identified whether the participant indicated a perception of high or low self-efficacy or agency.

To illustrate my coding process, I offer the following teacher interview sample and an explanation of the codes which I applied:

I come from a strong background in early childhood. I've taught NC Pre-K and Kindergarten exclusively, so I really get the KEA, the whole-child focus, the look at social, emotional, and physical development. I think it is a good thing, but...at the end of the day they're looking at Reading 3D. When they pull data to see if they're ready to go to first grade and to see how you're doing as a teacher, they're not looking at KEA or the whole child, they're looking at MClass scores, because that is the connection we have with first grade. It's that measure we must attend to, to have a continued career in North Carolina education.

As this teacher discusses her past early childhood teaching experience, she notes that it helped her 'really get' the NC KEA. Through the lens of Spindler and Spindler's (1989) instrumental competence and Bandura's (1977, 1982) performance attainments, I interpreted this as an indication that her previous training and experience facilitated high self-efficacy in her use of this formative assessment process; thus, I coded this sample at the parent code *Self-Efficacy*, and at the self-efficacy sub-codes *Prior Experience*,

*Knowledge of EC Development, Facilitating, and Perception of Efficacy*>High. This teacher also expresses limitations in her ability to utilize the NC KEA due to the pressures of other assessment mandates and their annual teaching evaluation. According to Bandura, external factors of an individual's environment may facilitate or limit their agency to enact environmental change. Additionally, according to Abu-Lughod (1990), power structures can restrict an individual's agentic choices when superiors normalize particular courses of action as appropriate and/or associate some form of censure to those who act outside of their dictates. In this case, the appropriate action being 'attending' to other assessments that appear to be higher priorities to their school, district, and/or state-level administrators. Given these lenses, I coded this sample at the parent code *Agency*, and additionally at the sub-codes *Additional Teaching/Assessment Obligations, Administrator Priorities, Limiting, and Perception of Agency*>Low. Overall my secondary analysis yielded 42 new codes, 15 identifying elements of self-efficacy and 27 identifying elements of agency, and a total of 1487 references to these codes across all data sources.

As a final coding step, I applied characterization codes to each observation, interview, and survey response. Characterization codes identified demographic indicators for each participant, such as: whether they were an administrator, instructional coach, or a teacher; their teaching licensure (B-K, K-6, other, or none); and years of teaching experience (<5, 5-9, 10+). Finally, I performed frequency and matrix (cross-tabulation) analyses, some nested within the characterization codes, to identify prominent patterns and themes in the data. The following sections present my analysis results and discuss their implications.

## CHAPTER 5: RESULTS

Researching the implementation of the North Carolina Kindergarten Entry

Assessment afforded a unique opportunity to research the following questions:

1. What are kindergarten teachers' perceptions of their self-efficacy in utilizing the NC KEA formative assessment process to inform their instruction?
2. What is their perceived agency in incorporating developmentally appropriate formative assessment practices into their instructional routines within the context of the current heightened accountability climate?
3. How can an anthropological understanding of self-efficacy and professional agency inform implementation science and its use to support large-scale educational innovation?

Discourse analysis of the participant interviews and survey responses identified a number of key factors affecting teachers' perceptions of their self-efficacy in their understanding of the NC KEA, as well as their perceived professional agency in utilizing the assessment as developmentally intended. For research question 1, regarding self-efficacy, I found that differences in the KEA specific professional development teachers received affected their efficacy beliefs in their use of the assessment. Furthermore, instructors with Birth-Kindergarten (B-K) teaching licenses were more likely to have high efficacy beliefs regarding their use of the KEA than teachers with Kindergarten-Sixth Grade (K-6) licenses. For research question 2, about the matter of professional agency, I found that

district and school administrators' understanding of early childhood development and their buy-in to the NC KEA process is perceived by teachers as the strongest facilitator or limiter of their agency in implementing the NC KEA. Additionally, where strong teacher collaboratives or professional learning communities (PLCs) exist, group agency can circumvent power dynamics inherent in teacher-administrator professional relationships to facilitate stronger agency in teachers' use of the NC KEA. This section details these specific self-efficacy and agency findings, while a discussion of the implications of how these results may affect large-scale implementation of formative assessment innovations will follow to address research question 3 above.

*5.1 Research question 1: What are kindergarten teachers' perceptions of their self-efficacy in utilizing the NC KEA formative assessment process to inform their instruction?*

Informal, observational, and formative assessment practices are a hallmark of traditional early childhood instruction. It is not surprising, then, that when describing their classrooms prior to NC KEA implementation, teachers mentioned including a number of such practices in their normal daily routines. These practices included: observing their students informally throughout the day, jotting or taking mental notes, using checklists to help individualize instruction by providing different materials, activities, or rearranging student groups for future lessons. These formative practices are cornerstones of the NC KEA process, and as such I interpreted them as an indication of what the Spinlers' term instrumental competence (1989), or the possession and/or mastery of knowledge and skills necessary to implement the new assessment. Of the participating teachers, 76.4 percent discussed utilizing one or more of these foundational

formative practices, which indicates that the majority of participant teachers felt competent in their ability to perform formative assessments in their classrooms. In the light of my operational definition of self-efficacy, I interpreted the utilization of these practices as facilitating high teacher efficacy in the utilization of formative assessment on the whole and coded each as *Self-Efficacy>Instrumental Competence>Utilization of Standard FA Practices, Facilitating Efficacy, and Perception of Efficacy>High*.

A number of teachers' comments regarding the NC KEA support this idea that their foundational knowledge of formative assessment strengthened their efficacy beliefs in their ability to understand and implement the new assessment. These statements directly link their prior teaching and formative assessment experiences with the NC KEA. For instance, several teachers stated something like "The KEA is basically what we already do in kindergarten everyday" (43.5% of pilot teachers, and 41.5% of statewide implementation teachers), and "I know where my students are and where they need to go, because I'm observing them all day." (65.2% of pilot teachers, and 67.9% of statewide implementation teachers). These comments indicate that teachers recognize the formative nature of the NC KEA, view it as aligning with their previous and/or current instructional practices, and therefore have the instrumental competence to implement the NC KEA. Thus, I coded these statements as *Self-Efficacy>Instrumental Competence>NC KEA Utilization, Facilitating Efficacy, and Perception of Efficacy>High*.

If teachers viewed the NC KEA as similar in its purpose and method to instructional and assessment practices already familiar and comfortable to them, one might hypothesize that teachers would hold high efficacy beliefs in their ability to incorporate the new NC KEA process into their daily instruction. My data, however,

indicates quite the opposite. During the two post assessment surveys, 67.9% of pilot teachers and 73.8% of statewide implementation teachers *Agreed* to the statement “I understand the formative nature of the NC KEA” **and** *Disagreed* to the statement “I feel confident in my ability to utilize the NC KEA to drive my instruction.” Numerous case study teachers who clearly demonstrated their mastery of formative assessment processes during researcher observations of their classrooms, mirrored these reservations regarding their confidence with implementing the assessment (57.6% of case study teachers). The following conversation with one of these case study teachers is a particularly salient example of this dichotomy:

When this was first presented to us, I felt really prepared and I was excited about it because in theory it jived well with the way I teach in my classroom. The other teachers here at my school felt the same. We were like ‘We’re observing our students all the time’ so we all thought it would be easy. But it just fell apart when we got to training and started using the platform in the classroom. Now we don’t know what to do really...A lot of people were just as frustrated as I was and as the veteran I got a lot of questions of “Why am I doing this anyways? I already do book and print concepts with mClass and TRC, why would I have to redocument it here? And what do we do with all of this after we enter it? How does any of this help me get my students reading by the end of the year?’ I didn’t know what to tell them, because I was struggling with those questions myself.

For the purposes of this study, I operationalized self-efficacy as an individuals’ perception of their own ability to achieve a goal as situated within their particular environmental context. The survey and case study teachers stating that they did not feel confident in their ability to utilize the assessment, then, clearly indicates that those teachers held low efficacy beliefs in their ability to implement the NC KEA in their classrooms. In an attempt to better understand what internal or external factors may have limited these teachers’ self-efficacy, I compared statements coded as *Facilitating Self-efficacy* and *Limiting Self-efficacy* between teachers coded as having high and low

efficacy beliefs in their ability to implement the NC KEA as intended. From this analysis, two themes became apparent: 1) a difference in their teaching licensure and prior teaching experience, and 2) a difference in the KEA specific professional development received by each group.

### *5.2 Teacher Preparation, Licensure, and Experience*

Kindergarten teachers come to their classrooms mainly through three different paths. Some enter directly into teaching kindergarten after graduating from their teacher preparation coursework, while others either move to kindergarten after teaching in higher elementary grades or transition from a state-run Pre-K classroom or from a private preschool/childcare center environment. These different paths are made possible by the two different teaching licenses that the NC Department of Public Instruction authorize to teach the kindergarten grade level. As I demonstrate below, these different paths and licenses can lead to different perceptions of self-efficacy with regard to formative assessment implementation.

In North Carolina, teachers can obtain a teaching license covering birth through kindergarten (B-K) or kindergarten through sixth grade (K-6). Considering the vastly different developmental and academic milestones inherent in the grades of these two ranges, the teacher preparation coursework each licensure group receives is significantly different. B-K licensed teachers complete multiple courses focusing heavily on social and emotional development, self-regulation, and fine/gross motor development, as well as, on developmentally appropriate instructional practices, such as play-based learning and observational assessment (Fowler, 2019). K-6 licensed teachers may have as little as one semester focusing on early childhood development and instruction. The majority of their

teacher preparation focuses on standards based, academic instruction and adherence to the current high-stakes accountability mandates. In fact, the K-6 licensure standards in 15 states do not mention using observation, fostering children's play, self-regulation, or social and emotional growth (Fowler, 2019).

Bandura and the Spindlers note that prior experience and training both influence an individual's efficacy beliefs. Bandura includes this as part of his self-efficacy category of performance attainments, while the Spindlers claimed them as an element of instrumental competence. With that in mind, I compared teachers' efficacy beliefs in their utilization of the NC KEA between the B-K licensed (n=29) and K-6 licensed (n=47) teachers in this study. To do this I compared all of the high and low efficacy perception codes and the facilitating and limiting efficacy codes between the licensure groups. I found that teachers with B-K licenses held stronger efficacy beliefs in their ability to perform the NC KEA in a developmentally appropriate manner than teachers holding a K-6 license (79.3% of B-K teachers identified as perceiving high-efficacy versus 27.7% of K-6 teachers). This is evident in the ways in which B-K teachers discussed the overall formative assessment process and its whole-child focus. For instance, B-K teachers frequently discussed the content of the construct progressions as aligning well with their understanding of the developmental needs of their students (68.9% of B-K licensed teachers). As one B-K teacher explains, the progressions are

much more in tune with the developmental ages of the students with which we work than how we usually assess. We obviously follow the state's requirement to do Reading 3D, but that is not developmentally appropriate...Children are a whole package and not just pieces and parts. Each one influences the other. I did feel like [the progressions] were very developmentally based and focused rightly on the whole child. I mean how can we ask them to start writing their letters when they don't even know how to hold a pencil?

By contrast, only 23.4% of the K-6 licensed teachers mentioned the whole-child perspective of the NC KEA. Instead they were more directly focused on other strictly academic, standards-based assessments and did not understand how the developmental progressions could assist their students in achieving their required achievement milestones by the end of the year. This is evidenced by a number of K-6 teachers asking quite directly “How is any of this supposed to help my students reach a D in reading by June?” with D referring to the cut score on the North Carolina mandated literacy curricula that indicates a child is proficient at the kindergarten reading level, and thus prepared to enter first grade (76.6 % of K-6 licensed teachers versus 20.6% of B-K licensed teachers).

Instructional coaches and administrators supporting NC KEA implementation in seven of the eleven case-study schools also noticed this trend. Three elementary principals and four instructional coaches, each located in separate schools, noted either that a teacher who had transitioned from an NC Pre-K classroom had a strong handle on the assessment at the outset or that a teacher that had transitioned from a higher elementary grade had struggled to understand the assessment’s content and purpose. One particular conversation with an instructional coach illustrates these efficacy disparities well:

Instructional Coach: In my building, I have one of my teachers. Honestly, she is one of those people that just truly understands young children and came along through a time where it was all...it was about the whole child.

And then as curriculum changed, as the classroom changed, some of the things... We've had some different administrators and superintendents, so some of the focus came away from the whole child to the more academic piece of kindergarten. And so, kindergarten became this academic place and there seemed to be a push away from the other important pieces: the social piece, the emotional piece, and the physical piece of it all.

And so, I think with her being there, she is one of four [kindergarten teachers], anyway I think that's why it was an easier transition for us. She's one of these people that really gets the whole child and understands why it's important and that in order for this part, the academic part of a child to grow, you've got to nurture all these other pieces. And so, she has been instrumental in getting us on the right path with KEA because gathering the evidence may have been one of the biggest pieces, but she said 'it's things we know and do anyway' and then the other teachers got it.

Interviewer: You said she really had a focus in early childhood and just got the KEA. I'm curious, do you know if she's B-K or K-6 licensed and do you think that made a difference for you all with implementation?

Instructional Coach: She's B-K certified, so of course her training had been in Early Childhood, so she really gets this young child realm which helped all of our teachers integrate this into their classrooms. We haven't gotten as much kickback as I think some other schools, because you know, you've got teachers at other schools that have moved from second grade, third grade, and moved to kindergarten. They think in the more academic world than the whole child...

Then there's one school in [our district] where every single teacher in the kindergarten grade level were teachers that came from upper elementary and moved down. And they have been a little harder to sell. They say things like "How do you expect me to do..." or "How is this even relevant..." You know, there's a little negativity on their part, but I think it's rooted in their philosophy and it's rooted in their understanding. Because I don't think they've ever worked prior to being a kindergarten... I don't think they had ever worked with young children, to the point. And I don't know that their training, because of when they all graduated. They're all actually older. I'm 43 and they're all about my age, but went to school later in life. They have teenage children, so they're not coming from this mindset of learning about young children. And the actual college that I think most of them attended, their current curriculum doesn't really teach whole child, like from that mindset, you know, teaching about that. It's more standards and accountability focused.

And so, they're not coming in with a similar philosophy, like some of the oldies that have been there for 17, 18, 25 years. You know? And so, their mindset is a little different. So if anybody has done any kickback, that one group at that one school, because there's no advocate for the whole child at the school. There's not anybody there that understands it, like fully, truly understands why it's so important. Even though they've watched the video a hundred times. Even though they're given all these articles. They just don't understand so they don't buy into it.

This instructional coach notes that kindergarten teachers with professional preparation and prior teaching experience focused specifically within early childhood development understood the NC KEA purpose, content, and process better than their peers with teacher preparation and experience solely in the upper elementary grades. Based on this studies' theoretical lens, I interpreted this to mean that teachers with B-K licenses possessed specific knowledge and skills (instrumental competencies) viewed as necessary by the participants to successfully implement the NC KEA. This in turn led them to feel more confident and less reticent (held higher efficacy beliefs) in their ability to perform the assessment as intended than their K-6 licensed counterparts.

### *5.3 NC KEA Specific Professional Development*

In an effort to limit any undue burden on districts during the initial year of NC KEA statewide implementation, the NC Office of Early Learning directed each district to develop their own implementation plans based on their unique capacities. One of the elements each district was required to provide as a part of their implementation plan was a professional development model (Ferrara & Lambert, 2016). Given the diversity between districts in regard to their number of kindergarten teachers, the geographical spread of schools, the time and resources they had available, etc., the training plans they developed were as individualized as the districts themselves. NC KEA specific training sessions ranged from multi-day workshops that included hands-on time with the assessment platform on either a computer and tablet device (10 teachers in 8 districts), to a single hour set aside during a teacher planning period where the assessment was introduced and the teachers were given the opportunity to ask questions (17 teachers in 9 districts). In the case of one large district, no formal training was held at all. Instead

teachers simply received an email containing a link to a video that described the assessment process and gave a short introduction to the online system (7 teachers, 100% of survey and interview participants from that district). During a phone interview, one teacher from that district described her training experience and her perception of implementation preparedness as follows:

Teacher: They introduced it during a meeting at the end of last year. You know, just told us that it was coming and what assessments we would be doing, and the way they described it we all left thinking ‘That’s gonna be easy!’ They told us there was going to be another training in the summer, definitely a day to train the teachers, but then they changed a bunch of things over the summer and never gave us a real training. A couple days before the start of classes we got an email that said we needed to do the NC KEA with a link to a video showing us what the assessment platform looked like and our login information.

Interviewer: So you were told ‘you need to do the KEA’ and told how to login, but you never received any formal training on the content of the assessment, how to use the platform, or the steps to the full assessment process?

Teacher: Yeah. So, I went to my instructional coach and emailed the district person who was supposed to handle this sort of thing, and was like ‘Um, what exactly am I supposed to do?’ They kept saying ‘Just watch the video’. So, I watched the video, and watched the video, and watched the video. But how am I supposed to know what any of this stuff means if no one really explains it to me?

Interviewer: Given that training experience, how prepared did you feel to conduct the KEA in your classroom?

Teacher: I didn’t feel prepared at all. And I was nervous because they kept on saying ‘by law’ you need to do this. They did say it just like that, that ‘by law you have to do this.’ So, I taught myself what I could by playing around in the system. I spent lots of hours before or after school and at home entering everything. The other teachers and I also got together during planning and we fought through it together and in the end just hoped for the best.

Of the teachers categorized as holding low efficacy beliefs, 66.3% stated they received insufficient training and felt unprepared to implement the assessment, and 72.8% stated that they did not fully understand the content and purpose of the NC KEA. By contrast, only 31.8% of the teachers categorized as holding high efficacy beliefs

stated that they received insufficient training, and only 19.7% stated that they did not understand the content and purpose of the NC KEA. Furthermore, low efficacy teachers who stated they received insufficient training were more likely to approach the assessment in a summative, rather than a formative, manner than high efficacy teachers who stated they had sufficient training. This is evident in their utilization of the situational task activities provided by OEL. According to the NC KEA Progression Manual (North Carolina Office of Early Learning, 2015), situational tasks provide teachers with a curated activity they can perform with a student whom they are unable to place on a developmental progression based solely on observations from routine classroom instruction or data from other instructional/assessment tasks. These example activities are not prescribed assessments to be performed on every student and then progress monitored throughout the assessment period; however, a majority of the low efficacy teachers who indicated they received insufficient training and felt unprepared to implement the NC KEA (59.4%) took them as such. These teachers pulled students from their routine classroom instruction to sit one-on-one with the teacher or their aid and performed the situational task to determine each students' placement on the developmental progression. By comparison, only 9.3% of high efficacy teachers who stated they received sufficient training and felt prepared to implement the NC KEA utilized the situational tasks in this summative manner.

These comparisons indicate that the quality of the NC KEA specific professional development teachers received was a significant factor in the efficacy beliefs of teachers regarding their ability to implement the NC KEA. This aligns with both the Spindlers' self-efficacy theory and my operational definition of self-efficacy. As stated previously,

according to Spindler and Spindler (1989), efficacy beliefs are situated within a particular context. In other words, an individual's belief about their ability to achieve a particular goal (i.e. implementing the NC KEA) is made in a particular time, place, and environment (social, cultural, professional, etc.). This means that the instrumental competence necessary to facilitate high efficacy beliefs can also be situational/goal specific. That is to say, both prior knowledge/mastery of formative and observational assessment practices (as discussed above) and NC KEA specific training are elements of instrumental competence which affected teacher's efficacy beliefs in their implementation of the assessment. Furthermore, since a number of teachers with observable knowledge/mastery of formative assessment practices held low efficacy beliefs when they received insufficient NC KEA specific professional development (42.8% of teachers), it appears that task-specific competencies may weigh more heavily on teacher's professional efficacy beliefs regarding implementing new initiatives than their general professional background knowledge, skills, and experiences.

*5.4 Research Question 2: What are teachers' perceived agency in incorporating developmentally appropriate formative assessment practices into their instructional routines within the context of the current heightened accountability climate?*

For the purposes of this study, I defined professional agency as the ability of an individual to act by exerting control or change on and within their professional environment. Agency can be either positively or negatively affected by internal and external forces, which enhance or mitigate the effects of self-efficacy beliefs regarding a situated action. For this study I was particularly interested in teachers' perceptions of their agency to implement the NC KEA *as it was developmentally intended*. I emphasize

this last point, as OEL designed the NC KEA as an ongoing formative process where teachers gather evidence of student skills and abilities in all five areas of early childhood development continuously throughout the 60-day assessment window and utilize that data to individualize their instruction to meet each student's unique learning needs. However, because the legislative mandate for the assessment only requires a single data point entered into the online system, it is possible to "do" the NC KEA in an inappropriate summative manner in order to "check the box" that the assessment was completed. As I mentioned previously, many teachers with low efficacy beliefs, weaker backgrounds in early childhood principals, and insufficient NC KEA specific training performed one-time summative tasks to enter the required data to the online system. This illustrates a fundamental break from its intended use, and while a lack of instrumental competence and efficacy can help explain why some teachers failed to implement the assessment as intended, it cannot account for the teachers who demonstrated mastery of formative assessment practices, had sufficient task specific training, and held high efficacy beliefs, but still implemented the assessment incorrectly (31 teachers, or 40.8% of total teacher participants). To better understand what factors may have mitigated these teachers' efficacy in performing the assessment as intended, I focused on their survey and interview responses to the following questions/discussion prompts:

1. Tell me what NC KEA implementation looks like in your classroom.
2. What barriers have you encountered while implementing the NC KEA?
3. What have been the most beneficial resources and supports available to assist you in implementing the assessment?

4. What requests would you make at the state-, district-, and school-levels to assist you in implementing the NC KEA?

The first question allowed me to divide these high efficacy teachers into two groups, those who did and those who did not perform the assessment as intended, while the other three provided opportunities to identify what external factors teachers perceived as facilitating or limiting their agency in performing the assessment. Upon comparison, two clear patterns emerged between groups. First, teachers who did not implement the assessment as intended often cited a lack of administrator support as a barrier to their implementation (64.5% of incorrect implementation teachers, versus 18.2% of correct implementation teachers). Second, teachers who implemented the assessment as intended often cited routine collaboration with their peers as part of a professional learning community (PLC) as a beneficial resource to support their implementation (63.6% of correct implementation teachers, versus 20.0% of incorrect implementation teachers). To illustrate these findings in greater depth, I offer the following comparison of three case study schools from the 2015 statewide implementation phase of this study.

#### *5.5 Three Schools, Three Different Implementation Experiences*

Out of the 11 case study sites that participated in the pilot and statewide implementation studies, I selected these three schools as exemplars for a number of reasons. First, I wanted to limit potential variability between study phases by case studies conducted during a single research phase. The three schools selected took part in phase two of research, the 2015 statewide implementation study. Secondly, the three schools were similar in size, in location, and with regard to the demographics of the student populations they served. Table 2 below summarizes these similarities:

**TABLE 2**  
*Demographic comparison of the three sample case study schools*

	<b>Sample School 1</b>	<b>Sample School 2</b>	<b>Sample School 3</b>
<b>Urban-centric Locale</b>	Rural - Distant	Rural - Fringe	Rural - Fringe
<b>Percent Free or Reduced Lunch</b>	54.07	57.93	59.22
<b>Percent Minority</b>	30.22	31.49	38.84
<b>Percent English Language Learners</b>	3.26	4.22	5.47
<b>Number of K Classrooms</b>	2	4	4
<b>Average Class Size</b>	18	23	23

Finally, nearly all of the teachers in the three schools were categorized as having high efficacy beliefs during my prior analysis (9 out of the 10 teachers). The single exception was a teacher in Sample School 2 who was newly hired and had missed the district's professional development workshop that had been held the month prior to her start date.

While the classroom makeup and instructional staff of the three sample schools were similar, their administrators differed in significant ways. The principal at Sample School 1 taught kindergarten for 16 years prior to moving to school administration. This principal also attended the same district provided NC KEA professional development workshop as her teachers in order to, as she put it, "understand both the purpose of the assessment and what my teachers were being tasked with, so that I could effectively support them." By contrast, Sample School 2's principal taught three years of high school physical education prior to moving to administration and had no training in early childhood development. Similarly, the principal at Sample School 3 taught eight years in the fifth grade prior to becoming an administrator and also did not have any training in early childhood principles. Neither principal at Sample Schools 2 or 3 received NC KEA specific training. Instead the schools' instructional coaches attended training and acted as their kindergarten teachers' main line of support.

The three sample schools also differed regarding their peer support/collaboration structures. The two kindergarten teachers at Sample School 1 held shared planning hours at least twice a week and met with both the NC Pre-K teacher and the 3 first grade teachers at their school for vertical planning sessions quarterly. The teachers at Sample School 2 had staggered, individual planning hours throughout the week, and only met once a month for group discussions and planning. Sample School 3 had an established, high functioning PLC which met twice a week for group planning and at least quarterly with the school's first grade PLC for vertical planning.

When comparing the codes *Perceptions of Agency*>*High*, *Perceptions of Agency*>*Low*, *Facilitating Agency*, and *Limiting Agency* between the three schools, it became apparent that differences in administrator background and buy-in to the NC KEA process, as well as peer collaboration via an existing PLC affected teacher perceptions of their agency in implementing the assessment as intended. Table 3 below outlines the differences between schools regarding these factors:

**TABLE 3**  
*Comparison of perceived agency and agency affecting factors between sample schools*

	<b>Sample School 1</b>	<b>Sample School 2</b>	<b>Sample School 3</b>
<b>Administrator Background</b>	Prior kindergarten teacher	Prior high school PE teacher	Prior fifth grade teacher
<b>Administrator Buy-in</b>	Yes	No	No
<b>Professional Learning Community</b>	Yes	No	Yes
<b>Teachers' Perceived Agency</b>	High	Low	High

The following two subsections provide an in-depth explanation of how I determined these differences and seek to illustrate how administrators and PLCs influence teacher perceptions of their professional agency in utilizing formative assessment processes.

### *5.6 Teacher Agency within Structures of Power: Administrator Backgrounds and Buy-in*

School administrators often set the tone for their schools (Alridge & Frasier, 2016; Nir & Hameiri, 2014). They are at the helm, as it were, setting academic priorities and driving their ship toward specific goals and agendas. In recent years with the added pressures of federal and state accountability mandates, these goals have become mostly concerned with student literacy and mathematics outcomes. It is understandable that administrators' have prioritized these academic areas seeing as NCLB legislation, or the Every Student Succeeds Acts (ESSA) as it was renamed with its revision in 2015, has tied elementary school funding to annual yearly progress (AYP) metrics from end of grade (EOG) reading and math tests in third through fifth grade. Compounding these accountability pressures in North Carolina, both administrator and teacher pay are tied to their school's AYP performance, and teacher pay is tied directly to their students' EOG testing outcomes as part their annual teacher quality/effectiveness reviews (North Carolina Professional Teaching Standards, Standard 6). While EOG tests are not required in kindergarten through second grade, the NC legislature assigns specific literacy and/or mathematics measures that provide data to determine student growth and rate teacher effectiveness in these grades. For NC kindergarten, outcomes on Reading 3D (also known as mClass or iStation) and Text Reading Comprehension (TRC) assessments are the two metrics utilized to calculate both school and staff effectiveness.

With their focus on academic achievement, these legislative mandates have unintentionally created what scholars have come to term "accountability and academic shovedown" (Arby et al., 2015; Bassok et al., 2016; Bullough et al., 2013; Hatch, 2002; Rose & Rogers, 2012) or "push-down academics" (Harmon & Viruru, 2018), where

educators and administrators attempt to build stronger academic skills at a younger age in the hope that they will perform better on the standardized tests used to document AYP in the later grades. To accommodate more literacy and other academic instructional time, the developmentally appropriate practices meant to support young learners with socioemotional, physical, and adaptive development, which have been the cornerstone of kindergarten for generations, were often scaled back or eliminated altogether.

Kindergarten teachers in North Carolina certainly felt this shift. One teacher in Sample School 3 noted,

We went through a big change, where kindergarten used to have all these play centers, and had housekeeping, and had the art station, and had all these wonderful stations: Play-Doh, blocks, and things. Then they were put in a building! Administrators said, 'It's high stakes! It's academic time! We've got to get these children reading Level D by the time they leave us! They need to be doing this. They need to be able to count to a hundred' ...And so, there was this academic push and all that stuff was just put in a building and forgotten.

Other teachers noted the elimination of these developmental materials as well, with many saying something similar to “[administrators] took away housekeeping, dramatic play, our sand tables and other sensory activities, and told us our centers needed to be literacy based” (42.1% of teachers in full study sample). These statements are quite telling.

Administrators, at both the district and school levels, made the decision to remove these developmental materials regardless of how the kindergarten teachers felt and required them to change their lessons and instructional methods to support solely academic achievement. Many of the teachers in my study noted that these changes, as well as the mandated benchmarking assessments added to their instructional load, were not developmentally appropriate (51.3% of teachers); however, they had very little ability to resist these changes when the assessments were tied to their teaching evaluation (46.1%

of teachers), an evaluation generally performed by their principal annually. Herein lies a power conflict and a significant limitation for teachers' perceived agency when we look at the implementation of a developmental assessment like the NC KEA in this heightened accountability climate.

As Abu-Lughod (1990) explains, agency occurs within structures of power, where those holding higher status within the power structure define appropriate mores, customs, actions, etc., and prescribe censures to those acting against their dictates. Individuals of lower status, however, can find small ways to resist those dictates that do not directly defy them, allowing for some perceived agency on the part of the lower status individual. To translate these power dynamics and their effects on agency to this study, this means that if school principals, who have direct professional authority over their kindergarten teachers' careers, prioritize strictly academic outcomes in early childhood, the kindergarten teachers perceive little choice but to change their instructional strategies to meet those demands regardless of whether they felt it appropriate for their students' development. Conversely, if school principals support developmentally appropriate practices, kindergarten teachers feel able to maintain such instruction in their classrooms without the worry of professional censure. A comparison of Sample Schools 1 and 2 clearly illustrate these agentic dynamics.

During their interviews, both teachers at Sample School 1 indicated that they were free and able to integrate the NC KEA into their instruction in a developmentally appropriate manner, and that their principal fully supported the NC KEA process. As one of the teachers explains,

Our school has a strong developmental mindset in early childhood, and our principal, who was a kindergarten teacher, cultivated that in the three years she's

been here. She understands that the needs of our students are very different from the upper grades. It's not just academic. I mean it's not like a third grade teacher has to help a child zip up their pants after using the bathroom in the middle of a lesson! She really gets that, understands that fine motor skills need help developing, how that affects things like holding a pencil to write their letters, and that we need to have resources and time in the classroom to work with them on that.

So when the KEA came along, she was all for it because it really focused on the developmental pieces. She went to training with us to get a better handle on the process and afterward she sat down with us and asked straight out 'What do you need to make this work?' We said we needed 'this, this, and this' and she said 'Let me look in the coffers.' She was able to use some discretionary money that was already in the budget to get us some supplies and she went to the librarian who had some Title I funds available and bought some books for us that we thought would help with emotional literacy. She got us what she could and then just let us do what we thought would work best in our classrooms.

We added some activities, tweaked a few things we were already doing, and it worked great. It was mostly what we were already doing, so it didn't seem like a huge deal. It just made us more intentional in how we looked at certain skills we may not have noted formally before.

My observations in both of these teachers' classrooms corroborate this teacher's personal assessment of how she and her colleague integrated the NC KEA into their classrooms.

During each observation period, I noted a total of thirteen examples of developmentally appropriate practice and four instances of the seamless utilization of the NC KEA content and technology to inform their instruction in real time. Furthermore, while interviewing this principal, it was evident that she bought into the value of the NC KEA and understood how its developmental approach supported student achievement from a whole-child perspective:

When I attended KEA training with my teachers and they introduced the progressions showing that it was truly whole-child, I immediately thought to myself 'It's about time we got back to this,' because I've seen so many children struggling in the upper grades by missing out on learning basic developmental things, and, frankly, because they were made to learn some academic concepts that they weren't quite ready for.

By contrast, only one teacher (25%) at Sample School 2 stated that she felt able to incorporate the NC KEA as intended. My observations cannot confirm this, however, as I did not personally observe her using the NC KEA and only noted one use of authentic, observational assessment during either of my observation periods in her classroom. During their interviews, the other three teachers at Sample School 2 expressed concern regarding incorporating developmental activities, such as choice, imaginative, and sensory centers, into their classrooms to capture data for certain NC KEA progressions for fear of how they would be received by their principal. As one of the teachers explains,

[our principal] would see those kinds of activities as playing, which he has said is neither appropriate or beneficial. While we requested permission to reintroduce housekeeping, blocks, and other developmental activities to our classrooms, he repeatedly stated that our centers must remain literacy based.

One of the other teachers highlighted the following conversation between herself and the principal:

I told him we were expected to utilize KEA to inform our instruction and pointed out that many of the constructs concerned developmental areas, like emotional literacy and fine and gross motor skills. And then I asked him how we were expected to meet those requirements...you know, to gather data in these developmental areas if we didn't have the materials or time to do so, and his response was 'We use mClass to drive instruction in this school and we will do the KEA only in such a way that it doesn't take away from our schools test scores.' I basically took that as him saying to just get it done quick however we could and then move on to what he feels is more important stuff.

Clearly, there is a stark difference between the perceived agency to implement the NC KEA in its developmentally intended manner in these two sample schools, and it begs the question: why do these two principals, who face the same mandate to meet school AYP goals, have significantly different approaches and priorities for the young learners in their schools? My data indicates that the answer lies in their professional training and prior teaching experience. As I established previously, teacher preparation

and licensure significantly impacted teacher perceptions of their self-efficacy in their ability to implement the NC KEA. Teachers with little to no training in early childhood development struggled to understand the content and purpose of the assessment and, therefore, tended to implement it in an incorrect summative fashion. It stands to reason that principals without early childhood training would also struggle to understand the purpose of the NC KEA, see limited value in its developmental aspects, and therefore have little buy-in to implementing it beyond ensuring that their teachers do the minimum to show that their school complied with the mandate. Many of the kindergarten teachers from the full study confirm this issue, with 68.9% of teachers I coded as having low perceptions of agency citing a lack of administrator support for the assessment as a barrier to their implementation and requesting additional early childhood development training specifically for their principal. During her interview, the instructional coach from Sample School 3 summarized this issue quite well in the following story:

[The principal] came into my office in a huff and said ‘I walked into one of those rooms and they're playing. This shouldn't be play time. That stuff is out the door!’ and I'm like ‘Stop for a minute. I know you're upset. You think they're just playing. But, tell me what they were doing. What did they have out?’ And so, once she explains it to me, I have to say, ‘Okay. So now let me tell you about why she was probably doing that.’ And I'm like, ‘Did you ask her why she was doing what she was doing?’ and she says ‘Well, no.’

Anyway, through an explanation of what could have been [the teacher]’s reason, she went back and talked to her. And then [the principal] realized, she was providing opportunities for children to reach other areas. Hers was actually a self-selected activity. You know which progression I mean? But it was more. It was also object counting, and social interaction, because she had them counting blocks with partners. So, she was looking at multiple things at one time and the kids were none the wiser. But [the principal] thought they were just playing!

I mention all of this to say that we learned very quickly after implementation that the administrators come from a place where understanding is a little limited. Most have never been kindergarten teachers, nor would they. In my experience kindergarten teachers are a unique breed. They're in it for the kids and stay in the

classroom until they retire. Very few move to administration, but we get a lot of principals from high school and middle school and they're just coming in from a more academic place. So they have, at the district level, realized, you know, in order to get the change needed to get KEA in place and the acceptance of different, more developmental practices in the classroom, we've got to educate the administrators.

As we see here, similarly to Sample School 2 the principal in Sample School 3 came from upper elementary grades, had no early childhood development training, and was resistant to the developmentally appropriate practices of the NC KEA. Dissimilarly, however, as I analyzed the implementation experiences of the teachers at Sample School 3, I noted that they perceived high levels of agency in implementing the assessment as intended. So, one might ask, what contributed to a difference in the teacher's perceived agency in these two schools? As I explain in the next section, the answer lies in how the teachers in Sample School 3 leveraged their *group* agency through their existing professional learning community (PLC) to implement the NC KEA in the way their professional expertise recognized as best-practice in early childhood.

### *5.7 Professional Identity and Group Agency: The Case for Building Strong PLCs*

Holland and colleagues (1998) explain that identity is a key factor in the expression of agency. A person's individual or group identity is continually (re)created as they negotiate the socially and culturally accepted activities of the environment(s) they inhabit. Information gained through personal experience or by observing others within their situated 'world,' influence the individual's decision as to whether they should act and, more importantly, how they should act in a given situation. In this way, an individual who identifies as a kindergarten teacher recognizes particular pedagogy, curriculum, and instructional practices unique to the early childhood teaching and learning environments which they inhabit as a core tenet of their professional identities.

The sheer volume of teacher comments collected over the course of this research that ran similar to “This really validates what I do as a kindergarten teacher everyday” certainly supports this supposition. In fact, 76.3% of the total teachers interviewed made a statement to this effect.

One teacher in Sample School 3 describes this sense of identity in further detail:

As lead teacher, I was sent to the district meeting where they announced the KEA and explained what it was. I literally shouted ‘Hallelujah!’ and all of the other teachers that attended started laughing. There was this big sigh of relief that we were finally getting to go back to what we know is best for our kids. I see myself in this, what I was taught 25 years ago was what, and how, we should be teaching in our classrooms. What’s come to be expected of us in the last few years is just not what I signed up for. I didn’t agree with the academic push, but I stuck it out for the kids, knowing the pendulum had to swing back toward the developmental eventually, and I’m glad it looks like it finally is.

This teacher’s comment about “getting to go back” to what she recognized as appropriate kindergarten instructional practice implies that she felt a lessened sense of agency in implementing such practices during the recent “academic push.” The NC legislative mandate which prompted the development and implementation of the NC KEA, however, provided her the leverage necessary to negotiate the reinstatement of developmentally appropriate practice in her school. She explains,

Teacher: I came back from that meeting with a fire in me and said, this is the time. We’re going to get back on track. So when our weekly PLC meeting came along, I looked right at the other teachers, pointed at the progression manual, and said ‘This is how we’re going to get our stuff back from that shed.’

Interviewer: I’m sorry to interrupt, but what do you mean by ‘that shed’?

Teacher: Oh, sorry. That’s right, you wouldn’t know about that. Several years ago, when things really shifted to a more academic mindset and they instituted all those new benchmarks and tests, the principals in our district got together and decided we needed to get rid of our developmental centers to focus more on literacy. They took away our housekeeping items, dress-up stuff, blocks, sensory tables, and things. Some schools sold all that off because they couldn’t store it,

but our school happened to have a storage building and they just piled it all up in there. We've been asking to get it back for a while.

Interviewer: Ah, I see.

Teacher: Yeah, so when I saw the KEA's developmental content I told the other ladies, 'We can use this to get it all back.' I shared with them the copy of the progressions I was given and when they read it they were really excited. We knew we needed to make a very compelling argument to get [our principal] on board, so for the next couple of weeks we used our PLC meetings to draft lesson plans and center descriptions that used developmental approaches and materials. We made sure to emphasize how each activity would help us meet the requirements of the new mandate. We showed them to [our instructional coach] first to bring her on board, and she agreed to present them to [our principal]. In the end, [our principal] agreed to give us enough developmental materials to set up a single shared classroom with true choice centers. We call it the PAWs room, which stands for Play-based, Active learning, for the Whole-child. We each rotate our classes through for 30 minutes a day so our kids get engaged in self-selected activities. They have drama. They have blocks, manipulatives, or Play-Doh. They have housekeeping and a little store, so there's lots of opportunities for us to gather authentic data for KEA.

These teachers perceived the developmentally appropriate practices of the NC KEA as aligning with the practices inherent to their group identity as kindergarten teachers. As such, they leveraged group agency via collaborative planning and arguing to circumvent the limitations previously placed on their instruction by their school administrator. Where the administrator had denied their individual requests in the past, the teachers realized it was less likely for her to do so when her entire grade level staff showed a unified front. Furthermore, by linking their request directly to the legislative mandates of the NC KEA, they leveraged power from a higher status in the administrative chain, providing legitimacy for their appeal in the eyes of their administrator and thus increasing their agency to affect the changes they sought.

The teachers at Sample School 2 did not have the ability to leverage group agency, as they had very limited time to collaborate for either overall instructional planning or implementing the NC KEA. As one teacher explains,

I wish we could have sat down together and talked through this process, because I had a hard time finding activities to do for a couple of the more developmental progressions. It would've been great to find out how the others were doing it in their rooms. We emailed each other a few times and I emailed our instructional coach about some technical issues with the system, but that was about it. When we did have group planning meetings, we talked about KEA a bit, but there was always so much we needed to go over and the Reading 3D data was usually the foremost on everyone's minds. To be fair, it's not only KEA we've had this issue with. Whenever we're handed something new, our classrooms start to feel like our own little islands where we're stranded and have to figure out how to survive on our own with what's on hand. This one just seemed particularly difficult, because it's so different from what we've been doing in recent years.

These teachers' inability to work collaboratively left each feeling alone and unsupported in the task of implementing the new assessment. Furthermore, their isolation prevented them from leveraging their group agency, as the teachers in Sample School 3 did, to resist the dictates of their principal and reintroduce developmental activities to gather data for the NC KEA in its intended manner.

## CHAPTER 6: CONCLUSION

*Research Question 3: How can an anthropological understanding of self-efficacy and professional agency inform implementation science and its use to support large-scale educational innovation?*

The North Carolina Office of Early Learning performed rigorous research into best practices to support the implementation of large-scale educational innovations prior to rolling-out the NC KEA in the fall of 2015. They based their implementation approach on implementation science frameworks developed by Dean Fixsen and his research team from the National Implementation Research Network at the University of North Carolina at Chapel Hill. For the implementation of statewide, evidence-based initiatives, these implementation frameworks call for the development of implementation teams at the state-, region-, district-, and building-levels, in order to effectively divide implementation work into manageable pieces, create a feedback system that collects implementation fidelity data to guide stakeholders' decision making, and disseminate information efficiently both up and down the implementation ladder (Fixsen, Naoom, et al., 2005; Fixsen, Blase, Metz, et al., 2015). Additionally, the frameworks identify six integrated and compensatory core implementation components that are necessary to affect the systems level change necessary to achieve fidelity: staff selection, preservice training, consultation and coaching, staff evaluation, program evaluation, and facilitative administrative supports (Fixsen, Naoom, et al., 2005). Fixsen and his colleagues further

note that all of these core components must be established and maintained over time within the oft shifting contexts of social, economic, and political influence factors that may require reevaluation of the program components to accommodate those changes.

This implementation approach, and the field of implementation science as a whole, is grounded in the theories of organizational psychology and public administration, which focus on functional units and organizations as change agents, rather than individual actors. This is clearest in the following summary of implementation approach commonalities across the implementation literature:

1. It seems the work of implementation is done by core implementation components (i.e. training, coaching, and feeding back information on the performance of practitioners)
2. It seems that assuring the availability and integrity of the core implementation components is the functional work of *an organization*. An organization decides to proceed with implementation, selects and hires/reassigns personnel, provides facilitative administrative support, works with external systems to assure adequate financing and support, and so on to accomplish this core function.
3. It seems *organizations* exist in a shifting ecology of community, state, federal, social, economic, cultural, political, and policy environments that variously and simultaneously enable and impede implementation program operation efforts. (Fixsen, Naoom, et al., 2005, p. 58, emphasis added)

In other words, the work of implementation is done by organizations (or agencies in the public sector) whose job it is to define, create, and support the core components of the evidence-based initiative, while the practitioners are the delivery instrument to the initiative's consumers.

Herein lies a fundamental issue when considering an anthropological view of factors effecting implementation of statewide initiatives, namely that individuals have agency. As illustrated in this research, individuals within organizations make decisions and affect change for themselves and those around them in ways which may support or oppose the decisions and/or dictates of that organization. Furthermore, while it is true that

organizations exist within a mixture of complex, continually shifting contexts over the course of an implementation cycle, the organizations *themselves* have complex, continually shifting contexts that the individuals within them must navigate as well. From the standpoint of this study, kindergarten teachers work within a multilevel organization with the smallest organizational unit being their classroom, then their school, then their district, and then the North Carolina Department of Public Instruction. Shifting context(s) on any level, be it a change in school principal to the institution of a state legislative mandate requiring the use of a new curriculum, creates significant changes for that teacher's professional environment. Conversely, how the teacher chooses to leverage their self-efficacy and agency to react to those changes affects their students, their peers, their superiors, and their organization(s) as a whole. In this way, implementation science misses two major factors affecting implementation fidelity: the effects of the organization on implementing individuals' agency to implement the program as intended, and the effects of the individual's agency on the organization's implementation efforts. Adapting the implementation frameworks to account for program and organization specific factors affecting individuals' perceptions of self-efficacy and agency may increase implementation effectiveness by improving practitioners' overall receptiveness to the initiative and their adherence to its intended use.

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