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Experiences of Early Childhood Leaders in U.S. Nature-Based Learning Programs

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This is to certify that the doctoral dissertation by

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Walden University
2024

Abstract

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MA, Occidental College, 2006

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

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Abstract

There are several benefits of nature-based learning (NBL), and participation in NBL supports developmental outcomes, especially in early childhood education; however, there was little research on how to successfully implement NBL. The purpose of this qualitative case study was to explore the experiences of early childhood NBL leaders as they initiated and maintained NBL programs in the United States. The conceptual framework comprised elements of experiential learning theory, Bronfenbrenner's ecological systems theory, and place-based learning theory. Data were captured through interviews with 14 early childhood leaders (ECLs), observations of six learning spaces, and site-based document analysis. Data were transcribed, coded, and analyzed using open coding. The iterative process yielded six themes. In Themes 1-3, ECLs indicated they prioritized physical and philosophical structures, faced substantial risks and challenges, and served as leadership catalysts when initiating NBL programs. In Themes 4-6, ECLs cited continuous collaboration and improvement, ongoing needs for compliance and success, and maintaining authentic relationships as keys to maintaining successful NBL programs. Findings may provide ECLs with best practices, resources, and support for creating positive social change through opportunities for families and early childhood students to learn with and through nature, thereby enhancing awareness, support, and environmental improvements through NBL.

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Dedication

I dedicate my dissertation to my family and friends who supported me throughout this process, including a special thank you to my husband, Raul Atler III, who celebrated every milestone by my side.

My children, Thiago, Liliana, and Luciana, remind me why I continue to devote myself to this work. I also dedicate this dissertation to my close friends, parents, in-laws, and sister who have always believed in me.

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I would like to thank Dr. Amy White who served as my chairperson, soundboard, mentor, and friend. I will be forever grateful for your kindness, patience, wisdom, and encouragement.

Thank you to Dr. Anissa Harris who stepped in to help finalize the dissertation process without skipping a beat.

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Chapter 1: Introduction to the Study

For generations children have spent time learning while playing outdoors; however over the past few decades, children in the United States have experienced a generational disconnect from nature. Advancements in technology such as iPads, televisions, and video games have influenced the amount of time children spend passively stationary indoors (Louv, 2008). Additionally, parent concerns such as injury, abduction, and safety risks have significantly reduced the amount of time children are playing outdoors (Skenazy, 2021). This reduction in outdoor play has led to the development of the phenomenon termed *nature-deficit disorder*, which refers to the phenomenon of children who experience a disconnect from nature (Louv, 2008). This lack of nature connection has had a lasting influence on the student population as they participate in a sedentary lifestyle (Barrable & Booth, 2020; Fyfe-Johnson et al., 2019; Masters & Grogan, 2018). This lifestyle has led to lower activity levels as children spend more time inside, and as a result schools have experienced an increase in behavioral concerns due to the amount of time children are required to sit in a classroom seat with teacher-directed lessons (Ernst, 2018; Ulset et al., 2017). Contrarily, time spent outside has decreased attention deficits and hyperactivity in young children, which supports the reintroduction of outdoor, child-led experiential learning (Green, 2017). Time spent learning while outdoors has been defined as *nature-based learning* or NBL (Larimore, 2016).

The current study needed to be conducted to fill a gap in knowledge in the field of NBL and contribute to research surrounding leadership in NBL. This research provided

insight into the leader's experiences and strategies to successfully implement NBL. This information supports a scholarly understanding of NBL programs and better serves the leader's ability to successfully initiate and maintain NBL programs. The social implications of the study were to bring about positive social change by providing support for nature-based program leaders. Findings may encourage current leaders to improve their programs and inspire prospective leaders to take on the important task of innovating NBL. With a better understanding and support, more nature-based programs may become available. This may provide parents and families with more options for early childhood programs to send their children. Children may have more opportunities available to them to obtain the benefits provided through NBL.

The major sections of the chapter include the introduction, background information, and an explanation of the problem statements. Then, I discuss the purpose of the study as well as identify key research questions (RQs). I explain the conceptual framework along with the nature of the study, followed by definitions that define the terms used. I clarify aspects of the study that are believed to be true in the assumptions, followed by the scope and delimitations. Then, I address the limitations and significance in which I identify potential contributions of the study to advance knowledge in the field. I conclude the chapter with a summary of the main points addressed and transition to Chapter 2.

Background

There are an estimated 585 NBL programs in the United States, 50 of which are in California and Washington. According to the U.S. Census Bureau (2023), the number of

day cares in the United States was estimated to be 634,528. There was a disproportionate number of indoor learning programs as compared to NBL programs offered to families seeking them, which was a social problem. There is a need for NBL programs to meet the demand as an option for early childhood education.

Although there was momentum to continue to introduce NBL programs, there was unmet demand. The number of nature preschools in the United States increased within the last 10 years (North American Association for Environmental Education [NAAEE] 2023); however, in a survey of programs in 2017 (NAAEE, 2023), over 80% of them indicated that they maintained lengthy waitlists. This fact indicated an unmet demand and a strong likelihood of continued growth as more information is gathered around them. The current study was needed to address the gap in the research surrounding leaders' experiences initiating and maintaining these programs. This research was relevant to the discipline of NBL as an area of practice because it helped narrow the disconnect between available programs and the need. As nature-based education became an increasingly popular choice in early childhood education, NBL programs were emerging as a specialized option, unlike others that were available. Experts agreed that outdoor environments are safer and more enjoyable for children, and parents are responding to their children's need to learn and play while outside (Natural Start Alliance, 2023). Without a national commitment to the education of young children, the United States continues to rely on private pay from families who are seeking childcare. The disparity in parents' ability to pay, despite the emphasis on early childhood education establishments and programs as essential businesses during the COVID-19 pandemic, influenced

children's access to early learning experiences. The current study provided information about the school leaders who were key stakeholders in initiating and maintaining these programs; with an understanding of leaders' experiences, the gatekeepers to accessing NBL programs may be better informed.

Literature supported the positive benefits of NBL programs, and evidence suggested children should spend more time outdoors (Bal & Kaya, 2020; Barrable & Booth, 2020; Cordiano et al., 2019). Participation in NBL programs supported developmental outcomes across several learning domains such as social-emotional development, mathematics and science, language and literacy, and fine and gross motor skills (Fyfe-Johnson et al., 2019; NAAEE, 2023). Time spent outside led to higher levels of cognitive development, bio-affinity, self-confidence, school readiness skills, and pro-environmental behaviors (Coates & Pimlott-Wilson, 2019; Ginsburg & Audley, 2020). Children who participated in NBL programs developed resiliency when faced with difficult tasks and demonstrated increased problem-solving and exploration skills (Brudan & Cassianu, 2018; McCree et al., 2018). Although the benefits of learning outdoors were known, there were some limitations to these programs serving as the primary source of education in preparation for elementary school.

These constructs informed children's participation in NBL programs and influenced their availability and support of them. Risk aversion and risk management were recurrent concerns as parents decided to have their children participate in NBL programs in the United States (Browne-Ferrigno & Björk, 2018; Gull et al., 2020). Parent attitudes toward outdoor play and NBL determined whether a child was permitted access

to NBL programs (Savery et al., 2017; Vandermaas-Peeler et al., 2019). Parents' attitudes toward outdoor learning were determined by their own experiences and connection to nature, which were largely determined by the amount of time they spent outside during childhood (Ernst, 2018; Gull et al., 2020). This phenomenon was explained by the sociocultural values placed on outdoor play and was referred to in Scandinavian Countries as *friluftliv* or an "open-air life" (McGurk, 2017). Along with parent and social influences, teachers played an important role in the success of an NBL program.

Teachers' level of engagement, outdoor experiences, and training influenced the successful implementation of learning experiences during outdoor play (Bradshaw, 2018). For teachers to successfully implement learning in NBL programs, they must have engaged in meaningful teacher training and professional development as they developed their craft knowledge (Ginsburg & Audley, 2020). Some barriers to teacher development and time spent learning outdoors were fear of parent litigation, policy implementation, liability, regulatory agencies, and licensing restrictions (Gull et al., 2020). Teacher participation in and successful implementation of NBL programs were influenced by the level of support provided by the administration (Larimore, 2016; Masters & Grogan, 2018). Research supported the need for teachers to have innovative leaders in charge of NBL programs (Dietze & Kashin, 2019).

Innovative leadership was defined as displaying a visionary approach to education, creating a strong community, facilitating trust and loyalty, being action oriented, and participating in collaborative inquiry (Somoza-Norton & Whitfield, 2019). Innovative leadership began with a self-evaluation to bridge the disconnect between

theory and practice (Møller, 2017). Although innovative leadership skills were necessary to successfully implement a NBL program, there was little research conducted on the topic. Little was known about NBL leaders' experiences as they initiated and maintained their programs. An understanding of the school leaders' experiences may lead to positive social change by providing insight into best practices and opportunities to improve their programs.

The gap in the current research was that little was known about nature-based school leaders' experiences. The current study filled the gap in the knowledge in the field of NBL by providing insight into leaders' experiences while instituting and maintaining NBL programs. The current study addressed a lack of research surrounding leaders' experiences in NBL and contributed to the field of early childhood education. Although the benefits of NBL were known through the lens of the child, teacher, and parent, little was known about the leaders' experiences with instituting and maintaining these programs (Bal & Kaya, 2020; Camasso & Jagannathan, 2018; Dietze & Kashin, 2019; Ernst, 2018). Previous research covered the teachers' experiences (Bal & Kaya, 2020), the children's experiences (Camasso & Jagannathan, 2018), and the parent's experiences (Ernst, 2018), but researchers had not addressed the leaders' experiences.

Because little was known about the NBL leaders' experiences (Bal & Kaya, 2020; Camasso & Jagannathan, 2018), it was important to explore how these programs were created and maintained. The current study was needed because further exploration was required to bridge the gap between the recognized benefits of NBL programs and the leaders' experiences while instituting and maintaining them. The best way to do that was

to speak to those who led, implemented, and maintained NBL programs. There were well-documented benefits of NBL (Coates & Pimlott-Wilson, 2019; Ernst, 2018; Fyfe-Johnson et al., 2019; Ginsburg & Audley, 2020); however, more needed to be learned about how NBL programs work, how they are maintained, and how they are funded.

The current study filled a gap in the knowledge in the field of NBL by providing insight into the leaders' experiences and strategies to successfully implement NBL. This study was intended to provide a scholarly understanding of NBL programs to better serve the leader's ability to successfully implement NBL programs. This study made an original contribution to the field of early childhood education by providing an account of ways in which leaders overcame challenges and facilitated successes in their programs. This research may effect positive social change by providing support for nature-based program leaders. Findings may encourage current leaders to improve their programs and inspire prospective leaders to take on the important task of innovating NBL. With better understanding and support, more nature-based programs may become available to meet the needs of families seeking them. This may provide parents and families with more options for early childhood programs to send their children. Children may have more opportunities available to them to obtain the benefits provided through NBL. The findings may be significant because they filled a gap in the literature explaining leaders' experiences supporting children's learning experiences.

Problem Statement

The problem that informed this study was that there were several positive benefits of NBL in supporting developmental outcomes; however, there was little information

exploring how to successfully implement NBL programs (Coates & Pimlott-Wilson, 2019; Ernst, 2018; Fyfe-Johnson et al., 2019; Ginsburg & Audley, 2020). Without this understanding, there was no information on best practices to create and maintain more of these learning spaces and experiences for children. This lack of information led to fewer available programs despite evidence that they were in high demand (Bhagwanji & Born, 2018; Natural Start Alliance, 2023). Current findings may be significant to the discipline of NBL because there was a need to develop more of them.

Previous research addressed the lack of information surrounding early childhood leader (ECL) experiences instituting and maintaining NBL programs. Although there was research supporting NBL, there was little known about how ECLs initiated and maintained NBL programs in the United States (Bal & Kaya, 2020; Camasso & Jagannathan, 2018). Barrable and Booth (2020) highlighted the importance of providing children with several opportunities to gain experiences in a natural outdoor setting. Emerging research suggested NBL provided meaningful learning experiences for children and served as an ideal learning environment with the support of the teaching team; however, this research did not provide insight into the leader's experiences as key contributors to the program (Coates & Pimlott-Wilson, 2019; Ginsburg & Audley, 2020). The school leader is responsible for the programming, communication, regulatory compliance, and professional development required to run NBL programs. There was little research exploring these subject matter experts' experiences in the United States, which was a social problem (Bal & Kaya, 2020; Camasso & Jagannathan, 2018).

The gap in the research literature that had relevance to NBL practice was that there was little information about school leaders' experiences in leading NBL programs. This gap led to little knowledge about best practices and limited the availability and support of NBL programs. This lack of availability of NBL programs led to impacted waitlists (NAAEE, 2023). This problem was relevant because parents were seeking childcare in an NBL setting; however, due to limited availability, these programs were unable to do so. As a result, parents were not getting their childcare needs met, and children who would have benefited from an NBL learning environment were not provided with the opportunity to participate. This problem was significant because of the proven positive benefits of NBL and the barrier for families to gain access to them.

The current study was significant in that it explored NBL program leaders' experiences. It addressed a lack of research surrounding leaders' experiences in NBL and contributed to the field of early childhood education. This study made an original contribution to the field of early childhood education by providing an account of ways in which leaders overcame challenges and facilitated successes in their programs. The difference this study made to professional practice is through supporting current and prospective NBL leaders in their ability to navigate, facilitate, and maintain high-quality NBL programs. This research may effect positive social change by providing support for nature-based program leaders. Findings may encourage current leaders to improve their programs and inspire prospective leaders to take on the important task of innovating NBL. With better understanding and support, more nature-based programs may become available. This may provide parents and families with more options for early childhood

programs to send their children. Children may have more opportunities available to them to obtain the benefits provided through NBL. The findings may also be significant because they filled a gap in the literature explaining leaders' experiences supporting children's learning experiences.

Outdoor learning experiences were previously widely available for children to learn and play (Larimore, 2016; Louv, 2008). However, time spent outdoors took a dramatic dip as advances in technology took priority for child engagement (Louv, 2008). Over the past decade, the pendulum has swung back in the other direction, and more parents have been seeking outdoor learning experiences for their children (Natural Start Alliance, 2023). However, the availability has not been meeting parent demand because there is a limited number of NBL programs offered to families in the United States. There was little information about the leaders' experiences in initiating and maintaining these programs, which influenced the availability of them. NBL programs were reported to have lengthy waitlists, despite parent interest and desire to register their children (NAAEE, 2023). At the local level, there were few NBL programs for preschool-age children in Southern California (NAAEE, 2023). Of those available, even fewer had availability for new student enrollment, leading to extensive waitlists and displaced families and children. Educational platforms and policies placed more emphasis on the importance of standardized core curricula, state testing, and indoor learning (Baird et al., 2020; Louv, 2008), despite the known positive benefits of outdoor learning (Zamzow & Ernst, 2020). Leaders focused more of their attention on meeting the requirements of standardized tests and curricula rather than on outdoor learning experiences in nature.

This emphasis on indoor learning and standardized testing led to fewer NBL programs available to families seeking them (NAAEE, 2023). Since 2010, there has been an increase in interest in these programs; however, the demand has outweighed the availability (NAAEE, 2023). With more information about the school leaders' experiences, more outdoor learning programs may become available.

Purpose of the Study

The purpose of this study was to explore leaders' experiences as they instituted and maintained NBL programs in the United States to increase an understanding of how to support and maintain current and future NBL programs. Through this qualitative exploratory case study, I discovered the experiences of ECLs who instituted and maintained NBL programs. Through observations of the learning spaces, document analysis, and interviews with NBL leaders, I explored the experiences of school leaders who successfully facilitated nature-based programs. Research showed the positive benefits of NBL programs as an innovative platform for early childhood education (Coates & Pimlott-Wilson, 2019; Fyfe-Johnson et al., 2019; Ginsburg & Audley, 2020); however, little was known about the leaders' experiences as they instituted and maintained them. The purpose of the current study was to understand leaders' experiences to provide support for other leaders and their programs, resulting in more support and funding for current and future NBL programs.

The research paradigm was that with a better understanding of leaders' experiences, an opportunity for robust support and identification of best practices would emerge. The paradigm conflict was that although there was a high demand for NBL

programs, little was known about how to institute and maintain them. I explored, discovered, and described this phenomenon through an exploratory case study. The phenomenon under research was how leaders experienced their programs to understand how to best meet their needs and provide resources, materials, knowledge, funding, and policies that would support the continued development and maintenance of NBL programs in the United States. The purpose of the study was to explore the leaders' experiences as they instituted and maintained their programs. The concept under research was leaders' experiences as they related to policies, families, educators, and the outdoor learning environment.

Research Questions

Previous research identified the benefits children experience because of participation in NBL opportunities. Researchers focused on the parents, teachers, and children's perspectives and experiences. However, there was little information about the experiences of school leaders' who oversaw NBL programs. This lack of understanding created a barrier preventing current and prospective leaders from gaining access to information, resources, and support necessary to successfully lead their programs. Further investigation was needed to bridge the disconnect in understanding and explaining how NBL leaders initiate and maintain their programs. I explored and explained how to use the school leaders' content knowledge to inform current and future programs in need of additional resources and support. This study was guided by the following two RQs:

RQ1: What are the experiences of ECLs when initiating NBL programs in the United States?

RQ2: What are the experiences of ECLs as they maintain NBL programs in the United States?

Conceptual Framework

The concepts grounding this study and comprising the framework were experiential learning theory (ELT), Bronfenbrenner's ecological systems theory (EST), and place-based learning theory (PBLT). ELT explains the learning experience, EST details the social implications, and PBLT emphasizes place. I focused on the social constructs that supported and limited NBL programs, which influenced the leaders' experiences of them (Baird et al., 2020; Johnson & Činčera, 2023). These elements framed the RQs because they influenced the leaders' experiences.

Experiential Learning Theory

ELT was developed by D. A. Kolb in 1984 and was based on the work of Dewey, Lewin, and Piaget (Gencel et al., 2021). ELT (D. A. Kolb, 1984) was based on concrete experiences in which individuals participate in reflective observation. ELT explains learning as dependent on real-life experiences within a social construct (Moseley et al., 2020). According to D. A. Kolb's theory, information is contextualized within the learner's situation and their capacity and readiness to process those experiences (Cincera et al., 2020). ELT refers to a four-stage process in which experiences are transformed into critical and influential learning (Gencel et al., 2021).

Bronfenbrenner's Ecological Systems Theory

In Bronfenbrenner's (1979) EST, five systems compose an individual's environment. Bronfenbrenner identified the microsystem, mesosystem, exosystem,

macrosystem, and chronosystem. The microsystem is the child; the mesosystem is composed of family, school, and community; the exosystem is extended family and neighbors; and the macrosystem represents the ideologies of the culture (Bronfenbrenner, 1979). The chronosystem refers to the environmental changes that occur throughout the individual's lifetime. The current study was grounded in Bronfenbrenner's EST by focusing on the leader's experience within the macrosystem. In the macrosystem, the leader navigates the needs of their NBL community as they are influenced by the local community. The leader operates within the guidelines of the regulatory agencies and local policies that determine the bandwidth and direction of the program. Within the macrosystem, the leaders' experiences are contextualized as they initiated and maintained their NBL programs (Rymanowicz et al., 2020).

Place-Based Learning Theory

PBLT informed the current study by addressing how children learn relative to their physical environment as the local culture, traditions, history, and people influence it (see Boyd, 2019). Children learn critical thinking skills and how to understand the environment and themselves as they define, experience, and engage with their place (Bhagwanji & Born, 2018). PBLT is a conceptual framework I used to explore and explain NBL leaders' experiences (see Masters & Grogan, 2018).

Application of Three-Theory Lens

These three theories constituted the framework for the current research. Bronfenbrenner's (1979) EST provided insight into the contexts that influenced the function of NBL and supported the exploration of leaders' experiences as they navigated

the initiation and maintenance of NBL programs. PBLT supported the facilitation of exploring NBL leaders' experiences because of the unique outdoor space in which learning takes place. These theories informed my study by providing a framework to understand the function of NBL programs. I used the theories to organize the components of NBL programs to gain insight into leaders' experiences. These concepts grounded the research by laying the foundation upon which to build an understanding of innovative leadership within NBL programs in the United States.

Need for the Study

The body of research that supported the need for the current study was studies on innovative leadership as a key contributor to innovative educational initiatives (Alsbury et al., 2018; Judkins et al., 2019; Somoza-Norton & Whitfield, 2019). Although the benefits of NBL programs in the United States were known, little was known about the leaders' experiences as they initiated and maintained these programs. With a better understanding of the leaders' experiences, more support for current and prospective leaders may become available. With more support, NBL program initiation and maintenance may have a strong foundation on which to build. The current study was needed to provide insight into the leaders' experiences.

Connections of Frameworks to the Study

The logical connection among the key elements of the framework was that ELT explained the concrete experiences that facilitated an individual's ability to participate in reflective observation. This theory informed this study by providing a framework for understanding how leaders supported students by developing an environment in which

experiential learning can take place. Bronfenbrenner's (1979) EST was used to explain the leader's position concerning the children they supported, the policies they implemented, and the regulations they abided by. Finally, PBLT was used to explain place as a key element in exploring NBL programs. Place in this study was the physical outdoor learning environment. With ELT, EST, and PBLT, the current research was founded and aligned to explore the experiences of NBL leaders as they initiated and maintained NBL programs. The research was aligned by identifying the key stakeholders, influencing factors, and relationship the leaders had with those elements as they were situated within the environment.

The framework informed the research design to ensure the study was aligned throughout its entirety. The intent of the study was to gather data that answered the RQs. The framework related to the RQs by identifying a context that supported the exploration of NBL leaders' experiences. PBLT informed the decision to use observation of learning spaces as a data point. ELT informed the decision to interview school leaders to gain a better understanding of the experiences as they initiate and maintain their programs. Document analysis was directly linked to Bronfenbrenner's (1979) EST because it explained the role of school procedures and local policies that informed how leaders were required to navigate their day. Through observations of learning spaces, interviews, and document analysis, I answered the RQs that were informed by the conceptual framework.

The framework related to data analysis by synthesizing the data points gained through interviews, observation of learning spaces, and document analysis. I used semistructured interviews with leaders of NBL programs. I also conducted observations

of learning spaces by observing site layouts, materials, curricula, and daily routines of indoor and outdoor spaces. The framework informed the analysis of the data generated in this study by providing context for the leaders' experiences by enabling a systematic approach to data analysis.

Nature of the Study

To address the RQs in this qualitative study, I chose an exploratory case study design. The nature of this study was aligned with a qualitative exploratory case study because the purpose was to explore and understand the leaders' experiences in NBL programs. Through an exploratory case study, I obtained insight into the process of EST, PBLT, and ELT within a NBL setting. I used the intersections of these theories to explore the phenomenon under research. Insight into the leaders' experiences through this framework provided a comprehensive understanding of best practices, leadership strategies, and shared experience because of leaders' role.

The phenomenon investigated was leaders' experiences as they initiated and maintained NBL programs in the United States. This exploratory case study was designed to discover and explore this phenomenon within authentic contexts to better understand participants' dynamical relationship with that phenomenon (see Zainal, 2007). The purpose of the current study was to explore the experiences of NBL leaders as they initiated and maintained their NBL programs.

The methodology for this study was chosen to answer the RQs. The research method was to use different data sources to answer the RQs. The data sources were observations of learning spaces, document analysis, and in-depth interviews. Participants

met the inclusion criteria to be selected for participation. School leaders were defined as individuals who influenced the facilitation, maintenance, management, and/or operation of a preschool or NBL program. Through observations of learning spaces, document analysis, and interviews with NBL leaders, I explored the experiences of school leaders who successfully facilitated NBL programs in the United States. The data collection instruments were a general observation template (see Appendix A), an interview protocol and guide (see Appendix B), a document analysis template (see Appendix C), informed consent, and an email invitation template. Once the data were gathered, I analyzed the data by identifying themes through an emergent coding technique (see Saldaña, 2016). Once the data were coded, I presented the findings in the results and findings portion of this study.

Definitions

The following key concepts in this study are defined to help the reader understand the context in which each term was used:

Bio-affinity: A person's instinctive affinity toward the natural environment. A child's nature-related experiences are a determinative factor in their pro-environmental attitude and behaviors in adulthood (Hinds & Sparks, 2011).

Cognitive development: The neurological development that takes place as children process information through language, problem solving, critical thinking, and learning experiences (Carey et al., 2015).

Curricular approach: The method of delivering a curriculum including observations, assessments, instructional teaching techniques, and theory that is designed to convey information to the student (Rovegno, 1992).

Early childhood programs: Childcare facilities that serve children from infancy through third grade (Abdelfattah, 2015).

Environmental education: An effective method for intentionally developing positive attitudes and behaviors toward the environment (Vadala, 2004).

Nature-based education: Promoting environmental literacy through a curriculum developing an understanding of the environment (Adams, 2013).

Nature-based learning (NBL): Learning that is facilitated within the natural environment with natural materials (Adams, 2013).

Nature-based learning program: A program that maximizes the use of outdoor space for its educative properties in which children learn with nature. In an NBL program, natural materials are taken indoors for children to explore, and children are taken outdoors in nature to learn (Harris, 2021).

Assumptions

Assumptions in research are the conditions that are taken for granted without which the study would be meaningless (Burkholder et al., 2016). The assumptions for the current study were that the leader of the program had the intention of leading the program toward success and continuing the development and growth of the program. Another assumption was that the leader was trained either in a formal educational setting or on-the-job training regarding what a NBL program is. Another assumption was that the

school leader spoke and understood English. The final assumption was that the school leader was actively engaged in the daily operations and oversight of the program's daily activities and functions. The leader's time spent on site was not within my control; however, I assumed that they spent most of their time on the school campus. I made these assumptions to understand the leaders' experiences while actively engaged in the program.

The assumptions were required in the context of the study because the limitations of the implementation of the program may have influenced the leaders' experiences as they initiated and maintained them. Without contextual restrictions, leaders would have different experiences as they led their programs. Policy regulations, licensing restrictions, and social implications were key contributors to the leaders' experiences and their ability to navigate the relationship between these factors and the success of their programs. These assumptions provided a context to develop an understanding of the leaders' experiences.

Scope and Delimitations

The scope of the study frames the population to which the study is applied (Burkholder et al., 2016). In the current study, the scope was current and potential NBL leaders in the United States. The research problem that was addressed was the lack of information on leaders' experiences with a focus on how they overcame challenges and maximized opportunities for further growth and development of their programs. This focus was chosen because the leaders' experiences in these areas would provide best practices to support the continued improvement of and development of NBL

programming. The population included adult leaders of NBL programs who had been in the position for at least 1 year and who were willing to participate in the research.

The delimitations narrowed the study in terms of the location of the research, the time frame, and the participants selected (see Burkholder et al., 2016). The data collection sites that I used for the current study were NBL programs in the United States. The locations of the programs were delimited based on the willingness of the leaders to participate. Additionally, when discerning the delimitations of the study, it was important to exclude the children to ensure their privacy and identities were protected. Another population excluded were leaders of traditional early childhood education programs because their experiences were not unique to an outdoor learning setting.

Reggio Emilia was widely used as the core curricular framework for NBL programs; however, for the current study, curriculum exploration was not the primary focus of the leaders' experiences, but rather owned by the teachers and children. The conceptual framework most related to NBL research was Reggio Emilia, and my research did not focus on the curriculum but rather on the leaders of the program. Another framework widely used in this research was NBL theory. It was not included in this study because it focused on children's learning experiences rather than the leaders' experiences as they initiated and maintained their programs. When transferring the results of the current research to future studies, it is important to keep the location and surrounding community in mind as the local policies and regulations influenced the leaders' experiences. Future researchers of this phenomenon may consider including a more diverse group of participants from several regions of the United States.

Limitations

A qualitative exploratory case study design presents advantages and disadvantages (Yin, 2016). Yin (2016) explained that one of the disadvantages or limitations is the absence of systematic processes because there are few methodological guidelines as a part of this design. This lack of structure means that the researcher develops methodological considerations for grounding the research. The methodological weaknesses related to limitations are the lack of defined alignment between the collection, analysis, and sharing of the data collected. Transferability is the degree to which the results of the research can be generalized to other populations in a different context (Ravitch & Carl, 2021). The weaknesses related to transferability in the current study may have been in describing the research context and assumptions that were central to the study. The weaknesses related to dependability were that I was the sole researcher and my perspective may have influenced what information was determined to be relevant in the study. This limitation may have led to researcher bias. Researcher bias is when the researcher either intentionally or unintentionally influences the results of the study, resulting in the manipulation of the outcome (Ravitch & Carl, 2021). The bias that could have influenced the study outcomes was that I had an affinity toward spending time outdoors in nature. I believe that children can thrive while learning outside, this belief could have been accounted for through using several bracketing techniques.

I took several reasonable measures to address the limitations of the current study. Because a qualitative exploratory case study can lack structure, I safeguarded the alignment of the RQs and literature review to develop a robust, organized, and systematic

approach to the methodology. To address transferability in my research, I provided details describing the context and assumptions of the research with full transparency in an organized and intentional manner. To establish dependability in this study, I provided a detailed description of the research methods. To mitigate researcher bias, I used two forms of data coding including both hand coding and coding software. Additionally, I verified with more than one data source to limit researcher bias through document analysis, interviews, and observations of learning spaces. I also had the findings reviewed by my committee chair.

Significance

The findings of this study illustrated NBL leaders' experiences as they initiated and maintained their programs. The problem addressed was that little was known about the leaders' experiences, so their successes were not understood and could not be replicated intentionally and systematically. Their experiences may provide knowledge to create high-quality NBL programs. The importance of high-quality programs was emphasized in early childhood education because these programs supported the development of the children they served (Lipsey et al., 2015). Although the benefits of NBL programs were known, there was little known about the leaders' experiences. With this knowledge, information supporting the development and maintenance of these programs could increase. The potential contribution of this study was to advance knowledge in the discipline of NBL in the early childhood education phase of development.

The potential contribution to the study that advanced practice was to provide information that may support current and prospective NBL leaders as they facilitate the continued growth and development of their programs. The potential contributions of the study were to provide additional funding, resources, and support for more NBL programs across the United States. The potential implications for positive social change consistent with the scope of the study were that an understanding of the leaders' experiences, information, and resources could be tailored to better meet the needs of the NBL community. This research may bring about positive social change by providing support for nature-based program leaders. Findings may encourage current leaders to improve their programs and inspire prospective leaders to take on the important task of innovating NBL. With better understanding and support, more nature-based programs may become available. This may provide parents and families with more options for early childhood programs to send their children. Children may have more opportunities available to them to obtain the benefits provided through NBL. The findings were significant because they filled a gap in the literature explaining leaders' experiences supporting children's learning experiences.

Summary

This chapter included the introduction, background information, and an explanation of the problem statements. The purpose of this qualitative exploratory case study was to explore the experiences of NBL leaders as they initiated and maintained their programs. In Chapter 1, I discussed the purpose of the study and identified the RQs. I explained the conceptual framework along with the nature of the study, followed by

definitions of terms used. I clarified aspects of the study that were believed to be true in the assumptions, followed by the scope and delimitations. Then, I addressed the limitations and significance in which I identified potential contributions of the study to advancement of knowledge in the field. I concluded the chapter with a summary of the main points addressed and transitioned to Chapter 2. Chapter 2 includes a review of the current literature on NBL programs and an explanation of the literature search strategies and conceptual framework. I provide an exhaustive review of the recent literature including related studies, how researchers have approached the problem, and justification from the literature to support the need for the current study. I synthesize the literature in Chapter 2 and summarize major themes to extend the knowledge of the discipline.

Chapter 2: Literature Review

Literature supported the positive benefits of NBL programs, and evidence suggested children spend more time outdoors. Time spent outside led to higher levels of cognitive development, bio-affinity, self-confidence, school readiness skills, and pro-environmental behaviors (Barrable & Booth, 2020; Coates & Pimlott-Wilson, 2019). Although there was research supporting successful NBL, there was little known about the leader's ability to initiate and maintain an NBL program in the United States (Ginsburg & Audley, 2020). This lack of knowledge has led to fewer programs available to children and their families (Washington State Department of Early Learning, 2018). The purpose of this qualitative exploratory case study was to discover the experiences of ECLs who instituted and maintained NBL programs. Through observations of the learning spaces, document analysis, and interviews with NBL leaders, I explored the experiences of school leaders who successfully facilitated nature-based programs. The current literature supported NBL programs through evaluations of student engagement, skill development, and school readiness. The problem was that little was known about leaders' experiences (Barrable & Booth, 2020; Fyfe-Johnson et al., 2019; Masters & Grogan, 2018; Yilmaz-Uysal, 2020). The purpose of the current study was to explore leaders' experiences to support the development and availability of more NBL programs.

To develop a cornerstone upon which to build the research, I provided the conceptual framework and synthesis of recent literature on the topic of NBL. Then, I defined NBL (see Green, 2017) and explained the various types of NBL (see Rymanowicz et al., 2020; Takriti et al., 2020; Turtle et al., 2015). I explored both the

benefits and limitations of NBL (see Fyfe-Johnson et al., 2019) followed by an overview of the societal and parental perceptions and influences (see Camasso & Jagannathan, 2018). I explored school readiness (see Zamzow & Ernst, 2020) along with teacher experiences (see Ginsburg & Audley, 2020), and ended with innovative leadership as the next phase in the development of an understanding of leaders' experiences as they instituted and maintained NBL programs (see Baird et al., 2020). The literature review was organized to reflect previous literature on NBL and was presented as topics in Chapter 2 (see Ernst, 2018; Fyfe-Johnson et al., 2019; Ulset et al., 2017). The chapter concludes with a summary and details about how this study addressed a gap in the literature.

Literature Search Strategies

The literature on NBL was saturated through a robust keyword search along with the integration of several search engines with peer-reviewed sources. The terms searched were *nature-based learning, experiential learning, forest school, outdoor education, environmental education, wildlife, preschool children, school readiness, conservation, sustainability, natural resources, teacher attitudes, teaching methods, educational environment, child development, student-centered learning, nature connection, forest school, inquiry, play, outside, outdoors, wilderness, early childhood education, nursery school, daycare, natural sciences, skill development, outcomes of education, outdoor play, learner engagement, outdoor learning, social constructionism, place-based learning, ecological systems, parent attitudes, forestry, challenge-based learning, project-based learning, pedagogy, kinship, stewardship, biophilia, biophilic tendencies,*

and *executive function*. I also gathered literature on innovative leadership in education. The keywords I used to reach the point of data saturation were *educational change, leadership, instructional leadership, social change, administrator education, educational strategies, leading innovative educational programs, organizational culture, program effectiveness, teamwork, in-service teacher education, faculty development, professional development, educational innovation, institutional characteristics, program evaluation, school policy, parent attitudes, risk management, teacher attitudes, educational innovation, fidelity, success, administrative organization,* and *networks*. I conducted an exhaustive search using multiple databases to provide a comprehensive analysis. The search engines I accessed included ERIC, Academic Premier, ProQuest, EBSCOhost, and Google Scholar.

Conceptual Framework

The framework for this study was informed by ELT (D. A. Kolb, 1984), EST (Bronfenbrenner, 1979), and PBLT (Sobel & Johnson, 2004). This conceptual framework was developed to serve as a lens through which to examine school leaders' experiences as they facilitated and maintained NBL programs. In the literature, NBL and outdoor education, ELT, EST, and PBLT were key phenomena that informed NBL programs (Ashmann, 2018; Brudan & Cassianu, 2018; Rymanowicz et al., 2020; Ulset et al., 2017). This framework served as a scaffold for understanding leader experiences as they developed and maintained NBL programs. First, I explained ELT as it existed within NBL. Then, I generated a comparative analysis using Bronfenbrenner's EST, which

existed parallel to NBL. Finally, I articulated the role of PBLT as it informed the structure and social implications for NBL programs.

Experiential Learning Theory

ELT was influenced by the work of Dewey, Lewin, and Piaget who echoed the importance of children learning by doing (D. A. Kolb, 1984). According to ELT, children develop an understanding of curricular content because of hands-on experiences while exploring those concepts (D. A. Kolb, 1984). For children to engage in meaningful learning experiences and build a robust understanding of key perceptions, they must be provided with the opportunity to become participants in developing their understanding. NBL through the lens of ELT was informed by children engaging in meaningful learning activities, curriculum, and learning experiences while outside. Outdoor learning opportunities provide children with natural, consequential, and dynamic experiences through time spent in nature (Bal & Kaya, 2020). Those experiences resonate with children, support their ability to retain information, and allow them to make meaning of their environment and their position within it. Educators are key players in fostering learning opportunities for children to engage in experiential learning (D. A. Kolb, 1984). Rather than teaching children about trees by reading about them in a book, children explore and experience trees by rubbing the bark, climbing their limbs, and comparing leaf shapes by manipulating three-dimensional objects. These tactile and sensory-rich outdoor experiences lead to more dynamic learning opportunities for the youngest learners and are an example of ELT as it exists in an NBL program.

ELT was developed in response to the work of educational theorists Dewey, Lewin, and Piaget (D. A. Kolb, 1984). There are four stages of ELT: concrete learning, reflective observation, abstract conceptualization, and active experimentation (Chan, 2012). The preliminary phase of this paradigm relies on learning about or gaining an understanding of the experience, while the secondary stage explores the child's ability to transform the experience (D. A. Kolb, 1984). As the learner engages in this process, they develop a better understanding of the phenomenon explored. Concrete learning was defined by D. A. Kolb (1984) as the process in which a learner interprets previous experiences through a new or modified frame of reference. Next, the learner engages in a reflective observation in which they formulate the meaning of the experience they participated in (D. A. Kolb, 1984). Abstract conceptualization is the process in which the learner reconceptualizes the experience by reflecting on what took place (D. A. Kolb, 1984). Finally, active experimentation is the process in which the student engages in real-world applications and assesses whether any additional modifications should be made (D. A. Kolb, 1984).

Through ELT, D. A. Kolb (1984) explained learning because of real-life experiences in a situation or an environment. Information is contextualized within the situation the learner is in, and their capacity and readiness to process those experiences. Turtle et al. (2015) found that children developed pro-environmental attitudes when they participated in forest school. ELT was supported as children were provided with real-life experiences in an outdoor environment. Participants demonstrated a significant difference in their environmental attitude, as compared to their age counterparts who did not.

Furthermore, pro-environmental behaviors were identified through ELT in a study conducted by Baird et al. (2020) who found that the codes that emerged because of participation in an outdoor experiential learning course were as follows: awareness, concern, and an appreciation for nature. These codes indicated a nature connection and future intention to engage in what was defined as pro-environmental behaviors as a direct result of spending time in nature. Not only did students demonstrate a higher level of nature-connectedness through ELT, but they also demonstrated development across several areas of learning (D. A. Kolb, 1984). According to Bal and Kaya (2020), children who participated in NBL programs developed a response to their experiences while learning outside. Children established a significant increase in self-efficacy, skill development, sensitivity, and happiness because of time learning outdoors in the natural environment.

ELT (D. A. Kolb, 1984) was an influential philosophy that informed NBL (Bal & Kaya, 2020). Brudan and Cassianu (2018) further explored ELT as they developed the exploration-explanation-extension model. In this model, children engage in experiential learning to become systematically involved in exploration activities (Brudan & Cassianu, 2018). These activities take place in an outdoor environment, specifically in a garden incorporating herb exploration (Brudan & Cassianu, 2018). Through experiential learning in a natural environment, participants develop critical thinking skills along with higher order thinking skills (Brudan & Cassianu, 2018; Speldewinde & Campbell, 2023). Moreover, experiential-learning theory and NBL were explored by Clark et al., (2020) as they identified five developmental outcomes because of active participation in

environmental education. Clark et al. found a significant difference in behaviors regarding environmental action, a higher level of nature connectedness, an interest in addressing environmental outcomes, and the ability to learn skills and competencies relevant to pro-environmental behaviors.

ELT is the philosophy in which children learn through hands-on, engaging, and meaningful experiences (D. A. Kolb, 1984). The key theorists that informed this philosophy were Dewey's (1938) and Fröbel (1806, as cited in Wasmuth, 2020) work on the development of children learning through doing in kindergarten (Wasmuth, 2020). These three theories focused on the situational elements that support student engagement and the experiences that inform their learning. ELT was formulated from these theories and continued to inform teaching strategies in early childhood education (D. A. Kolb, 1984). ELT has been applied to previous research by observing the levels of student engagement, the acquisition of environmentally conscious behaviors, and connection to their communities. Bronfenbrenner's (1979) EST provided context for the key stakeholders in the research, PBLT explained the influence of place in leaders' experiences, and ELT explained the role of previous experiences on leadership as they facilitated NBL programs. These three theories provided a lens through which the current study was conducted. Another element taken from this theory was the potential ELT had on the school leaders' environmental attitudes and attainment of content related to their career field. My study benefited from ELT by identifying key concepts such as learning environment, situational elements, social implications, and meaningful real-life educational opportunities.

Meaningful learning experiences surfaced as an important point in similar studies. Echoing ELT (D. A. Kolb, 1984), Clark et al. (2020) found parallel outcomes when children participated in three-dimensional learning experiences while outside. Similarly, Green (2017) studied preschool-age children who participated in a university early childhood education program. Their focus was on early childhood environmental education and Early Childhood Education for Sustainability. Green (2017) explored children's experiences as they engaged in their local environment, the Alaskan forest. Paralleled to D. A. Kolb's (1984) ELT, Green (2017) found that when children engaged in role-play with nature, their ability to depict their interests and formulate their understanding of ecology was reinforced. In the current study, ELT was aligned with NBL as a method by which children developed their understanding of key ecological concepts. Children first gain an understanding of the environment, then interpret the evidence they are presented with, and formulate an informed perspective (Maynard et al., 2013). In NBL programs, through ELT children transform their understanding of their ecological identities by actively evaluating and reimagining them. As children participate in NBL programs, opportunities for exploration while outside are further developed. Children revisit their initial understanding of a key element, experience the concept, and develop a dynamic understanding of the concept in a unique context. D. A. Kolb argued that this is the primary method by which children develop a long-term understanding of key educational concepts and developmental skills.

Bronfenbrenner's Ecological Systems Theory

The second theory that informed the conceptual framework was Bronfenbrenner's (1979) EST. This theory originated based on the assumption that humans develop in conjunction with their environment through five ecological systems. The major theoretical proposition delineated from this theory is that children develop in response to external phenomena. Child development is not an independent experience that takes place in isolation. Children's development is a result of their environment, relationships, and the broader community. In Bronfenbrenner's EST, five systems constitute an individual's environment: the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The microsystem is the child, and the mesosystem is composed of family, school, and community. The exosystem is extended family and neighbors, while the macrosystem represents the ideologies of the culture. The chronosystem is the environmental changes that occur throughout the individual's lifetime.

Bronfenbrenner's (1979) EST was a key concept that informed NBL. Rymanowicz et al. (2020) conducted a qualitative study where they answered RQs addressing developmental domains parents observed their children excel in because of participation in farm and nature-based early childhood education programs. Findings indicated that NBL programs positively impacted children's conversational skills, family interactions, and children's desire to explore. Similar to the outcomes identified by Rymanowicz et al., Boyd (2019) explained how early childhood education and NBL were situated within an ecological context. In the current study, the importance of the surrounding community was related to supportive systems. EST, or nested systems theory

(Bronfenbrenner, 1979), indicates that children develop as the systems harmoniously exist. Children develop based on their place within the family dynamic, the local community, and society, each influencing the experience of the child.

Ross (2020) built upon Bronfenbrenner's EST by investigating anthropocentric tendencies in environmental education. The anthropocentric framing of children's environment repositioned humans in comparison to living and non-living forms (Ross, 2020). Furthermore, the environment was explored through the frame of reference of NBL professional development. This research found that NBL existed in a posthumanism education which influenced environmental education initiatives. The rationale for the choice of EST was that the local and global community impacted children's learning experiences who participated in NBL programs. Reflecting upon these findings, leaders were members of the chronosystem and were influenced by the children, the families, and surrounding environmental and social factors. EST related to the current research by describing the children's connection and development as it related to their place. Place then became an influential factor in determining the leaders' experiences as they navigated initiating and maintaining NBL programs.

There were two elements of Bronfenbrenner's EST that I focused on in the current research, the mesosystem, and macrosystem. In the context of NBL, the school leader was a member of the child's mesosystem. The school leader impacted the child's parents and teachers, who then influenced the learning experiences of the child. Mirroring that relationship, the child influenced the teachers and parents, who in turn influenced the school leaders' experience. The other element of Bronfenbrenner's EST that I focused on

was the macro system. The macrosystem was defined as the broader social structures and ideologies that impacted a school leader's social context, resources, and subsequent experiences as they oversaw NBL programs (Ross, 2020).

Place-Based Learning Theory

The theory of place-based learning includes the premise that the physical environment is a factor in child learning as it is influenced by local culture, traditions, history, and people (Sobel & Johnson, 2004). Children learned critical thinking skills and how to understand the environment, and themselves as they defined, experienced, and engaged with their place. When developing an understanding of NBL through PBLT, key contributors Bhagwanji and Born (2018) determined that two factors predicted pro-environmental behavior. The first predictor was direct experiences while in nature, and the second; was hands-on learning experiences such as supporting literature and stories. Children who participated in NBL through a place-based learning model developed an appreciation of and care for nature (Bhagwanji & Born, 2018). Furthermore, this phenomenon led to healthier lifestyles and sustainable living practices (Bhagwanji & Born, 2018).

Place-based learning when applied to NBL has also proven to strengthen children's sense of connection and belonging (Boyd, 2019). As children learned within their place, they developed a deeper connection to it. Within the context of NBL, as children learned about nature, they developed a more meaningful connection to nature and felt a sense of belonging to nature (Boyd, 2019). Moreover, Harris (2021) took an iterative ethnographic approach to PBLT within NBL and questioned children's reactions

to and relationship with nature, the woods, and their place. Results indicated that those children who participated in the forest school program demonstrated an increase in their relationship with nature, pro-environmental behaviors, and an overarching ethos of care (Harris, 2021). Through a study of the European Forest school movement, the work of Montessori, Steiner, Reggio Emilia, and indigenous influences, Masters and Grogan (2018) echoed the importance of PBLT as a key theoretical framework influencing NBL. The authors questioned the repositioning of nature pedagogy as an important dimension of nature programs. Results suggested that the challenge consistently faced by nature program development was the ability to introduce children to a natural landscape with manageable risks (LeMasters & Vandermass-Peeler, 2023; Masters & Grogan, 2018) Place-based ecology education (PBEE) was the primary theory influencing the research conducted by Duffin and Perry (2018) as they identified trends in core practices. For place-based learning to be successful within the field of NBL, they identified collaboration as the central factor associated with higher levels of PBEE practices (Duffin & Perry, 2018).

The rationale for the choice of PBLT was that the immediate environment influenced the children's developmental outcomes. Aligned with this concept, I hypothesized that place influenced environmental education leadership experiences and professional development. PBLT related to the current research by identifying the place as an important contributor to the learner's experience. Echoing that result, the place was a key factor in identifying the leaders' experiences who facilitated NBL programs. There were key concepts within these three theories, which informed the conceptual framework

for this research. I used the element of hands-on, real-life experiences from ELT to focus attention on what specific situations, scenarios, and experiences school leaders faced. PBLT offered the lens of the immediate physical environment and societal context as key elements impacting leaders' experiences. EST (Bronfenbrenner, 1979) informed the current framework by highlighting the mesosystem (school and family) and the macrosystem (social context) by situating the leader concerning these variables. With a focus on scenarios, the environment, relationships, and social implications, the current research provided insight into school leaders' experiences (Rymanowicz et al., 2020).

Review of Current Literature

In the following section of Chapter 2, I review the gap in the current literature regarding the experiences of leaders who institute and maintain NBL programs. The review of the literature begins with a history of NBL and forest schools, followed by a description of the fundamental principles. Then, I will review the types of NBL programs, and their benefits, and conclude with the limitations. I will explore the literature in the section to distinguish the context for NBL leaders' experiences.

History of Nature-Based Learning and Forest Schools

NBL and outdoor education were defined as active learning while in the natural world (Meier & Sisk-Hilton, 2017) Documentation of nature-based preschools was recorded as early as 1827 when philosopher Pestalozzi advocated for teaching methods that focused on children as informants of learning experiences (Sellars & Imig, 2021). Building upon Pestalozzi, Fröbel (1806, as cited in Wasmuth, 2020) founded formal kindergartens based on the individual interests, needs, and developmental levels of the

child (Ashmann, 2018). In the early 1900s, Isaacs and Montessori influenced the nature-based preschool arena with their philosophies of children learning through play (Ashmann, 2018). Formalized nature-based kindergartens and preschools, also referred to as forest-schools, began in Scandinavia by Danish educator Ella Flautau in 1952 (McGurk, 2017). She, along with a group of local parents of young children, created an unofficial form of daycare referred to as a "walking kindergarten" (Vandermaas-Peeler et al., 2019). These walking kindergartens, later named forest schools or *Naturbørnehavens*, spread widely over Scandinavia and local European countries. Forest schools were developed out of the Waldorf-Steiner educational philosophy where children led daily learning experiences while outside (McGurk, 2017). NBL is a prominent pedagogical technique in Denmark and Sweden that celebrates life in fresh air *friluftsliv and* the natural environment as the classroom (McGurk, 2017). In 1927, the first American-based based forest-school was introduced by McNeel in Laona, Wisconsin (forestschoolassociation.org). Momentum for NBL and forest-school education increased because of Richard Louv's *Last Child in the Woods* (Louv, 2008; https://naturalstart.org). By 1980 the National Association for the Education of Young Children (NAEYC) shed light on environmental education and outdoor playground adventures for preschool-age children (https://www.naeyc.org). The historical knowledge provided by these resources supported child-led play experiences in an outdoor environment. NBL, forest school, and outdoor play were effective in increasing learner engagement and instructional effectiveness (Ashmann, 2018; Coates & Pimlott-Wilson, 2019; Louv, 2008; McGurk, 2017).

Fundamental Principles of Nature-Based Learning

Three fundamental guiding principles informed NBL programs. The first was that the program took place outdoors, whether that be at a school site, in a forest, meadow, or beach (Brudan & Cassianu, 2018). To learn about the natural world, children must be taught within it. Through an Exploration-Explanation-Extension model, Brudan and Cassianu (2018) observed the effectiveness of the environment as a venue to learn large volumes of content and found that through direct exploration, they developed their higher-order thinking skills. Warden (2019) highlighted this concept by explaining how nature pedagogy was manifested in different environments, through the creation of a virtual space called "Mindstretchers Academy." Through a review of the literature, Warden (2019) found that nature pedagogy supported ways of living sustainably in the natural world. NBL, or nature pedagogy, was described as a way of engaging children with nature (Warden, 2019). Researchers further explored this principle by explaining the importance of children's interactions with nature, rather than in or for it (Yilmaz-Uysal, 2020). In their research, Yilmaz-Uysal (2020) selected 116 preschool-age children from several public schools and observed biophilic or non-biophilic tendencies. Through a qualitative research design, the author identified a significant correlation between children's interactions with nature and their affinity toward it (Yilmaz-Uysal, 2020).

The connection with nature, by learning within it, deepened children's connection to their peers, their community, and the land (Warden, 2019). Another principle of NBL was that children should be awarded the freedom to lead and explore in a natural setting. A child-led approach was fundamental to the authentic implantation of nature-based

teaching and learning (Warden, 2019). Nature play was another fundamental principle of NBL (Wilson, 2019). Through Dewey's progressive education theory, Wilson (2019) studied how children participated in dramatic play, elaborate play scenarios with their peers, and engaged in active play with their environment which informed NBL (Wilson, 2019). There was a co-existence that must have taken place for a nature-based program to be authentically nurtured. The three fundamental principles of NBL were identified—learning with the environment, engaging in a child-led pedagogical approach, and supporting nature-play. These three principles inform genuine NBL programs and with these principles' children are afforded the benefits. The literature supported NBL as a unique and authentic learning framework for children to participate in meaningful learning experiences and should be available to families as an option for early childhood care (Brudan & Cassianu, 2018; Warden, 2019; Wilson, 2019; Yilmaz-Uysal, 2020).

Benefits of Nature-Based Learning

Research has shown that there were several benefits to outdoor play including cognitive development, social-emotional development, and physical development and health (Bal & Kaya, 2020; Barrable & Booth, 2020; Fyfe-Johnson et al., 2019). Children learn best when in an environment where they feel freedom to express who they are, can engage in meaningful experiences, and safely explore their surroundings (Bal & Kaya, 2020). In their research, Fyfe-Johnson et al. (2019) conducted a cross-sectional observational pilot study in which children were observed spending time outdoors. They found that children who participated in NBL programs were more physically active and demonstrated fewer behavioral concerns than the control group.

There were developmental benefits for children who attended NBL programs. Children who participated in NBL programs demonstrated heightened levels of confidence and self-reliance after beginning an NBL program (Coates & Pimlott-Wilson, 2019). Through an exploratory phenomenological design, Coates and Pimlott-Wilson (2019) explored ELT through NBL. The benefits of participation in a NBL program were highlighted when results indicated that NBL contributed to social, emotional, cognitive, and physical development through engagement in active play (Coates & Pimlott-Wilson, 2019). Similarly, Roy et al. (2012) concluded that NBL programs developed children's critical thinking and problem-solving skills. With a problem-based approach in a nature-based program, Roy et al. (2012) collected pre-and post-test, data with both a control and experimental group of teacher participants. Children who participated in the program ranked higher than their counterparts regarding problem-solving and critical thinking skills surrounding environmental education. Ulset et al. (2017) tested cognitive strategies and confirmed that outdoor activity supported children's attention skills and protected participants against hyperactivity symptoms. The benefits of NBL have been identified through research involving children, parents, and educators (Bal & Kaya, 2020; Barrable & Booth, 2020; Fyfe-Johnson et al., 2019).

In addition to critical thinking skills, time spent outdoors in a natural environment impacted children's nature connection and pro-environmental behaviors (Barrable & Booth, 2020; Bhagwanji & Born, 2018; Ernst, 2018; Ginsburg & Audley, 2020). Barrable and Booth (2020) hypothesized that children who attended nature schools had a greater nature connection than their counterparts who attended traditional preschools. Analysis of

Likert scale data indicated there was a statistically significant increase in participants' nature-connection when attending a NBL program, compared to a control group. Like these results, Bhagwanji and Born (2018) found through a theoretical analysis and review of the literature, that children who were systematically involved in NBL through an exploration, explanation, and extension model benefited from time spent outside. Results suggested that with a structured approach outdoors, children could acquire a large volume of knowledge and further develop their higher-order thinking skills because of time spent learning outdoors.

NBL supported sustainability education. Ginsburg and Audley (2020) found through individual and group semistructured interviews that teachers were successful in supporting sustainability education through a NBL approach. Teachers and children made sense of their past experiences and restructured their understanding of future implications by focusing on themselves in their environment (Ginsburg & Audley, 2020). Similarly, Ernst (2018) confirmed Ginsburg and Audley's findings that children were engaged in more meaningful learning experiences while outdoors. They found that children's preference for play in an outdoor environment influenced both parents' perceptions of safety, and activity affordances (Ernst, 2018; Puk, 2023). Although the benefits of NBL are known, there are several types of NBL programs available to children.

Types of Nature-Based Learning Programs

There were several types of NBL programs in effect at the time of this research, one being farm school. Farm school was a type of nature-based early childhood education program supporting student development through a strong nature connection and

subsequent environmental stewardship (Rymanowicz et al., 2020). Through farm school, children learned to have a positive impact on their environment and benefited from participation in the farm-school approach. Children's behavior regarding their willingness to explore and an interest in nature increased because of participation in a farm school program. Additionally, participation positively impacted the family's engagement with outdoor education along with meaningful conversations regarding food (Rymanowicz et al., 2020). Echoing this finding, Barnard et al. (2020), highlighted the increase in healthy food choices because of a farm school program as it influenced food choice availability in the cafeteria.

Another type of NBL program is forest school. Forest school is a type of learning program in which children explore their natural world in a wooded area. Children who participated in forest school demonstrated development in their academic ability, and basic letter, and number skills, along with increases in physical social, and emotional aptitudes (Ashmann, 2018). Turtle et al. (2015) highlighted forest schools as a key indicator of increased pro-environmental behaviors and attitudes toward stewardship of the environment. Forest schools provided meaningful learning experiences for children who attended them and were an important category of NBL (Ulset et al., 2017). NBL programs could take place in terrains that may have posed some additional challenges regarding weather and safety, however, there were desert schools that operate successfully to support children's learning experiences (Takriti et al., 2020). Although the habitats and terrain differ from forest schools, there were opportunities to increase children's nature connection and conservation efforts in a desert environment. Children

who participated in desert school showed an affinity towards play and exploration in their environment and offered evidence of increases in self-awareness and confidence (Takriti et al., 2020).

While not every school had access to a lush forest or beautiful desert terrain, there were other ways to implement a NBL program within the confines of an urban environment. In their research, Camasso and Jagannathan (2018) studied children from disadvantaged backgrounds through an NtN program. Here, researchers focused on the natural sciences to measure the effectiveness of their nature-based program. At this urban school, environmental education and NBL proved beneficial as those children who were actively engaged demonstrated higher grades than their controlled counterparts who were passive recipients of the same content. As evidenced by an experimental design using the NtN program with n = 18 NtN students consistently outperformed the control group with n=34 (Camasso & Jagannathan, 2018). Cordiano et al., (2019) studied suburban schools as well as NBL programs and their findings suggested that children in both programs were equally prepared for kindergarten. Regardless of the venue whether it be on a farm, in a forest, desert, or city, children who were engaged in meaningful learning opportunities while outside, benefited from the experience.

Social Perceptions and Constructs of NBL

While parent perceptions and experiences informed children's participation in NBL programs, there were also societal implications (Vandermaas-Peeler et al., 2019). This aspect of NBL fell under Bronfenbrenner's mesosystem in which the community and society impacted children's learning experiences (Rymanowicz et al., 2020). In their

research, Vandermaas-Peeler et al. (2019) studied 30 parents from the United States and 19 Danish parents. They investigated the importance of play and the relative merits of outdoor play environments. With attention to adults' childhood play and views on early experience outdoors, they found that Danish parents experienced a lifelong relationship with the natural world because of their upbringing (Vandermaas-Peeler et al., 2019). Clark et al. (2020) also found that social and cultural outcomes influenced environmentally related behaviors through their research on environmentally related action and behavior change in a Delphi study. Coates and Pimlott Wilson (2019) studied 33 children from the East Midlands and concluded that there was a significant shift in children's behavior because of their social interactions while outside (Coates & Pimlott-Wilson, 2019) The findings indicated that sociocultural values and social expectations influenced the belief systems of the parent participants. Additionally, parents' values reflected their respective cultural context and how they raised their children (Clark et al., 2020; Coates & Pimlott-Wilson, 2019; Rymanowicz et al., 2020; Vandermaas-Peeler et al., 2019).

Echoing Vandermaas-Peeler et al. (2019), Baird et al. (2020) examined the sociocultural values that influenced parents' engagement in environmental and nature education. Baird et al. identified themes of connectedness to nature based on social influences, such as concern and protection for the environment. This connection provided support for the potential for positive intentions for sustainability and outdoor education as children developed an understanding of conservation (Baird et al., 2020).

Not only do social constructs influence NBL, but collectivist thinking versus individualistic thinking, plays a pivotal role in NBL (Dean, 2019). Dean (2019) took a historical look at forest schools through the lens of social and cultural contexts. Through a Social Constructivism framework, Dean (2019) investigated how forest schools impacted students' learning experiences. Results suggested that nature preschools and meaningful outdoor learning experiences were a result of social constructionism and could be isolated when comparing the social viewpoints in Scandinavian countries, the United Kingdom, and the United States. In Scandinavian countries, there was a socialist governing body. In this context, the society worked under the mind frame of doing what was good for society and subsequently the environment, rather than what could be done for individuals (Gull et al., 2020). This collective consciousness supported NBL, environmental education, and sustainable education through a nature connectedness. What was healthy and important for the environment, was healthy and important for the people in it (Maynard, 2007)

School Readiness Skills

Participation in NBL prepared children for elementary school. According to Zamzow and Ernst (2020), participation in NBL programs supported children's executive function skills, a key indicator in ensuring a child was prepared for elementary school. In an investigation of four nature preschools, and two non-nature preschools, the authors studied the growth in executive function skills as observed in nature preschool participants versus traditional preschool attendees. Results indicated that children in both groups demonstrated significant executive function skill development within both

learning settings. NBL preschools offered the same opportunities for the development of executive function improvement as their counterparts (Fyfe-Johnson et al., 2019).

While improvement in executive function skills was observed, the question remained how performance, resilience, and critical thinking skills were developed through participation in a NBL program. Through their research, Ashmann (2018) critically examined OAK Learning Center students to assess their development across several domains. The author found that children exposed to NBL outdoor experiences achieved the same academic levels as the control group. Additionally, Ashmann identified the cause of this equal attainment of content knowledge was a result of nature-based preschoolers' heightened levels of resiliency and critical thinking skills. McCree et al. (2018) replicated these findings in their research in which they investigated the effects of participation in NBL programs on resiliency. They answered key RQs focused on factors that influenced the relationship between outdoor experiences and academic performance along with changes relating to wellbeing. They found that children who participated in NBL programs developed resiliency when faced with difficult tasks, at more statistically significant rates than the control group. (McCree et al., 2018).

In addition to critical thinking skills, children who attended nature-based preschools were prepared for elementary school because they were taught problem-solving skills and were encouraged to engage in exploration (Brudan & Cassianu, 2018). Through an Exploration-Explanation-Extension Model of herb environments, preschoolers were systematically involved in direct exploration activities in an outdoor learning setting. They concluded that children were able to develop problem-solving

skills which answered key questions posed throughout the learning process (Brudan & Cassianu, 2018). Teaching children how to think critically and process content, was identified as a school-readiness skill (http://www.ecs.org).

Teacher Experiences

Teachers played a significant role in the implementation and facilitation of NBL programs (Ginsburg & Audley, 2020). As teachers engaged in outdoor learning programs, they were responsible for the learning experiences of the children in their care, while balancing family expectations, regulatory agency requirements, and job duties (Gull et al., 2020; Lewis, 2018). Teachers guided children through the emergent curriculum which took place naturally while children learn outside. This skill set is something that is taught, practiced, and learned both inside and outside of the classroom, because of professional development, and on-the-job training. For teachers to be prepared for the role of leading a NBL program, they must undergo professional development and training (Ginsburg & Audley, 2020).

Teacher Development

In their research, Ginsburg and Audley (2020) investigated teacher experiences as they engaged in sustainability and environmental education. They identified key questions examining the type of craft knowledge gained and implemented in this learning setting, along with the facilitators and barriers to sustainability education of young children in nature-based preschool programs in the Northeastern United States. Teacher training was highlighted as an important aspect of facilitating NBL in a preschool setting, as they gained hands-on experience working in an outdoor learning setting (Lewis, 2018).

Findings indicated that the teachers who participated in the research study had the desire to include sustainability education within both their pedagogical approaches along with daily practices. This information highlighted the phenomenon of teachers and parents working in collaboration with each other to provide environmentally conscious learning experiences for young children (Bradshaw, 2018).

Another consideration for teachers as they facilitated outdoor learning was the regulatory agencies that they operated within. Teachers who facilitated NBL programs were required to abide by licensing and other regulatory and compliance agencies. Gull et al. (2020) explored this concept when they questioned early childhood educator perspectives regarding climbing trees as well as best practices and appropriate settings that supported tree climbing. With a convenience sample, authors gathered information outlining safety guidelines, demographic information, and tree climbing policies. They also observed teacher attitudes as they navigated parental concerns, and issues about accessibility, liability, and licensing. All components were addressed indicating that with productive communication and collaboration, children had the opportunity to successfully climb trees while on their respective school campuses (Gull et al., 2020).

Echoing the importance of collaboration, teachers voiced the influence their school leaders had on their ability to implement NBL programs, as direct reports. Lewis (2018) researched how leaders discovered and maintained NBL programs. In their research, they identified outdoor education as a career choice along with the importance of leadership training. Paired with these components, Lewis (2018) emphasized the importance of active and environmentally conscious lifestyles as an important factor

influencing participation and facilitation of NBL programs. Larimore (2016) also examined the influence of the administrative team on the teacher's experiences and stressed the importance of having a common language. A common language included vocabulary and definitions which would support early childhood educators in establishing best practices along with meeting their professional development needs (Larimore, 2016).

With the use of a purposeful and opportunistic sampling approach, Masters and Grogan (2018) found that several schools in Australia and New Zealand faced similar challenges when implementing NBL at the preschool level. One of the main concerns was identifying and gaining access to suitable locations in which children had the opportunity to develop a nature connection. This information was gathered from the preschool teachers' perspectives, in which they experienced pressures to manage risk while children played outside. Alongside the teacher's responsibility to manage risk, there were other challenges faced by this population as they engaged in NBL pedagogy at the preschool level (Dietze & Kashin, 2019).

Teacher Barriers to NBL

Teachers of NBL programs who lead outdoor programs faced barriers that were curricular, and parent based. NBL teachers found that there were relatively low injury rates for those who demonstrated a higher percentage of rules when climbing trees, however, they also indicated that teachers experienced fear of litigation on the parents' behalf (Gull et al., 2020; Kandemir & Sevimli-Celik, 2023). For example, when choosing lunch items, they proposed reusable containers and recyclable materials. Unfortunately, they found that several parents did not engage in sustainability efforts at home and

continued to send their children with excess waste (Ginsburg & Audley, 2020). One of the barriers teachers faced when teaching children in a NBL program was allocating and managing the time required to spend on the core curriculum (Louv, 2008). Teachers in the study indicated that they held beliefs that outdoor play took time away from the standardized and core curriculum they were required to teach. Another barrier teachers faced was a lack of awareness of nature play and pedagogy (Dietze & Kashin, 2019). Their findings indicated that teachers benefited from enhancing their awareness, intentional programming, and confidence to embrace NBL as a means of educating young children. Teacher attitudes along with these variables increased access to professional learning opportunities which positively contributed to students' learning experiences while outside. These phenomena were a result of the administrative team's influence on the teachers' experiences.

Administrative Support for Teachers

The school leadership team and administrative faculty influenced teachers through scaffolding and support. The leaders of the school site determined staff training, scheduling, availability, support, and encouragement which influenced the ultimate success of NBL experiences (Cordiano et al., 2019). Bradshaw (2018) further explored the leader's role in creating a physical environment for children to develop through NBL experiences. They focused their attention on art and nature, along with the opportunities for children to freely tinker and experiment with natural artifacts and materials. Teachers were encouraged to create these learning spaces by their administrative team. Without the support of school leadership, children were not permitted to engage in free play,

exploration, and experiences through an instructed and emergent curriculum. This phenomenon nods back to the sociocultural expectations of children engaged in a standardized curriculum, rather than a student-centered approach in which children learn in a natural environment and at their own pace. For teachers to successfully participate in NBL programs, they must have the support of their families, community, and leadership teams (Gull et al., 2020; Zandvliet & Perera, 2022).

Dring et al. (2020) explored teachers' understanding of children's experiences through the formation of outdoor learning spaces (OLS) such as elementary school gardens. They explored the teachers' perceptions of children's experiences and discovered that teacher consent was fundamental for the effective use of these learning environments. Furthermore, a clearly developed understanding of the features that affected teachers' adoption and prolonged use of OLS was needed. To understand this phenomenon researchers identified key factors influencing teachers' adoption of school gardens and other LCS pedagogy. The confounding factors identified were personal values, environmental education, and administrative support. Without the support of the administration, teachers experienced barriers to using the OLS because of school leaders' discontentment and deficiency of professional development regarding applicable use. The results of this study supported the adoption of school gardens and other OLS in teaching with the support of school leaders (Dring et al., 2020).

Innovative Leadership in Education

Collaboration among teachers, families, communities, and leadership teams ensured a NBL program was viable and encouraged student development (Baird et al.,

2020). To guarantee these entities worked collaboratively, the leader must have participated in a phenomenon referred to as Innovative Leadership. Innovative leadership is defined as a technique or philosophy in which the leader positively influenced their direct reports to maximize potential (Somoza-Norton & Whitfield, 2019). In their research on nature's life principles, researchers promoted an awareness of the value of stewardship of the natural environment (Somoza-Norton & Whitfield, 2019). In their innovative approach, Somoza-Norton and Whitfield (2019) focused their attention on biomimetic thinking as well as participants' leadership skills. The main phenomenon under investigation was the leader's ability to emphasize the importance of sustainability within education to the participants in their research. Findings indicated that innovative leaders integrated development and growth and were attuned to the needs of their community. Furthermore, introducing the phenomenon of biometrics resulted in the inspiration for potential leaders in nature education to be developed (Somoza-Norton & Whitfield, 2019). Within this context, a systematic approach to educational leadership strategies supported innovative leadership and styles to initiate organizational change (Somoza-Norton & Whitfield, 2019).

Glassner (2022) researched an innovative teacher-education program to promote resilience, meaningful learning, and mental wellness through an autonomous learning environment. According to the self-determination theory (SDT), the primary purpose of this learning environment was to care for students' basic needs by taking an innovative approach to teacher training for at-risk youth. With the use of semistructured interviews in a qualitative multiple case study, Glassner (2022) found that self-determined learning

(heutagogy), project-based learning (PBL), self-management learning (SML), and outdoor training (ODT) offered learning experiences which supported children's emotional and social needs. These innovative approaches in education strengthened participants' feelings of resilience and mental well-being, which supported their attainment of roles in entrepreneurship, empowered the educators, and supported social and environmental activists.

School leaders implemented an innovative approach by integrating outdoor activities into the daily schedule for students, engaging in self-evaluation, and facilitating meaningful program evaluations (Glassner, 2022; Mackenzie et al., 2018). Leaders can apply these findings in creating innovative programs during school and school breaks, in which learning experiences integrate outdoor adventure-based programs into daily learning experiences innovative leadership as a leadership approach resulted in a productive contribution to the learning environments for students and led to positive social change (Glassner, 2022). Encouraging the use of the outdoor space as the learning environment was identified here as a key responsibility of the school leader. Through an exploratory repeated measures research design, Mackenzie et al. (2018) further explored outdoor innovative leadership approaches to increase physical activity levels and academic performance in children in science-related disciplines.

Self-assessment was another key finding in innovative leadership about NBL. The key findings in both research studies were that school leaders engaged in a self-assessment of the program and experiences to identify motivation and activity levels, as well as measures of satisfaction. Results of the research supported managers of public

and private agencies in implanting innovative outdoor learning experiences that met the growing demand for child development like education, health, wellness, meaning, and enjoyment. Both Glassner (2022) and Mackenzie et al. (2018), affirmed NBL leaders must implement self-assessment techniques to successfully maintain quality programming.

Quality programming was accomplished through the lens of innovative leadership by focusing on program evaluation. In an innovative leadership approach, successful school leaders engaged in program assessment through outside agencies as well as through accreditation and quality assessments (Glassner, 2022; Mackenzie et al., 2018). Evidently, through the processes of utilizing outdoor space, self-assessment, and program assessment, school leaders had the resources necessary to innovate their NBL programs. School leaders can apply these findings in creating innovative programs during school and school breaks, in which learning experiences integrate outdoor adventure-based programs into daily learning experiences (Mackenzie et al., 2018).

Self-evaluation was a critical component in innovative leadership in outdoor experiential learning was echoed by Hills and Thomas' (2020) research on digital technology and outdoor experiential learning. The implantation or exclusion of digital technology in an open-air experiential learning program required significant examination to identify the potential influence it had on being outdoors. They found that digital technology can undermine the purpose of playing and learning while outdoors, however, it can also engage in outdoor learning experiences. Through a methodical review of the literature, mediators critically thought about their use or negated use of digital technology

in outdoor experiential learning. Hills and Thomas (2020) identified three key components of the framework which were instructional considerations, affordances of digital technology, and decision outcomes. The framework was designed to support the facilitation of outdoor experiential learning to make informed resolutions and review the decision to use technology. The findings indicated that to successfully implement digital technology in outdoor experiential learning through an innovative leadership lens, a critical self-examination was required (Hills & Thomas, 2020).

Innovative leadership in education addressed social inequities. Møller (2017) took a different approach to investigating innovative leadership by focusing their attention on the relationship between theory and practice. With a primary focus on inequality as a recurring concern between socio-economic positions, Møller (2017) provided insight to address equity-relevant improvement in underrepresented communities. Innovative leadership in this context confirmed the importance of the political economy influencing public education (Hercz et al., 2020). Echoing Bronfenbrenner, public policy impacts the leader's ability to address power structures and enact positive social change (Tudge et al., 2021).

Collaboration Among Teachers, Leaders, and Learners

Along with public policy as a phenomenon influencing innovative leadership in education, collaboration among teachers, leaders, and learners was a recurring theme in the research (Hercz et al., 2020; Judkins et al., 2019). Hercz et al. (2020) researched challenge-based learning (CBL) as an innovative teaching technique through the lens of collaboration among each of the individuals engaged in the program. They hypothesized

that to educate children on life-long learning within sustainability education they must position themselves as responsible members of their community. Through this innovative approach to teaching and learning, researchers found that a non-traditional approach, such as constructive learning strategies, demonstrated higher success rates. Furthermore, innovative teaching techniques within a program influenced the participant's environmental competencies positively, teaching them to be stewards of the environment (Hercz et al., 2020; Judkins et al., 2019).

Collaboration among educators and school leaders facilitated a system in which NBL practices could survive and thrive. Through a qualitative descriptive methodology using semistructured interviews of 12 principals and educators, Miller et al. (2022) explored the school leaders' and educators' perspectives and experiences of nature-based play and learning. They focused their attention on the obstacles, benefits, and facilitators of incorporating nature-based play and learning in elementary school. They identified four overarching themes: perceived benefits, obstacles, and facilitators of nature-based play and learning, and the practice. One of the key indicators was the educator's confidence and knowledge in navigating nature-based play and learning with an already compacted daily schedule. Enablers for nature-based play and learning were the support from the school leadership to support teachers in mitigating the barriers (Hercz et al., 2020; Judkins et al., 2019; Miller et al., 2022).

Evaluation tools were used to measure school-wide improvement because of innovative leadership. In their research, Judkins et al. (2019) focused their attention on evaluation techniques as a tool for innovative leadership at the school level. Through

Positive Behavior Interventions and Supports (SW-PBIS) they used the Team Functioning Index (TFI) to evaluate LCT function. This study highlighted the importance of program evaluation as having a significant role in innovation within the field of education. It was the leader's role in this context to ensure that quality standards through evaluation tools such as accreditation agencies, and implementing an objective analysis of programming, would ensure innovation (Browne-Ferrigno & Björk, 2018; Hubbard & Datnow, 2020).

Leadership practices accounted for transformative change within a non-traditional school setting. Through their research, Hubbard and Datnow (2020) explored the infrastructure that influenced transformative change. They studied the challenges which arose throughout the process along with how the leadership team addressed and overcame those barriers. Findings from their case study concluded that instructional capacity affected the reform outcomes of students. This approach confirmed the importance of teacher and administrators' relationships to ensure fidelity and consequently positively influence children's learning experiences (Hubbard & Datnow, 2020).

NBL can co-exist with classroom learning through intentional teaching strategies and innovative planning. In their research, Browne-Ferrigno and Björk (2018) researched the role of early childhood education in advocating for nature play in a compromised setting. The role of nature play was threatened as the increase of achievement-based curricula was promoted (Browne-Ferrigno & Björk, 2018). To ensure that NBL continues to serve as an option for children and their families, attention must be paid to the benefits of nature endeavors (Browne-Ferrigno & Björk, 2018; Hubbard & Datnow, 2020).

Conclusion

Literature supported the positive benefits of NBL programs and evidence suggested children spend more time outdoors (Barrable & Booth, 2020). Time spent outside led to higher levels of cognitive development, bio-affinity, self-confidence, school readiness skills, and pro-environmental behaviors (Louv, 2008). While there were limitations to NBL, the most influential indicators of child engagement in NBL programs were parental and societal perceptions, and experiences (Ernst, 2018). These constructs informed children's participation in NBL programs and influence their availability and support of them.

While school readiness skills have been proven to develop through participation in NBL preschools, those experiences were dependent upon teacher engagement and training (Ginsburg & Audley, 2020). Teacher participation and successful implementation of NBL programs were impacted by the level of support provided by the administration (Somoza-Norton & Whitfield, 2019). Research supported the need for teachers to have innovative leaders in charge of NBL programs. Innovative leadership is defined as displaying a visionary approach to education, creating a strong community, facilitating trust and loyalty, being action-oriented, and participating in collaborative inquiry (Hercz et al., 2020). Little was known about how NBL leaders experience their ability to become innovative leaders. An understanding of their experiences can lead to positive social change (Fyfe-Johnson et al., 2019; Masters & Grogan, 2018; Ulset et al, 2017; Yilmaz-Uysal, 2020; 2018).

Chapter 3: Research Method

The purpose of this qualitative exploratory case study was to discover the experiences of ECLs who instituted and maintained NBL programs. Through observations of the learning spaces, interviews, and document analysis, I discovered the experiences of school leaders who facilitated NBL programs. I chose a qualitative case study approach as a research method to explore the phenomenon of NBL leaders' experiences (see Mills et al., 2010; Patton, 2015). In Chapter 3, I present the research methods for the current study through an explanation of the research design and rationale, the researcher's role, the methodology implemented, issues of trustworthiness, and an overview of the ethical procedures applied. Chapter 3 concludes with a summary of these components.

Research Design and Rationale

Two RQs informed the current study:

RQ1: What are the experiences of ECLs when initiating NBL programs in the United States?

RQ2: What are the experiences of ECLs as they maintain NBL programs in the United States?

The central phenomenon of the study was NBL school leaders' experiences as they instituted and maintained NBL programs. The research tradition chosen for this study was qualitative with an exploratory case study design (Yin, 2016). The rationale for choosing the exploratory case study design was alignment with the design's purpose to describe, explore, or understand a specific concept or phenomenon (see Patton, 2015;

Yin, 2016). Qualitative studies provide researchers with the opportunity to observe, identify, and reflect on the point of view of the participants (Patton, 2015; Yin, 2016). Additionally, qualitative case studies contextualize the perspectives and experiences of participants (Ravitch & Carl, 2021). In the current study, the context was NBL programs in the United States. The phenomenon informing the study was the experiences of leaders who oversaw these outdoor learning programs. Through observations of the learning spaces, interviews with NBL leaders, and document analysis, I discovered the experiences of school leaders who initiated and maintained nature-based programs. The scope of the study extended to NBL programs in the United States.

Careful consideration was made in articulating the design of this study concerning potential methodological approaches; however, an exploratory case study was the selection meeting the most criteria. When considering a quantitative method of research, I determined that the purpose would not have been met, and that approach would not have provided a robust understanding of leaders' experiences. Additionally, a quantitative approach would not have provided concrete information addressing the two RQs. The purpose was not to gather an expansive sample size and produce statistically significant outputs, but rather to gain insight into the phenomenon of school leaders as they initiated and maintained their programs (see Babbie, 2017).

Based on these criteria, I also considered a grounded theory approach; however, I determined that although it fit the qualitative paradigm, ground theory would not have addressed the purpose as well as an exploratory case study. Grounded theory is a systematic research method primarily used by social scientists who focus on a hypothesis

or theory to collect, code, sort, and critique data (Patton, 2015; Saldaña, 2016). This generation of theories informs the data collection and analysis process. This approach is best used for larger populations and groups of participants when conducting a qualitative study (Patton, 2015; Ravitch & Carl, 2021). This approach was not an ideal fit for the current study because there was not a large population of nature-based leaders, which influenced my ability to collect large quantities of data and accurately articulate the experiences of school leaders.

An exploratory case study approach was best aligned with answering the RQs of this study. To provide a dynamic and robust account of school leaders' experiences, I explored those experiences free from preconceived notions, theories, outside influences, or potential researcher bias. Using this approach, I provided an opportunity for the true data to emerge organically, accurately reflecting the phenomenon taking place in a NBL environment. Another reason an exploratory case study was the best fit was that there was a lack of preliminary research investigating the phenomenon of leaders' experiences in NBL. The exploratory case study approach provided context to facilitate the exploration of leaders' experiences. Through observations of the learning spaces, interviews, and document analysis, I collected data and discovered the experiences of the participants. The exploratory case study approach included use of multiple data sources to investigate and describe the phenomenon of real-life experiences of this population (see Zainal, 2007).

Role of the Researcher

As the sole researcher in this study, I was responsible for the development and exploration of the leaders' experiences as they instituted and maintained their NBL programs. I served as the sole observer in this study as I gathered insight into leaders' experiences. This research took place at several NBL programs in the United States. For this study, I took the appropriate steps to gather the necessary data to answer my RQs.

Defining my relationship with the key stakeholders in this study was best done by focusing on professional interactions. I had some preexisting professional relationships because of my role as a school director and education specialist in the field of early childhood education. My interest in the topic of expanding learning experiences to the outdoor classroom led me to develop further connections with leaders in the field of NBL. I was not employed in any of the NBL sites and had no supervisory role over the participants in the study. I did not work at any of the sites, so I did not have any conflicts of interest in conducting research there. I accounted for researcher bias as the sole researcher by using reflexive journaling (see Patton, 2015).

As the researcher in this study, one of my key roles was maintaining an open line of communication with school leaders from each of the participating NBL programs. I planned, coordinated, and facilitated each visit to gain an understanding of the leader's experiences in their setting. As the primary observer and interviewer in this study, I used the general observation template (see Appendix A), interview protocol and guide (see Appendix B), document analysis template (see Appendix C), informed consent, and email invitation template to document and organize the experiences of leaders in the

participating programs. The general observations consisted of in-person observations of the learning spaces, document analysis of operational artifacts such as parent handbooks and employee handbooks, and interviews in which no identifiable child behaviors or interactions were documented. All data collected were informed by the NBL leaders to explore their experiences.

As the sole researcher and interviewer, I scheduled, facilitated, and recorded each leader's interview with the use of audio-recording technology. Upon approval of the audio recording and transcripts, I then used the data collected to answer the RQs. The school leaders who participated in this research were not provided with any incentives to participate; however, the findings were organized and presented to each participant for their professional consideration and use.

Methodology

I used a qualitative exploratory case study design to answer the RQs. A qualitative approach was aligned with the problem and purpose because the purpose was to explore and understand the leaders' experiences. Through an exploratory case study, I explored the phenomenon within a real-life context to understand participants' experiences. To gain an understanding of those experiences, I conducted a general observation at each of the learning sites. In addition to observations, I conducted in-depth interviews with each school leader. I also conducted document analysis to provide insight into the policies and procedures that influenced the program leadership. To triangulate the data, I used multiple data sources: observations of the learning spaces, interviews, and document

analysis. The protocol and templates helped me standardize the data collected across all settings and participants.

Participant Selection Logic

The population under research included leaders of NBL programs, and I solicited participation using a purposeful sampling method. To ensure consistent and intentional inclusion and exclusion practices, I selected the participants for the study based on their ability to meet specific inclusion criteria. The inclusion criteria were adults over the age of 18 years who were working or had worked in a management or leadership position at a NBL program for at least 1 full year, who had provided written informed consent, and who were willing to participate in the research. I followed Walden Institution Review Board (IRB) regulations to ensure that there were site-specific protections in place for participants in this study. I used a purposive sampling method to select participants who had experience as NBL leaders, along with their ability to communicate those experiences (see Palinkas et al., 2015). Participants consisted of 14 school leaders of NBL programs. The rationale for this number was that this sample size would facilitate data saturation to answer the RQs. The procedure for how participants were identified was by visiting the websites of the NBL programs to find out whom the leader was. NBL school leaders were contacted through phone calls or email. Participants were recruited by following the IRB and site safety protocol for soliciting participation using the informed consent document. I recruited and interviewed participants until no additional data emerged to answer the RQs (see Patton, 2015). To ensure the depth of the data collected, I recruited participants from six NBL programs in the United States.

The data collection sites were determined based on their location, availability, and willingness to participate. I visited each of the sites to ensure that they would be open and operating as an NBL program serving young children. As I became more familiar with each location, I ensured that each of the programs met the NBL program criteria. These sites were appropriate to sample the population to answer the RQs because the sites were NBL locations with leaders who embodied the experiences under investigation. The final decision on which locations were included in this study was based on the following criteria:

- The NBL program must have a nature-based curriculum in place, and evidence of its use must be apparent within the learning spaces.
- The program must have been affiliated with or reference an NBL organization or other environmental associations such as NAEYC, Natural Start Alliance, or NAAEE.
- The NBL program must have children enrolled ranging in age from preschool (i.e., 1-year) through elementary school (i.e., sixth grade).
- The program may be an afterschool program, enrichment program, homeschool, or nontraditional school, provided it implements and there is evidence of the core principles of an NBL approach (see Larimore, 2016).

Sampling Logic

Sampling logic was identifying the individuals who were best suited to answer the RQs, meeting the criteria of the identifiable population under study (see Burkholder et al., 2016). I used purposive sampling to identify the individuals who met the inclusion

criteria. The NBL programs selected for this study served as an NBL location with most of the children's day spent learning and playing outside. The sample size was one of the key components determining the data saturation. To determine an appropriate sample size, each individual contributed to the findings without distracting from other individuals' ability to participate successfully (see Bhalerao & Kadam, 2010). Additionally, the sample size reflected the ability to achieve data saturation. Saturation was achieved based on two criteria: The first was the continued analysis of the data no longer yielding new information, and the second was no additional unexplained data that arose (see Burkholder et al., 2016). The participants in my study were drawn from NBL programs with homogenous criteria.

Participants for this exploratory case study were determined based on their responses to an email invitation explaining the purpose and significance of the study. Within the email, details clarifying the purpose of the research, the problem statement, and the significance of the research were included. To ensure the trustworthiness of the study, I included the interview questions so participants could make an informed decision on whether they wished to participate. An informed consent form was included in the email invitation. I also ensured trustworthiness by using multiple data sources and reviewing the findings with another educational professional.

Participant Recruitment

I used a purposive sampling method for this study to identify individuals who aligned with the purpose of the study. This sampling method was conducive to identifying individuals who were characterized by a particular experience (see

Burkholder et al., 2016). With purposive sampling, I chose participants based on their position at an NBL so they would represent the target population (see Richardson, 2015). This decision provided an opportunity for me to gain an understanding of participants' experiences as they initiated and maintained these programs. I followed IRB and site-specific protections to ensure participation protocols were followed. The sample was 14 school leaders from six NBL sites.

Inclusion Criteria

The population included in this research were school leaders who initiated and maintained NBL programs in the United States. The characteristics of the purposive sample consisted of having experienced leading components of an NBL program and having provided written informed consent. There were four inclusion criteria for participants to be included in this study. The first was that the individual must have led an NBL program for a minimum of 1 year. The individual must have been at least 18 years of age at the time of the study and must have held management responsibilities at the NBL program during their time there. The third was that the participant signed the informed consent form and returned it within the allotted time. Finally, participants needed to be willing and able to communicate their experiences.

Instrumentation

There were three data collection instruments used to triangulate the data in this study. The instruments used to collect data were general observations of the learning spaces using the general observation template (see Appendix A), interview protocol and guide (see Appendix B), document analysis template (see Appendix C), and email

invitation template. I created the general observation template with a focus on observational field note recommendations and persistent observational protocol (see Burkholder et al., 2016; Ravitch & Carl, 2021; Yin, 2016). I established the interview protocol and guide based on the interview protocol refinement (IPR) framework developed by Castillo-Montoya (2016). I developed the document analysis template based on the document review checklist in which research participants shared relevant documents and I analyzed the documents, which focused on the phenomenon of interest as outlined by Tucker (2016) with recommendations from Yin (2016).

Observation of Learning Spaces Protocol

The instrument used for the observation of learning spaces was the general observation template. The source of this data collection instrument was based on observations as a key element of data collection in a case study research design (Yin, 2016). The principles used included making observations over various periods, building a case study database, establishing a chain of evidence, and coding the information gathered to develop themes during the observation (Burkholder et al., 2016; Yin, 2016). Observations were made during operational hours to provide depth of data collected and insight into the leaders' experiences as they maintained their NBL programs. I took observational field notes to record the learning spaces in which participants were engaged to achieve a range of contextual data points (Ravitch & Carl, 2021). I established enough data to answer the RQs once I made observations for an extended period. They took place over several visits, at different learning sites, and I completed the general observation template during those observations. While students were present during the observation,

only the learning spaces were observed. No photographs or identifying information about the students was included. All information about students was at the macro level.

The Observation of Learning Spaces Template was an instrument developed based on recommendations by Ravitch and Carl (2021), Walden Observation Protocol (2023), and Yin (2016). The purpose of this instrument as a research tool was to focus on relevant details that emerged during an observation session, answering key RQs. With this tool, data were collected reflecting the learning spaces, materials, landscape, and physical structures (Walden Observation Protocol, 2023). The protocol began with an area that described the setting using a table, along with the approximate time durations of each of the observational periods. There was a designated section to write notes and other details deemed relevant to answer the RQs. Additionally, there was a portion of the template designated to insert codes and themes that emerged during the observation segment (Patton, 2015; Ravitch & Carl, 2021; Yin, 2016).

Content validity was established by documenting content that captured the phenomenon of the leaders' experiences. Furthermore, I used a panel of experts with terminal degrees to validate the protocol. Sufficiency of data collected with the observation of learning spaces protocol and template was established by reaching a point where no new content or themes emerged during continued observations. Furthermore, the sufficiency of data collected was established when each of the RQs was thoroughly answered. The data were collected from observations of learning spaces and the leaders who navigate their day within them.

Open-Ended Interview Protocol

The research instrument used for interviewing was the interview protocol and guide. This instrument had a list of specific questions and follow-up prompts to frame the time and approach of the interview. The characteristics of the interview questions that ensure they are reputable and justified were that interview questions were participant-centered, temporal, partial, subjective, and non-neutral (Ravitch & Carl, 2021). Interviewing as a research strategy also offered the opportunity to gain a more robust and dynamic understanding of the participant's experiences as they initiate and maintain their programs (Rubin & Rubin, 2012).

The interview questions were developed to reflect the RQs through the lens of EST, PBLT, transformational leadership theory, and NBL theory. Interview questions shared some common themes such as professional development, family interactions, staff considerations, policies and regulations, and daily operations. Follow-up questions were added as needed during the interview. The protocol was validated through the protocol refinement framework developed by Castillo-Montoya (2016). The interview protocol refinement (IPR) framework implemented a four-phase process. The four phases were: 1. Ensuring interview questions were aligned with the RQs. 2. Construct an inquiry-based conversation with participants. 3. The research instrument was validated through a panel of content and methods experts to validate. And 4. Finalizing the interview protocol before the data collection phase of the research. These methods increased efforts to support the reliability of protocols in qualitative research resulting in improved quality of data obtained through interviewing (Castillo-Montoya, 2016). Sufficiency of data

collection was achieved once each participant had been asked every question from the interview guide, the interview was transcribed, and the information was coded, placed into categories, and grouped into emerging themes according to Saldaña's (2016) recommended coding techniques where no new information emerged from further interviews. Additionally, the sufficiency of data collected using the interview guide was established once each of the RQs was thoroughly answered.

The basis of the instrument, interview protocol and guide, developed for interviews was the interview protocol refinement (IPR) framework (Castillo-Montoya, 2016). IPR was a four-stage interview development framework in which the researcher ensured the interview questions were aligned with the RQs. Then, the interview guided the researcher to engage in an inquiry-based conversation with participants followed by providing feedback on the interview protocol. The interview protocol was piloted before the data collection phase to ensure that the tool was optimized for use (Castillo-Montoya, 2016). Interview validity was established based on whether the structure of the interview and the interview questions captured the specific phenomenon being researched (Rubin & Rubin, 2012). Content validity was established when a panel of experts in qualitative research or who held terminal degrees validated the protocol for content and alignment with the RQs and framework. The sufficiency of data collection was determined when the responses from the interviews no longer yielded new information. The data were collected by recording interviews, transcribing responses, coding transcriptions, categorizing codes, and identifying emerging themes (Saldaña, 2016). As the sole researcher, I collected the data. The frequency of data collection was individual

interviews of NBL leaders meeting the inclusion criteria. The duration of the interviews was 30-60 minutes. The data were recorded with a recording app and transcribed using Scribie.com (i.e., in December 2023). The transcriptions were hand-coded using an iterative coding technique. There were no identified culture-specific issues specific to the population present while developing this instrument. The follow-up plan addressing too few or too many participants was to communicate when a participant was no longer needed to interview or to schedule additional interviews as needed.

Document Analysis Protocol

The basis for the document analysis instrument, Document Analysis Template, was developed by Stake (1995) which explored the experiences of human participants, in this study identified as NBL leaders. Through an exploratory case study, the research design used the document analysis strategy to triangulate the data collected (Yin, 2016). With a sample size of six learning sites, the document review instrument was developed to explore, discover, and understand the perspectives and actions of 14 program leaders. Content validity was established by applying a rich, and thick description and ensuring methodological triangulation of the themes which emerged through evidentiary support with the interview and observation data (Stake, 1995; Yin, 2016). Sufficiency of document analysis data collection was established by reaching the point of data saturation, in which no further themes or codes emerged during document analysis (Saldaña, 2016). If findings were confirmed across multiple data sources, themes, codes, and thick descriptions, they were included as verified findings (Stake, 1995). The data were collected from requesting and analyzing documents as described in the document

analysis template (Appendix C). As the sole researcher, I collected the data. The frequency of data collection events was a request of documents from the research sites and a thorough review and analysis of the content through the lens of the learning leaders' experiences. The duration for collecting relevant documents was one month. The data were recorded by engaging with the documents to identify common themes through the process of manual hand coding (Saldaña, 2016). There were no identified culture-specific issues specific to the population present while developing this instrument. The follow-up plan for too few or too many documents was to request more or eliminate those that were not relevant to the phenomenon under research. If the documents did not answer the RQ but provided relevant information, they were reported as discrepant cases.

Procedures for Recruitment, Participation, and Data Collection

Recruitment

Participants for the interview were recruited by identifying leaders of NBL programs through an internet search. The search parameters included NBL programs in California. Document analysis occurred when the leaders of the NBL programs provided me with the requested documents. To triangulate the information given in the interview portion of the data collection, I used the documents to identify intersections in the information. Participant leaders were asked to provide employee handbooks, parent handbooks, meeting minutes, and written policies along with online and public-facing documentation about the NBL sites.

Participation

To participate, an NBL leader had to meet the inclusion criteria. The criteria were to submit written informed consent, be 18 years of age or older, be willing to participate, and be led or were currently leading an NBL program for one year in California. They also needed to complete the interview within the data collection phase of this study.

Data Collection

The specific research problem I addressed through this study was the lack of information surrounding ECL experiences instituting and maintaining NBL programs. The data collection techniques I used were observations of learning spaces, interviews, and document analysis. Each site was an independent school and each school's process of gaining access to participants was followed closely along with the Walden IRB requirements. Data collection began after the leader at each invited site permitted the collection to begin. Full transparency throughout the research process helped facilitate a trustworthy relationship with participants, and the Walden IRB. Member checking was used following the interview phase and was the process of providing participants with a summary of the interview results to ensure the accuracy of their responses (Brear, 2019). This process ensured that there was an equitable relationship between the participants and the researcher and accounted for researcher bias (Brear, 2019). The data were collected from each participating NBL site, I collected the data.

Observation

Observation of learning spaces helped answer the RQ by developing an understanding of and situating the leader within, the learning space. To develop an

understanding of the experience of initiating the program, the physical setting was explored (Yin, 2016). Observation as a data collection tool included an explanation of the physical setting and structures (Lodico et al., 2010). While the full contextual observation of the physical structures of the people and interactions would have been informative, there were ethical issues with observing spaces with children present. I observed each of the participating NBL programs for approximately 3-4 hours. I used the Observation Template which I developed outlining specific topics. Each participant at the sites was aware of the purpose of my presence. I used my computer to type my observations directly into the template and dictated observations using a recorder, along with notations during data analysis. My observations were written field notes to create a robust description of the observations taking place. I indicated a description of what happened, and reflections on the notes (Yin, 2016). I used manual hand coding for the observation of learning spaces as the coding procedure, Microsoft Word and Scribie.com was used for this source to write or record and transcribe each observational narrative from the observation template.

Interviews

Interviewing as a data collection method addressed both RQs by asking specific, relevant interview questions exploring NBL leaders' experiences (Rubin & Rubin, 2012). Interviews provided an advantage in data collection because the researcher could take an intentional approach to facilitate and guide the information gathered. One disadvantage was that conducting interviews influenced the information gathered because it was disseminated through the researcher's lens (Rubin & Rubin, 2012). Through

interviewing, I engaged with participants in a purposeful conversation to gain information and discover the phenomenon of NBL leaders' experiences. Before beginning the interview, I secured permission from the site gatekeepers and participants in which I explained the purpose of the study and described the action taken to ensure confidentiality (Creswell, 2012). I sent an introductory email to familiarize participants with the interview process. I sent a formal invitation to participate and gained informed consent. I developed leading interview questions as needed to answer the RQs bound to exist explaining the central phenomenon. I then conducted semistructured interviews with each participant after receiving their permission to do so. I recorded all the interviews using a recording app and tape recorder to allow me to write notes during the interview process. Where appropriate, I asked open-ended questions to encourage dialogue between the interviewer and interviewee. I established rapport with participants through an introductory conversation where I shared the purpose of the study, research procedures as well as the methods implemented to ensure confidentiality. Participants were reminded that their participation was voluntary, and they had the option to withdraw from the interview and research at any time without any consequences for choosing to do so.

I secured permission to record the interview by gaining informed consent and by reading the introduction from the interview guide to inform the participants of the purpose of the study. I asked the interview questions and recorded the participant's responses. The duration of the interview was 30 mins to 1 hour. I conducted one interview per school leader using the interview protocol and guide.

Document Analysis

Document analysis triangulated the answers to the interview protocol and developed a complex and dynamic understanding of the policies, procedures, expectations, and vision of the program (Stake, 1995). Archival documents were requested from the school leaders and obtained through internet searches of public-facing documents. These documents contained information and provided additional insight into the school leaders' experiences. Moreover, archival documents provided a rich and robust source of information which increased the validity of the interview and observational data. Documents served as a ready-made source where the researcher could intuitively interpret supportive data in a qualitative case study (Merriam, 2009). Effectively, through the attainment and analysis of documents, I easily obtained supportive materials triangulating the data collected.

The document analysis took place once the documents were gathered from the internet and NBL sites. I collected the documents after the interviews and observations were completed. The documents were analyzed until no further information emerged through the document analysis process. I asked each site to provide copies of archival documents at the time of the scheduled interview. Participants were given the option to email the documents beforehand or follow the interview if they preferred. I requested the following documents from each participating site: Meeting minutes, parent handbook, employee handbook, vision, and mission statements, and governing policies or procedures that influence the school leaders' experience. Additionally, I searched for archival documents online to supplement what was provided by the site. Each archival

document was renamed to ensure that the information remained confidential. Upon examining the archival documents, I triangulated them with the interview and observational data to determine common themes through data analysis. The data were recorded from the document review by filling out the document analysis template. If recruitment resulted in too few participants, I extended the scope of my search for NBL sites to participate in the data collection process and requested to obtain more documents.

I transcribed the interviews and analyzed the responses using an iterative coding process to identify emerging themes. I used a combination of hand coding to identify common codes and emergent themes. I used alphanumeric codes, such as P1, P2, and P3 etcetera, to illustrate the experiences of each participant, and the responses were reviewed by participants to ensure there was no researcher bias (Connelly, 2016). Interview data were organized and stored in an Excel and Word document so I could easily retrieve and analyze the information. This information was used to triangulate with observations and documents.

Exit and Follow-Up Procedures

Participants exited the study through the form of a concluding conversation (Rubin & Rubin, 2012). This technique was polite and valuable insight could be gathered during this discussion. I thanked the NBL leaders for participating and provided them with an opportunity to share any additional information they would like to disclose. I engaged in debriefing procedures such as providing the researcher with contact information and explaining the follow-up plan (Rubin & Rubin, 2012). Follow-up procedures included providing participants with requirements to return for follow-up

interviews if necessary, or a concluding email communicating the completion of their participation. I provided the results of the study to the participants upon completion, a description of the potential for positive social change, and a gesture of gratitude for their participation.

Data Analysis Plan

The specific research problem I addressed through this study was the lack of information surrounding ECL experiences initiating and maintaining NBL programs. The data collection techniques I used were observations of learning spaces, interviews, and document analysis. A Word document was used for a qualitative analysis of each of the data sources. Once I collected the data, I coded the data to identify a clear direction aligning the responses to the conceptual framework. Then the findings were shared with participants for greater dependability. Coding of the entire collection of observation of learning space data, interview responses, and document analysis was completed (Stuckey, 2015).

Observation of Learning Space Data Analysis

Observing learning spaces answered both RQs by providing a context for how NBL leaders initiate and maintain their programs. Observation of learning spaces helped answer the RQ by developing an understanding of and situating the leader within, the learning space. To develop an understanding of the experience of initiating the program, the physical setting was explored (Yin, 2016). I used the observation of learning spaces template to collect and organize the data.

Coding

I coded the information gathered using iterative coding in an Excel document. I provided a clear connection between the data collected and the conceptual framework. I coded the entire collection of the observation of learning spaces and coded the information using a manual coding system.

Discrepant Cases

I identified discrepant cases based on the orientation to the consensus, however, I did not disregard any observations because the information provided a broader understanding of the phenomenon under research (R. Brooks et al., 2014). The discrepant cases were elucidated when concluding the data to maintain ethical standards. All findings were reported with full disclosure without omitting any data. This technique ensured that the final results were not distorted (R. Brooks et al., 2014).

Interview Data Analysis

Interviewing as a data collection method answered both RQs by asking specific, relevant interview questions exploring NBL leaders' experiences (Rubin & Rubin, 2012). I coded iteratively looking for themes, patterns, and categories from the individual questions in the interview. I began with hand coding to identify common codes and emergent themes. I used open coding to analyze the interview responses, develop categories, and identify common themes and patterns that emerged from the school leaders' experiences. I used alphanumeric codes, such as P1, P2, and P3, to identify the experiences of each participant; and the responses were reviewed by participants to ensure there was no researcher bias (Connelly, 2016).

Coding

First, I transcribed all the interviews using Scribbe.com. Then, I listened again to the interviews to ensure the transcripts were correct. Next, I analyzed the data by reading and making notes in the margins. I then analyzed and coded the findings based on the emergent themes using a manual or hand-coding technique.

I analyzed the data using specific analytic strategies such as placing relevant information into different arrays that reflected different themes and subthemes, then created a visual display in the form of a flowchart or graphic to examine the data (Yin, 2016). I used Microsoft Word and Excel to generate flow charts, tables, and graphics (Microsoft Word, 2023). I tabulated the frequency of different events, phenomena, or relevant information and used that information to develop a case description. I organized the exploratory case study data according to a descriptive framework categorizing information based on how it answered each RQ (Yin, 2016).

I also coded interview transcriptions using hand coding with an iterative coding method. Manual or hand coding as a technique for analyzing data provides an opportunity to easily interpret the interview responses and capture the intent of the information shared (Saldaña, 2016). Iterative coding is a data-driven technique that facilitates information to identify emerging commonalities within the phenomenon observed (Saldaña, 2016). Then, I sorted the coded responses to analyze and identify common threads and patterns relating to school leaders' experiences as they initiated and maintained NBL programs (Saldaña, 2016). This comprehensive coding technique ensured that all codes and themes

were captured, explained, and shared. Member checking took place by providing each participant with a summary of the findings following the interview via email.

Discrepant Cases

I identified discrepant cases based on the orientation to the consensus, however, they were not disregarded because the information in them provided a broader understanding of the phenomenon under research (R. Brooks et al., 2014). The discrepant cases were elucidated when concluding the data to uphold ethical standards. All findings were described with full disclosure without omitting data. This technique ensured that the results were not distorted. (R. Brooks et al., 2014). The manner of treatment for discrepant cases was to compare the results, contextualize the case, and describe the unusual outlying response in the implications for the further research section of the study.

Document Data Analysis

Document analysis provided information on the formal governing policies and procedures that influenced leaders' experiences as they initiated and maintained their NBL programs. I gathered documents by requesting them from the school leaders, and through accessing public-facing documents available on the internet. I gathered employee handbooks, parent handbooks, meeting minutes, training documents, vision and mission statements, tour documents, written policies, licensing forms, communication documents, daily schedules, and registration packets and began an iterative method of coding based on the RQs and document analysis template.

Coding

Each step of the coding process was recorded and kept in a journal on a flash drive, to control for bias and ensure validity in the data analysis process. I used an Excel document to review each document and grouped information based on common words and phrases found in each of the documents. I identified common phrases during this process and condensed the codes into categories. Then, I organized the categories into themes in which the patterns of the phenomenon could be observed (Saldaña, 2016). I applied the themes to the two RQs to discover the experiences of NBL leaders as they initiated and maintained their NBL programs.

Discrepant Cases

I identified discrepant cases based on the orientation to the consensus; however, they were not disregarded because the information in them provided a broader understanding of the phenomenon under research (R. Brooks et al., 2014). The discrepant cases were elucidated when concluding the data to maintain ethical standards. All findings were reported with full disclosure without omitting data. (R. Brooks et al., 2014).

Issues of Trustworthiness

Trustworthiness of qualitative research refers to the quality of the research study as it was assessed by meeting specific criteria. The level of confidence in the data collected, the analysis of the data, along the methodology employed influence levels of trustworthiness (Connelly, 2016). To ensure this study met the criteria for

trustworthiness, the following section provides an overview of credibility, transferability, dependability, and confirmability.

Credibility

Credibility in qualitative research is a measure of the truth value of the study which can be achieved by ensuring that the study is grounded. This study was grounded in theory and mirrored similar studies to ensure credibility (Connelly, 2016). Credibility relies upon the researcher as well as the methods of research and this was achieved in this study by ensuring triangulation, robust observations, and prolonged engagement with the data, along with other procedures to ensure due diligence, hence achieving credibility. In this study, credibility was achieved by spending an extensive amount of time at the NBL sites, through detailed interviews with the leaders of these programs, and extensive document analysis to ensure triangulation. I maintained an open line of communication with the leaders of the NBL programs if they needed any additional support or had any additional questions. I engaged in member checks to ensure their responses were a true reflection of what they intended to share. I achieved data saturation to ensure credibility by exhausting each of the data collection sources, resulting in no additional information discovered through further research. Reflexivity was achieved by acknowledging my role as the sole researcher. As part of the research process, my prior experiences and assumptions were documented, and all my research activities were written in a reflexive journal (Dimitriou & Omurzakova, 2022).

Transferability

Transferability refers to the extent to which the data collected, and findings identified can be transferred across populations in various settings (Connelly, 2016). It measures the extent the results are applicable in a variety of circumstances and can be generalized to different populations. I provided as much transferability as possible through a comprehensive description in which the participants, location of the study, and methods employed were discussed and outlined in detail (Connelly, 2016). As it applied to this study, I applied appropriate strategies such as a thick description of the data as well as a variation in participant selection as outlined in the participant selection portion of Chapter 3. Although the information was not guaranteed to provide insight with complete accuracy, an informed estimate of the results was achieved with some level of confidence using these techniques.

Dependability

Dependability in qualitative research measures the reliability of the results and findings of the research study and is achieved through the methods used for data collection, analysis, and interpretation. This refers to the stability of the results over an extended course of time and the ability of the same study to yield similar results over time. To ensure dependability in this study, I began with an intentional approach in the selection of the participants to ensure they met specific criteria to represent the population of interest and could answer the RQs and address the purpose of the research.

Member checking ensured dependability in this study. Member checking is the process of providing participants with a summary of the interview results to ensure the

accuracy of their responses (Brear, 2019). This process ensured that there was an equitable relationship between the participants and the researcher and accounted for researcher bias (Brear, 2019). In this process, each participant was provided an opportunity to review a summary of their interview responses to ensure that they were an accurate reflection of their experience as they initiated and maintained his or her NBL program.

Additionally, to maintain dependability, I used procedures to ensure confidentiality. Overall, I achieved dependability in this exploratory case study by maintaining confidentiality, allowing for participant feedback and validation through the process of member checking, and triangulating the data through multiple data sources (Connelly, 2016).

Confirmability

Researcher bias has the potential to risk confirmability in qualitative research and can be avoided through specific techniques and strategies. I addressed confirmability by checking and rechecking the data collected to ensure that the researchers' interpretations, assumptions, and experiences did not influence the portrayal of the participant's responses.

Member checking also ensured confirmability to guarantee the research was written in a neutral way and with objectivity (Connelly, 2016). To warrant due diligence, I transcribed the interview recordings and provided a summary of each of the transcriptions to the participants to confirm the accuracy of the responses. Each participant received a summary of their interview to evaluate and confirm that their

responses were accurate and reflected their authentic experiences. The process of member checking strengthened the validity of the data collected.

Additionally, I included a statement explaining the limitations of this study in which I explored the experiences of NBL leaders in the United States. I addressed issues of neutrality by speaking to the weaknesses of the current research to highlight the leader's experiences, rather than viewpoints influenced by researcher bias. I established confirmability such as reflexivity by writing notes about participants' additional comments during interviews and identified my thoughts and wonderings throughout the process in real-time. This process ensured that the themes were developed in a way that any reader could confirm the accuracy and were not influenced by my interpretations or personal experiences.

Ethical Procedures

I engaged in ethical practices by designing a comprehensive research plan. With a thoroughly designed research study, I was able to meticulously address any ethical concerns that may have arisen during the research process. The foundation of ethical compliance was to gain access to participants and data using the approved site-specific and IRB-required documents, such as the informed consent document and email invitation template for safe participation. The signed letters were approved by the IRB and approval was granted (#09-12-23-1047876). Following IRB approval of this study the data collection process began. Another cornerstone in ensuring ethical practice in my research was to develop trust between myself and the participants to ensure that their participation was free from any negative impact. During the induction process into the

research study, I provided participants with the opportunity to withdraw from the study at any time. Full transparency throughout the research process helped facilitate a trustworthy relationship with participants, and the Walden IRB. I developed trust by providing a detailed explanation of the purpose of the research along with the potential for positive social change. I met with the Walden Institution Review Board to apply and gain permission to conduct the research. During that meeting and leading into the research, I was fully transparent in my research plan and approach.

Another consideration to address was the treatment of human participants included in the IRB application. I obtained the site cooperation level by identifying the gatekeeper of each site to solicit participation for IRB approval. Then, I obtained access with a formal invitation to participate from site leaders with an email that was previously approved by the IRB. I emailed the informed consent document and email invitation template to each potential participant and waited for a reply of "I consent." I also provided a detailed introductory statement, so potential participants were informed about who they were working with. I provided a written document with a detailed description of what the data would be used for. At that time, I included communication detailing the observation of the learning space protocol, interview protocol, along document analysis protocol.

As I considered the data collection process, I ensured any ethical concerns were addressed by gaining informed consent from each participant before they participated in the study and providing participants with an opportunity to ask any clarifying questions before participation began. Participant privacy was achieved by using alphanumeric

codes such as P1, P2, and P3 etcetera. For the documents I collected, all identifying information was omitted from the analysis to ensure the confidentiality of the NBL sites and their leaders. The observational notes were also coded to the site's alphanumeric code to preserve confidentiality in the analysis of all three data sources.

I allowed participants to address any ethical concerns by providing each participant with my email and phone number so they could contact me at any point to discuss any concerns regarding their participation. I did not offer incentives to participate in the study. All data collected were confidential and only I had access to the data. All the data collected were stored in a securely locked file cabinet in my office and kept secured for a minimum of 5 years. I used my personal computer which only I have access to.

Summary

In Chapter 3 I provided a comprehensive overview of the methodology used for the current research study. I began by describing the research design along with the rationale and justification to show alignment between the problem, purpose, and methods. I described my role as the researcher and observer for this study and followed with a description of the sampling strategies and participant selection techniques. Additionally, I described the data analysis plan including the tools and resources that I used to support data collection including observations of learning spaces, interviews, and document analysis. Finally, I addressed issues of trustworthiness and ethical considerations.

Chapter 4: Results

The purpose of this exploratory case study was to explore leaders' experiences of instituting and maintaining NBL programs in the United States to increase an understanding of how to support and maintain current and future NBL programs. This study was guided by two RQs. The first RQ addressed the experiences of ECLs when instituting NBL programs in the United States. The second RQ addressed the experiences of ECLs as they maintained NBL programs. Three sources of data were used to answer the RQs: interviews with ECLs, observation of learning spaces, and analysis of site-based documents.

Chapter 4 includes a description of the personal or organizational conditions constituting the research setting. I explain participant demographics including participant characteristics. I describe the data collection and data analysis processes beginning with initial coding units to larger representative themes. I also explain the management of discrepant cases and provide evidence of trustworthiness.

Setting

The setting for this study was NBL sites in the United States. The study took place for 1 month in the fall of the 2023–2024 school year. The sites were selected through internet searches of nature-based preschools and nature-based schools in the United States. The number of participating sites may have been influenced by the study taking place at the beginning of the school year during the month of September. There were no modifications made to the planned instrumentation of the data analysis strategies because of the selected time frame.

Demographics

Participants in the study were leaders of NBL programs in the United States. The school leaders held one of the following positions: lead naturalist, education coordinator, enrichment specialist, preschool director, lead nature teacher, program founder, site supervisor, founding executive director, cofounder, director of curriculum and instruction, education director, or education coordinator. The 14 participants had been in their positions at the NBL site for a minimum of 1 year. During the time of the study, all participants were currently employed at the NBL site where observations took place. ECLs were at least 18 years of age.

I assigned pseudonyms to each data collection site, document, and participant to protect their identities. All communication took place via email, via phone, via Zoom, or in person. Each site gatekeeper signed a letter of cooperation from a research partner. Participation in the study was voluntary, and each participant received an introductory email with a formal invitation to participate in the research. Every participant provided written informed consent via the informed consent form. In total, there were 14 NBL leaders and six data collection sites.

Data Collection

Data were collected between September 1 and October 1, 2023, by audio-recorded interviews either in person or via Zoom. I also conducted in-person observations of learning spaces and document analysis. The source of the documents was internet searches and direct requests from the site gatekeepers.

Interviews

Data collection began with a purposeful sampling method to select participants. Participants' years of experience varied from 1–5 years (n = 4), 5–10 years (n = 6), and 10–20 years (n = 4). I sent an email to each site gatekeeper to sign a letter of cooperation from a research partner. I created a Microsoft Word document to organize and track communication with each individual. I included the scheduled interview time and platform. I kept an audit trail time line in a separate Word document. Both documents were updated in real time and saved to my personal computer and external flash drive for backup.

Each site gatekeeper was assigned a pseudonym (e.g., P1, P2, P3) to ensure confidentiality. In addition to an interview, each gatekeeper recommended potential participants who met the inclusion criteria and provided me with the recommended participants' contact information. I then sent an introductory email to the recommended participants with an invitation to participate. Of the 17 participants contacted, 14 were willing to participate. Following this process, I sent individual emails to each willing participant with the informed consent form. Once participants replied to the email with the phrase "I consent," I scheduled interviews based on their availability and location preference. For Zoom interviews, I sent a follow-up email with the meeting ID and a URL to log into the teleconference.

When each interview took place, participants were informed that they would be assigned a pseudonym for confidentiality. Interviews were conducted using the interview protocol and guide (see Appendix B). Each interview lasted between 30 and 45 mins and

took place either over the phone, in person, or via Zoom. Each participant was interviewed once.

With permission from the participants, I recorded interviews with an audio recorder and a recording application. Each audio file was saved as a pseudonym and transcribed through Scribie.com. The transcription was processed as a Word file, downloaded from Scribie.com, and saved to my personal computer. A copy of each transcription was also saved to an external flash drive for backup. I then reviewed each transcription while listening to the audio recording to ensure the accuracy of the words. Upon completion, I emailed each participant a summary of the transcription of the interview for their approval. All interviews were completed during September 2023. There were no variations in data collection from the data collection plan described in Chapter 3, and there were no unusual circumstances encountered in the data collection.

Observation of Learning Spaces

I scheduled each observation with each site gatekeeper. Once the observation days and times were determined, I added them to my calendar and arrived at the designated time and place. Upon arrival, I checked in with the front office to provide identifying documents and to inform them of my presence. At this point, I asked if there were any locations they preferred I did not observe, or any information I should be made aware of to conduct my observations. I completed general observations of learning spaces in September 2023. Each site was observed on a separate day, and the observation lasted between 3 and 4 hours.

During my first observation, I brought my personal laptop computer and typed my observations into a Microsoft Word document. Because of the nature of the NBL layout, much of the observation space was outdoors and required hiking on trails. This environment posed a challenge for typing. Therefore, in the remaining five observations, I spoke into an audio recorder to dictate my observations. I then downloaded each audio file onto my personal computer and assigned each one a pseudonym (e.g., C1, C2, C3) for confidentiality. I then uploaded the audio file into Scribie.com to be transcribed and processed as a Word document. I then downloaded and saved the Word document generated by Scribie.com onto my personal computer and an external zip drive for backup.

During the observation of learning spaces, I completed the observation protocol template. The observation protocol included the setting and the pseudonym assigned. There were six observation sites, and observations took place on separate days. I gathered and recorded observational notes on the general observation template (see Appendix A). I described in rich detail the outdoor space, indoor space, equipment present, how the space was used, what the space looked like, what the space felt like, what the space sounded like, and evidence of the macrosystem.

There was one variation from the data collection plan presented in Chapter 3. I audio-recorded the observations rather than typing during the observation. There was one unusual circumstance during the observation of C4: I began the observation onsite recording with the audio recorder. Then, I briefly stopped recording while transitioning to a hike and then resumed the recording once on the hiking trail. All recordings were

transcribed and formatted into a Microsoft Word file for data analysis; any identifiable information gathered during observations was unused or redacted.

Document Analysis

Document retrieval began with a detailed internet search of public-facing documents from each of the participating sites. Examples of documents searched for were mission and vision statements, articles, papers, meeting minutes, employee handbooks, and parents' handbooks. Any other documents relevant to the study were collected and included for analysis.

While searching for documents on the internet, I downloaded each of the documents into a Microsoft Word file. I then emailed each site gatekeeper to ask for additional documents I was unable to gain access to via the internet. I asked for documents electronically and offered to pay for hard copies, if necessary. I saved all documents as Word or PDF files and assigned pseudonyms for confidentiality including the corresponding research and numbered the document (e.g., Center 2, Document 1 = C2.D1). I began analyzing documents by using the document analysis template (see Appendix C). I then read each document and made notes in the margins. There were no variations in document analysis data collection from the data collection plan described in Chapter 3, and there were no unusual circumstances encountered in the data collection. Any identifiable information gathered during document analysis was unused or redacted.

Data Analysis

Interview

The data analysis process consisted of taking the 14 interviews and coding them to develop themes that would answer the two RQs. An inductive method of coding was applied to the data to code the data from the interview questions (see Saldaña, 2016). The coding process was documented in an audit trail in a Microsoft Word document and saved to my personal computer and external flash drive for backup. Each step was recorded to ensure validity in the data analysis process and to control for researcher bias.

Coding

I began the data analysis process by transcribing the audio-recorded interviews into Word documents using Scribie.com. I downloaded them directly from the website onto my personal computer where I then saved them as Microsoft Word documents. I then grouped the common phrases and recurring words found in each of the interviews. I began with one interview, which generated 188 codes. I then used those codes to continue coding the remaining interviews, adding to that number, and removing duplicate codes. Table 1 includes interview data excerpts coded by the 17 categories and six themes.

Table 1

Interview Data Excerpts Coded by Theme and Category

Theme	Coding category	*n*	Excerpt
1	Physical structures: Learning spaces	73	"Multiple locations, change out the programs a little bit."
1	Philosophical structures: Philosophy and vision	205	"No, we're gonna explore, we're gonna foster curiosity, and they're gonna touch and be in nature."
2	Initial policy and regulation	98	"We're a zero-waste facility."
2	Leader risk	15	"How can I better support you?"
2	Funding	7	"support with the registration processes."
3	Professional development initial training	6	"investment from the teachers."
3	Families as stakeholders	58	"We have to make sure that we have the right kind of families."
4	Program evolution	231	"We opened six years ago."
4	Families as partners	112	"We circled back to our families and having that communication."
4	Community collaboration	52	"Community gardens"
5	Maintaining compliance	114	"We jump through some of the regulatory hoops that other structured businesses"
5	Maintaining funding	11	"Families paid their tuitions."
5	Materials & resources	24	"There are trees or plants or things."
6	Experience of the child	29	"healthy risk taking for kids in nature."
6	Employee experience	267	"Teachers have freedom to come and go as they want."
6	Human qualities	38	"How can I better support you?"
6	Leader as stakeholder	30	"I feel like I know more Title 22 and licensing relations than most teachers do."
Overall Total		1370	

In total, I developed 1,485 precodes based on the preliminary coding using common phrases and words. *Communication barriers*, *children's nature connection*, *program evolution*, *family partner*, *philosophy alignment*, and *external professional development* are some examples of common phrases found during this process. An example excerpt from data-coded *philosophy alignment* is "and really, to be honest, most of the parents that came to us, were interested in a nature-based preschool already." Some examples of other codes were *teacher self-reflection*, *children's experiences*, and *family commitment*. Another code, *leader's experience*, was specified 267 times, while *program growth* and *philosophical structures* were recognized 210 and 205 times, respectively. After I condensed codes based on similarities, I had 126 codes.

Following this step, I moved inductively from coded units to categories using my understanding of the code context to place each code into a category. This step, based on interpretation of the interview responses, resulted in 17 categories. The categories created were *physical structures: learning spaces*, *philosophical structures: philosophy and vision*, *initial policy and regulation*, *leader risk*, *funding*, *professional development initial training*, *families as stakeholders*, *program evolution*, *families as partners*, *community collaboration*, *maintaining compliance*, *maintaining funding*, *materials and resources*, *experience of the child*, *employee experience*, *human qualities*, and *leader as stakeholder*. An excerpt from the category *program evolution* is "toddlers in the Garden girl, the girl who initiated Toddlers in the Garden, she grew out of that program and her mom asked me to start a new one for her."

Thematic Development

Each of the 17 categories included at least six and some had as many as 205 of the original 1,485 codes. I organized the categories into six themes as my initial effort to observe the emerging patterns in the phenomenon (see Saldaña, 2016). After continued analysis, six themes emerged from the categories that informed the two RQs:

1. ECLs prioritize both physical and philosophical structures to initiate NBL.
2. ECLs noted substantial risks and challenges to initiating NBL.
3. ECLs served as catalysts for initiating NBL.
4. The ECLs believed continuous collaboration and improvement are key to NBL success.
5. ECLs noted ongoing needs for compliance and success.
6. ECLs must maintain authentic relationships at every level.

An excerpt coded to Theme 5 and the category *maintaining compliance with policy and regulation* is “there, especially during COVID, there were a couple of issues enforcing policies where some parents didn’t want their children indoors or they didn’t want their children with masks on.” These six themes addressed RQs 1 and 2.

Observation of Learning Spaces

I observed six locations and gathered data on indoor spaces, outdoor spaces, equipment, learning materials, how the space was used, and how the space affected the senses (i.e., how it appeared, how it felt, how it sounded). Each observation lasted 3 to 4 hours. The data from assessing the physical learning spaces informed the problem in this study.

Coding

I coded the general observations of learning spaces. I created three columns in the Microsoft Excel document where I included the location pseudonym, evidence of the raw data, and the category it belonged. I tracked and organized the data points from the observation of learning spaces in a Microsoft Excel document. I noted a total of 1,811 pre-codes developed during the preliminary coding of common phrases and words. I documented 1,811 items and characteristics of the learning spaces from the six sites.

During the analysis of the observation data, I did not develop any new categories, although there was an opportunity within this process to identify them if they emerged. I moved inductively from the pre-coded units to the 17 categories identified in the interview coding. I then moved those categories into the six themes based on common words and phrases.

Of the 17 categories identified in interview data coding, 12 were evidenced in the observation data; *physical structures: learning spaces, philosophical structures: philosophy and vision, initial policy and regulation, families as stakeholders, program evolution, families as partners, community collaboration, maintaining compliance, maintaining funding, materials and resources, experience of the child,* and *employee experience*. There were 1,811 coded from the observation data, and these items were sorted into 12 of the 17 categories identified in the interview coding process. There were 1,041 raw data points for *materials and resources*. A specific example is, “There are four mesh awnings over the top of the amphitheater.”

Initial policy and regulation were observed 47 times, “Two frames that have the Department of social services licenses and emergency disaster plan.” Evidence of employee experience was observed 13 times, “There is a native plant nursery with a sign for authorized personnel.” Program evolution was observed 13 times, “The Tonga Trail supplies (This is native to this area).” Family as a stakeholder was observed 9 times, “Pictures of families with a label above it that says ‘families.’” Community collaboration was observed 7 times, “Has upcoming events at the ---.” Maintaining funding was observed 7 times, “Merchandise cabinet with merchandise.” Finally, the family as a partner was observed 3 times. “This table is set up to allow families to spend 5 minutes together during drop off or pickup.” Leader risk, funding, human qualities, leader as a stakeholder, materials and resources, and initial training were not observed in the learning spaces. The observation of learning spaces’ inductive coding process provided triangulation of the data by confirming evidence of the categories and themes. Table 2 includes observation data excerpts coded by the 12 categories and six themes.

Table 2

Observation Data Excerpts Coded by Theme and Category

Theme	Coding category	*n*	Excerpt
1	Physical structures: Learning spaces	414	Down the trail on the right, there is a creek and well.
1	Philosophical structures: Philosophy & vision	50	Schoolyard habitat, certified schoolyard habitat, food, water, cover, places to raise young. This site is recognized for its commitment to sustainably providing the essential elements of wildlife habitat and providing students a place to learn outdoors and connect with nature, nwf.org/schoolyard.
2	Initial policy & regulation	47	Department of Social Services licenses and emergency disaster plan.
3	Families as stakeholders	9	Pictures of families with a label above it that says ‘families
4	Program evolution	13	The Tonga Trail supplies (This is native to this area).
4	Families as partners	3	This table is set up to allow families to spend 5 minutes together during drop-off or pickup.
4	Community collaboration	7	Has upcoming events at the ---
5	Maintaining compliance	115	There are backpacks in each one with a first-aid kit
5	Maintaining funding	7	Merchandise cabinet with merchandise.”
5	Materials & resources	1,040	There are microscopes, shovels, owl pellets, and soil tests
6	Experience of the child	92	Chalkboard with each child’s name
6	Employee experience	13	There is a native plant nursery with a sign for authorized personnel.
Overall Total		1,810	

As no new categories or themes emerged during the analysis of the observation data, these data aligned with the interview data analysis and contributed to the successful triangulation of the findings.

Document Analysis

Once I coded the observation of learning spaces, I then completed the inductive coding process with the documents gathered from each of the participating learning sites. Examples of documents searched for were mission and vision statements, articles, papers, meeting minutes, employee handbooks, and parents' handbooks. I began this process by creating an Excel document with four columns. Column A indicated the site, B was the document number, C was the raw data or pre-code, and D was the category. I read each document for codes and themes, highlighting words that I then added to the Excel spreadsheet. There was a total of 690 pre-codes developed from the primary coding of common phrases and words. Then, I collapsed the pre-codes into the 17 categories identified in the interview data analysis. Within this coding process, there was an opportunity to identify new categories; however, no new categories emerged. In the document analysis, I evidenced 15 of the original 17 categories. Table 3 includes document analysis data excerpts coded by the 15 categories and six themes.

Table 3

Document Analysis Data Excerpts Coded by Theme and Category

Theme	Coding category	*n*	Excerpt
1	Physical structures: Learning spaces	20	"It provides an environment etc."
1	Philosophical structures: Philosophy & vision	91	"The --- inspires all generations to protect the natural world etc."
2	Initial policy & regulation	31	"Directors, supervisors, and employees are not permitted to engage in retaliation, etc."
2	Funding	1	"The Federal Tax Identification Number is."
3	Initial training	3	"It is the policy of the --- to support employees etc."
3	Families as stakeholders	31	"It is important that you and your child feel comfortable in our program."
4	Program evolution	20	"Our Naturalists enjoy receiving feedback from the students they teach etc."
4	Families as partners	42	"A member of the Family Advisory Council is appointed based on demonstrated interest etc."
4	Community collaboration	20	"Over the past year, we've been working hard etc."
5	Maintaining compliance	120	"We ask that you do a health screening etc."
5	Maintain funding	34	"Tuition Rates and Fees are calculated annually etc."
5	Materials & resources	18	"--- strives to supply a wide selection of toys etc."
6	Experience of the child	169	"Our goal is to provide a etc."
6	Employee experience	42	"The --- considers its staff a most valuable asset."
6	Human qualities	17	"The --- strives to maintain a personal etc."
Overall Total		659	

As no new categories or themes emerged during the analysis of the documents, these data aligned with the interview and observation data analysis and contributed to the successful triangulation of the findings.

Discrepant Cases

Discrepant cases developed because of school leaders' multiple perspectives, variations in company documentation, and learning spaces unique to each NBL site. These cases may not have followed the consensus; however, they were included in the data analysis because they contributed to the larger understanding of the phenomenon of the school leaders' experiences (R. Brooks et al., 2014). Discrepant cases were elucidated when establishing conclusions from the data to uphold ethical standards. The manner of treatment of discrepant cases was managed with integrity. All discrepant cases were handled ethically, and the entirety of findings were reported with full inclusion of data and with complete disclosure, to avoid distorting results (R. Brooks et al., 2014).

Summary of Data Analysis

Overall, 3869 data points were noted and the data analyzed from the three data types informed each of the six themes in this study. There were 1370 data points identified through interviews, 1810 through observations of learning spaces, and 689 through document analysis. The most frequently noted was the category of *maintaining materials and resources* with 1082, followed by the category of *physical structures: learning spaces* with 507. The third highest category commented on was *maintaining compliance* with 349. Table 4 is an aggregated frequency analysis of all three data types, aligned by the six themes and 17 coded categories.

Table 4

Frequency Analysis of Interview, Observation, and Document Analysis Data Aligned by Theme and Category

Theme	Category	Data source *n*			Total
		I	O	D	
1	Physical structures: Learning spaces	73	414	20	507
1	Philosophical structures: Philosophy and vision	205	50	91	346
2	Initial policy & regulation	98	47	31	176
2	Leader risk	15	0	0	15
2	Funding	7	0	1	8
3	Professional development initial training	6	0	3	9
3	Families as stakeholders	58	9	31	98
4	Program evolution	231	13	29	273
4	Families as partners	112	3	63	178
4	Community collaboration	52	7	20	79
5	Maintaining compliance	114	115	120	349
5	Maintaining funding	11	7	34	52
5	Materials & resources	24	1040	18	1082
6	Experience of the child	29	92	169	290
6	Employee experience	267	13	42	322
6	Human qualities	38	0	17	55
6	Leader as stakeholder	30	0	0	30
	Total *n*	1370	1810	689	3869

Note. I = interview, O = observation, D = document.

Evidence of Trustworthiness

As the sole researcher, it was my responsibility to ensure that the research was conducted ethically, and that the data and participants were protected (Lichtman, 2014). I achieved trustworthiness in this study by applying respective measures such as credibility, transferability, dependability, and confirmability.

Credibility

Credibility began with the application of instrument safeguards and adherence to the protocol during data collection (Coghlan & Brydon-Miller, 2014). This ensured that the results derived from the data were legitimate. Credibility was achieved through participant selection, interview protocol, member checking, and observation of learning spaces protocol. Observations of the NBL sites were used as a method to establish credibility by providing visual confirmation of the information shared during the interviews. Elements such as materials and resources were mentioned during the interviews and confirmed through observations of learning materials, learning spaces, equipment, and furniture. Another example is policy and regulation as recognized by every school leader and evidenced through community care licensing bulletin boards, secured gates, restroom supplies, and classroom capacity signage.

Transferability

Transferability is the ability to transfer findings to various settings and within diverse contexts (Coghlan & Brydon-Miller, 2014). The participants selected for this study maximized transferability and included a diverse population by gender, years of experience, and location in the United States. The participating sites varied from in-home

daycares, homeschool programs, preschool campuses, afterschool programs, nature preserves, and onsite elementary school programs all with a focus on NBL. Transferability was established through a comprehensive and robust description of the data collection process and how to replicate the current study or extend it in the future. This study provides researchers with guidance on how to transfer the data to future studies on similar topics.

Dependability

Dependability was the ability for the study to be replicated in the future and was achieved with full transparency (Coghlan & Brydon-Miller, 2014). Dependability was established by disclosing how the data were collected, transcribed, how it was coded and applied in the research. Dependability was also ensured by an audit trail, and data were organized through Word documents and Excel spreadsheets, with the data collection process. Dependability was established with the use of member checking following the interview phase of data collection. In this process, participants were provided with the opportunity to review a summary of the transcript of their responses via email. At this point, participants had the opportunity to retract any information shared, or modify any information that was not what was intended. However, all participants were satisfied with their interview responses and consented to the use of the information in this study. Using triangulation, my audit trail, observational protocol, and member checking ensured dependability. The thoroughness of implementation, and documentation of implementation, will support any future researchers' efforts to replicate the study.

Confirmability

Confirmability in research is the ability to corroborate the research results (Coghlan & Brydon-Miller, 2014). To ensure confirmability I documented the ensure data collection and analysis process. The added acknowledgment of the limitations of the study as only taking place in California strengthens confirmability. This process strengthened and deepened how I ensured researcher biases remained at bay during the implementation of the study. Additionally, I used full transparency and disclosure of the development of the findings which also strengthened confirmability.

Results

The purpose of this study was to explore leaders' experiences as they instituted and maintained NBL programs in the United States to increase an understanding of how to support and maintain current and future NBL programs. As I analyzed the data and refined the themes through the lens of the conceptual framework, I aligned the themes with the RQs. Table 5 includes the alignment of the six themes by data source with the RQs.

Table 5

Alignment of Themes by Data Source With RQs

	Theme	RQs: ECL experiences with NBL programs	
		1	2
	ECLs	Initiating	Maintaining
1	Prioritize both physical & philosophical structures to initiate NBL programs.	X	
2	Noted substantial risks & challenges to initiate NBL programs.	X	
3	Served as catalyst for leading NBL programs.	X	
4	Believed continuous collaboration & improvement are key to NBL program success.		X
5	Noted ongoing needs for compliance & success.		X
6	Must maintain authentic relationships at every level.		X

Understanding the development of the themes from the data source and how they inform the RQs is key to addressing the problem and purpose of this study. In the following narrative, I explain the development of each theme from the data source, the relevant coding that informed the theme, and its relevance to the problem through the lens of the conceptual framework. Finally, I provide evidence of how the theme statements from the findings inform each RQ.

RQ1: ECL Experiences Initiating NBL Programs

The findings from the data-informed three themes that are aligned with ECL experiences about initiating NBL programs. The following discussion includes an overview of Themes 1-3 and an analysis by coding category with examples from the raw

data. I additionally include a summary of each theme. Finally, I provide an overview of how the concepts in the three themes informed RQ1.

Theme 1: ECLs Prioritize Both Physical and Philosophical Structures to Initiate NBL Programs

Based on the data analysis, ECLs indicated that prioritizing both physical and philosophical structures was important when initiating NBL programs. Theme 1 was evidenced in all three data types and all 14 participants remarked about physical and philosophical structures being a priority in their interviews. This theme was informed by two categories; *physical structures: learning spaces* and *philosophical structures: philosophy and vision*, as they were evidenced 507 and 346 times, respectively. In total there were 853 data codes present for Theme 1.

Physical Structures: Learning Spaces. ECLs prioritize the physical structures such as learning spaces, to initiate NBL. *Physical structures: learning spaces* in this research refer to the physical environment where learning takes place such as the outdoor spaces, indoor spaces, equipment present, how the space is used, what it looks like, what it feels like, and the sounds present. Learning spaces were prioritized by each school leader and were evident through each of the data sources used in this study.

During the interviews, respondents were asked to report on their experience as they initiated their programs, and *physical structures: learning spaces* were recognized 73 times. Furthermore, 13 of 14 respondents commented on the importance of initiating the learning spaces by securing the land for learning, initiating the landscape, and cultivating a physical environment that afforded children the opportunities to learn and

develop. Leaders also indicated the importance of the *Physical structures: learning spaces* being ecology-based and sustainable by way of plants, location, materials, and resources used. For example, learning spaces were recognized by participant P13, “And there’s quite a, when you gather with a group of children in an outdoor space for outdoor learning, there’s permitting and different location considerations that you have to consider that go on in the background.” An example of triangulating the data around “securing the learning space” was through observations at P13’s site, coded as C6. At C6, I observed how they secured the learning space by noting the location of the gate at the bottom of the driveway leading up to the canyon. Once at the learning site, there were four terraces, a parking lot, and a kitchen area. It was evident through this observation that the leaders secured the learning space, which affirms the statement provided during the interviews.

The importance of the *physical structures: learning spaces* was evident through observations and triangulates the data presented through the interviews by confirming the importance of the physical learning space. Evidence of *physical structures: learning spaces* as an integral structure of the leader’s experience initiating an NBL program was observed in all six locations. All locations cultivated a learning space with native plants, natural spaces, outdoor play areas, outdoor learning centers, and wooded areas for children to learn in. The *physical structures: learning spaces* were secured and designed to facilitate NBL experiences and confirmed the findings from the interviews as an important aspect of their leadership experience. Within each of the interviews learning spaces consistently emerged as a primary focus of the school leaders. They recognized

the importance of a school garden, native local plants and animals, outdoor play areas, trails, and wilderness areas to explore. Attention to ecoliteracy through the learning, space was commented on by every school leader at every school site.

Another example of *physical structures: learning spaces* as a priority is when discussing waste production and management in the learning space. In their interview, P3 highlighted their experience when discussing trash and waste, “Everyone knows that we’re a zero-waste facility, mostly so the kids can learn to, the impact of their trash and waste, but especially from the early childhood, it’s also teaching the parents single-use things to bring.” This statement is an example of initiating the *physical structures: learning spaces* and is confirmed by the observation of every site. Some examples are at C1 there was a compost and granary for woodpeckers. At C3 I observed a squirrel eating out of the compost and at C2 I noted different compost bins. Every leader highlighted their efforts to include ecoliteracy through the learning spaces by including recycling and composting areas.

Along with compost and recycling as an important element of initiating the learning space, every leader mentioned the importance of time spent in nature such as in a school garden, outdoor area, trails, or wooded areas. School leaders focused much of their attention on initiating the program by ensuring that there were natural areas for their programs to function within. Providing a natural learning space for children to learn was a reoccurring concept that ECLs recognized in their interviews and that was observed in the learning spaces and confirmed through documents analysis The physical learning space is an integral component for initiating a NBL program because children need a

space in which to learn with and about nature. For example, P1 from C1 stated “So I really wanted [this school] to be more of, no, we’re gonna explore, we’re gonna foster curiosity, and they’re gonna touch and be in nature.” This leader clearly stated the importance of engaging with and being in nature as an important part of initiating their program. Thirteen of the 14 participants made similar statements about the importance of securing natural land to run their programs; however, one did not directly explain its importance.

The evidence found in observation of learning spaces was confirmed and confirmed as a key element in the leaders’ experiences as they initiated their programs as evidenced by four out of the six locations established records in their documents. Learning spaces influenced the leaders’ experiences as they initiated their programs and this category was observed 20 times in documents. The category of *physical structures: learning spaces* was defined as the physical space where the program took place. An example was found in Document 2 from C5 where they discussed the environment as reflective of the family and child’s interests. *Physical structures: learning spaces* played a pivotal role in the initiation of school leaders’ programs. Without the learning space, the program would not exist. The category of learning spaces was observed at all six locations and confirmed through interviews and documents. ECLs prioritize the physical structures to initiate NBL.

Philosophical Structures. Along with physical structures, ECLs prioritize philosophical structures to initiate NBL. *Philosophical structures: philosophy & vision* was identified as prioritizing diversity and inclusion, committing to green toys and

recycled materials, respect for local habitats and the environment, and fostering a child-centered approach to teaching and learning. The code *philosophical structures: philosophy & vision was* evident 205 times in the school leaders' interviews as an important aspect of their experience as they initiated their programs. They shared that *philosophical structures: philosophy & vision* emerged through the interviews in which leaders highlighted the importance of authenticity to NBL, an appreciation and connection to the natural environment, and stewardship of the planet. Each of the participants shared the importance of philosophy alignment across all stakeholders including families, teachers, administration, children, and the local community. School leaders experience an alignment in the school philosophy at their NBL sites, P4 stated "It's nice to be a part of the same mission." All the school leaders shared similar sentiments where philosophy alignment contributed to their experiences as school leaders and were observed at 5 of the 6 observation sites.

The category of *philosophical structures: philosophy & vision* centers around nature as the catalyst for teaching and learning. *philosophical structures: philosophy & vision was* commented on by all 14 respondents and are evidenced through a quote from P2, "If I can teach one child and one child's heart by bringing them closer to understanding the wonders of nature, then I am truly blessed." They focused their attention on maintaining the integrity of the NBL philosophy. As such, nature played an important role in their experience through a commitment to sustainability, eco literacy, an appreciation for nature, time spent in nature, learning within nature, and using natural materials, P4 stated: "We are a LEAD-based or a LEAD-Certified program, which means

that we actually contribute to our energy grid in our city rather than take from it." Nature-based learning as the primary *philosophical structures: philosophy & vision* served as the foundation for the relationships and experiences of all stakeholders.

The concept of *philosophical structures: philosophy & vision* as a priority of school leaders was triangulated through the observation of learning spaces and was noted on 50 occasions. An example of fostering diversity and inclusion was evident at C4 where they had a framed sign stating, "Teachers will promote each child's comfortable, empathetic interactions with people from diverse backgrounds. Children will express comfort and joy with human diversity. Use accurate language for differences and form caring relationships across all dimensions of human diversities." The observation of learning spaces highlighted *philosophical structures: philosophy & vision* reflecting ecoliteracy through signs such as, "Give plants a chance. Please stay off." And through structures on site such as energy efficient buildings, solar power, recycling locations, natural spaces, and sustainable materials. These structures all enforce alignment in the code of the *philosophical structures: philosophy & vision* and can be evidenced through signs such as at C4, "Schoolyard habitat, certified schoolyard habitat, food, water, cover, places to raise young. This site is recognized for its commitment to sustainably providing the essential elements of wildlife habitat and providing students a place to learn outdoors and connect with nature, nwf.org/schoolyard. National Wildlife Federation." *Philosophical structures: philosophy & vision* played a fundamental role in the leader's experience as they initiated their programs.

Through interviews and observation of learning spaces, it is evident that philosophical structures were prioritized by each of the school leaders. *Philosophical structures: philosophy & vision* as a primary focus of school leaders provide consistency in messaging, common language, shared goals, fidelity of NBL programming, commitment to the environment, authentic NBL learning experiences for children, and meaningful partnerships with parents.

Philosophical structures: philosophy & vision as a priority in initiating a NBL program were triangulated through document analysis and was evident in documents 91 times and present at all six locations. An example of philosophical structures within a document is the excerpt from C5, “Nature-inspired play fosters a deep connection with the environment, instilling a sense of wonder and respect for the natural world from an early age.” It is also evident at C5 through statements such as, “All children are welcome to attend our school regardless of ability, need, background, culture, religion, gender, or economic circumstances.” By including these critical elements in the documents, NBL leaders demonstrate their commitment to the importance of philosophical structures in their programs. ECLs prioritize philosophical structures to initiate NBL.

Summary. Three themes answered RQ1 and two categories informed the first theme. The *philosophical structures: philosophy & vision* of the community along with the space they learn within are a priority for ECLs. This concept is aligned with PBLT in that the physical place is a priority for NBL leaders. The categories in this theme also aligned with Bronfenbrenner’s EST through the microsystem; the immediate

environment via learning spaces and the macrosystem; which is the philosophical structures.

Theme 2: ECLs Noted Substantial Risks and Challenges to Initiating NBL Programs

Based on the data analysis, ECLs indicated substantial risks and challenges to initiating NBL programs. Theme 2 was evidenced in all 3 data types and was informed by the three coding categories: *initial policy and regulation*, *leader risk*, and *funding*, which were evidenced in the data set 176, 15, and 8 times, respectively. Initial policy and regulation were observed through interviews, observations of learning spaces, and document analysis. Leader risk was mentioned in interviews, however, was not evident in observations of learning spaces or document analysis. Funding was evident in interviews and document analysis, however not observed in learning spaces. In total there were 199 data codes present for Theme 2.

Initial Policy and Regulation. *Initial policy and regulation* refer to both the internal and external policies that were established upon initiation of the NBL program. the requirements that inform and drive the daily operations of the program, and issues such as permitting, land use agreements, and licensing regulations. During the interviews, respondents were asked to report on their experience as they initiated their programs and initial policy, and regulation was recognized 99 times. During interviews, 14 out of 14 respondents declared the importance of *initial policy and regulation* as a substantial challenge to initiating NBL programs. Of notable importance was the recurring theme of gaining licensing approval for the play spaces where children spent the majority of the day. Leaders indicated the importance of licensing regulations overseeing the

naturescapes and holding them to the same requirements as traditional school settings where natural materials were not a primary focus. For example, it was commented on by Participant P10, “There’s a lot of licensing regulations that try to inhibit the type of environment that sometimes we want to implement. There are many things that we wanted to have, like bigger boulders and bigger tree trunks and a little bit of more risk involved, but we weren’t able to do it because of licensing and there’s certain regulations we have to follow.” While boulders and tree trunks are not a significant feature in a traditional school setting, these natural materials are critical components of a NBL program, this licensing regulation serves as an example of a challenge school leaders face.

Within each of the interviews, *initial policy and regulation* consistently emerged as a substantial challenge to the school leaders. They recognized the difficulty in obtaining land use permits and agreements required to teach their programs in public natural spaces such as canyons, parks, and wooded areas. Attention *to initial policy and regulation* was specified by every school leader, and evident at every school site. Another example of *initial policy and regulation* as a challenge is when discussing preliminary permitting. In their interview, P13 highlights their experience when securing the required county permits to implement their NBL program, “And there’s quite a when you gather with a group of children in an outdoor space for outdoor learning, there’s a permitting and different location considerations that you have to take into account that goes on in the background.” This statement is an example of *initial policy and regulation* as a challenge and is triangulated by the observation of every site.

Some additional examples are Title 22 compliance, community care licensing, and requirements by the Department of social services. Every leader highlighted their efforts to initiate their program under the supervision of community care licensing through regulatory compliance by initiating policies in their physical spaces and was observed at each of the learning sites. School leaders focused much of their attention on initiating the program by ensuring regulatory compliance and proper permitting, however, these public entities served as challenges for initiating their programs.

Initial policy and regulation are an integral component for initiating a NBL program because, without proper licenses and permits, the programs are not permitted to legally function as a public service. However, some leaders decided to operate as an in-home daycare to face fewer regulations as a family childcare provider. For example, P7 shared that family childcare analysts and requirements were more lenient and they were cognizant of that inconsistency, “There are a lot of home schools now that are working as like pods or even outdoor schools that are preschools essentially, but don’t have to go under licensing because they’re traveling or they’re signing up by the week.” School leaders of brick-and-mortar programs consistently experienced this challenge throughout their efforts to initiate their program. Some school leaders found ways to navigate this challenge by intentionally operating as a family childcare without physical structures, to avoid these constraints. For example, P12 states, “We don’t have the certain numbers or ages or there are no buildings on our site, for example, so that we’re not considered daycare because we don’t wanna have to go through the hoops of daycare, even though we might like to have the ages and group sizes and buildings, we specifically avoid it,

etc." This leader clearly states the challenge of initial policies and regulations in determining which type of childcare business to create.

The category *initial policy and regulation* was confirmed when evident 47 times through observations of the learning spaces where initial policies and regulations were evident through displayed permits, emergency equipment, secured gates, and emergency disaster plans. At C3, I observed how each restroom showed compliance through the cleaning products, children's labeled hand towels, and structures for proper supervision. At the front of the school, there were also licensing documents, similar documents were observed at all six locations in which business licenses were also posted for public display. At C5, I observed the family childcare posters in the foyer at the entrance of the home. These documents included the parents' rights, students' rights, and other pertinent licensing documents. Similar documents were observed at C4 at the entrance of the home, where they had the daily schedule, menu, and family childcare permit publicly posted. At each site, there was evidence of *initial policy and regulations* that were available for the participating families and licensing analyst to easily locate. It was evident through this observation that leaders attended to the challenge of policies and regulations, a fact which affirms interview statements.

The challenges school leaders faced with initial policy and regulation were confirmed as a key element in the leaders' experiences as they initiated their programs. Records of initial policy and regulation was evident at all six locations. *Initial policy and regulation* influenced the leader's experience as they initiated their programs and was observed 31 times in the documents reviewed. For example, in C5, Document 1, attention

is paid to the safety measures documented in case of flooding, heavy rain, or other natural disasters. They included the emergency disaster plan and the protocol to call 911 in case of emergency and is an example of how participant leaders prioritized initial policy and regulation as having a fundamental role in the initiation of their programs. ECLs are required to overcome the challenges posed by policy and regulations to initiate NBL.

Leader Risk. ECLs noted substantial risks when initialing their NBL program through leader risk. *Leader risk* was identified as navigating multiple roles, managing shifting priorities, and the responsibility of the site supervisor. During the interviews, respondents were asked to report on their experience as they initiated their programs, and leader risk was mentioned on 15 occasions. *Leader risk* was commented on by 8 of the 14 participant leaders where respondents discussed the magnitude of risk involved in initiating a NBL program. One of the reoccurring issues highlighted was the dual roles required by the leader and as such, pressure to facilitate due diligence in each of those required roles. Leadership, such as the site supervisor, holds a significant amount of responsibility in reaching underserved and marginalized communities. Leaders indicated the importance of leader risk as a challenge to overcome as evidenced by the quote by P3, “Everybody’s being devoted to bringing nature-based programming to communities, not just the community, the current community, but we’re all really dedicated to expanding our community to include people that are not often represented in nature.” Leaders navigate risks when initiating their programs and it is evidenced by the school leader taking on a large amount of responsibility at their school site.

Within each of the interviews *leader risk* consistently emerged as a substantial challenge for school leaders. They recognized the importance of onboarding staff for retention, navigating initiating parent relationships, implementing policies and regulatory compliance, along with the daily operations of initiating their program. Substantial risk is involved on behalf of the school leader because they play a pivotal role in the overall success of the program. Attention to *leader risk* was mentioned by eight school leaders, and evident at every school site.

Another example of *leader risk* as a challenge is in supporting the overall quality of the program. There is notable attention paid by each school leader to the risk involved in initiating a quality program because of the multiple roles and shifting priorities. Without program quality in place, the likelihood is that the program will be successful in retaining families, teachers, and children. For example, P10 stated,

> I am the site supervisor as well as more toddler teacher. So we're a family child care nature-based program. We serve children ages 2 to 5. So I am sort of the primary caregiver for the younger children, whereas my co-teacher is the primary teacher for the older children. But I also have roles in administration, like touring parents, maintaining children's records, and anything that we need to order, supplies, things like that.

This excerpt is an example of *leader risk* as they initiate a quality program by balancing their shifting priorities. Leader risk is triangulated by the observation of every site. Every leader highlighted their efforts to manage leader risk through balancing shifting priorities

and multiple roles and responsibilities. Some examples are at C1, C4, and C6 where I observed the multiple roles school leaders are responsible for in initiating their programs.

An example of triangulating the data around *leader risk* was through observations of C3 where the school leaders' risk was evident. At C3, I observed how *leader risk* was apparent by noting the presence of the leadership team in school displays, program initiatives, and operational procedures. At this learning site, there was consistency in messaging, room arrangement, parent-facing communication, and staff support, as observed through the materials on the walls, location, and information on bulletin boards, supplies provided, events shared, and presence of the leadership team in different areas of the school. It was evident through this observation that leaders manage *leader risk* through navigating shifting priorities which affirms the statement provided during interviews.

The category, of *leader risk* was confirmed and triangulated as a key element in the leaders' experiences as they initiated their programs as evidenced by the documents reviewed, which the leaders were responsible for developing themselves. They are also responsible for distributing the documents to staff and families, as well as licensing analysts. The leaders manage the creation and distribution of the documents, which indicates the risk of them not being followed. Every school site had documents in place, that were created by the school leader and there are established records of their documents. *Leader risk* is evidenced by signatures required after documents where families and staff confirm receiving the proper documents. There are also areas where the school leader signs the documents, especially licensing documents for student files,

family files, and school forms. *Leader risk* is apparent as they initiated their programs and was observed in the documents reviewed. Participant leaders prioritized managing leader risk as they played a pivotal role in the initiation of their programs. ECLs overcome the challenge of leader risk to initiate NBL.

Funding. *Funding* is another important aspect of navigating challenges for school leaders. *Funding* refers to financial overhead, public funding, private funding, and the effects of universal preschool on NBL institutions. During the interviews, respondents were asked to report on their experience as they initiated their programs, and *funding* was commented on 18 times.

Of the 14 respondents, 8 referenced the importance of funding as a substantial challenge in initiating a NBL program. For example, one leader indicated the importance of *funding* in their interview by stating, “but also supporting working families, having scholarships to support families that maybe can’t afford the tuition, accepting OCBE and other stipends through the government and the work that we wanted to do for that.” Within each of the interviews *funding* consistently emerged as a substantial challenge for the school leaders. Eight of the school leaders specified the importance of *funding* in initiating their program and attention to securing *funding* was evident. Attention to initiating *funding* through privately paid tuition, grants, public resources, third-party resources, and donations was recognized by every school leader, and evident at school sites. School leaders focused much of their attention on initiating the program by ensuring funds to run the program. Securing *funding* is an integral component for

initiating a NBL program because, without *funding*, the program is not viable for operation.

An example of triangulating the data around *funding* was through observations of C2. At C2, I observed how *funding* was initiated by noting the plaques on the walls of private donors. *Funding* was evidenced at C2 where financial contributors received public recognition through signs indicating what they donated by way of buildings, resources, and materials. Each donor and financial contributor was recognized in this area of the hallway. Additionally at another learning site, C3, I observed plaques on buildings named after different donors. It was evident through this observation that leaders had experience with securing *funding*, which affirms the statements provided during interviews. Another example of initiating *funding* was through the logos present at each of the school sites. The presence of logos indicated a marketing initiative to promote the program, and secure *funding* to run it. At C5, the site logo was evident in several locations and the first visible display upon entering the school site. At C1, C2, and C3, the logos were located at the front of the building for advertisement purposes as well as informing the community of its location. These examples shed light on securing *funding* through marketing.

Funding was confirmed as a key element in the leaders' experiences as they initiated their programs as evidenced by information gathered from the websites and documents. For example, securing *funding* was referenced by C2 in which the location provided their tax identification number as a not-for-profit organization. The inclusion of this information in Document 1 confirmed funding as a concern for school leaders as they

initiated their program. Participant leaders secured *funding* as a key element in prioritizing their NBL program.

Summary. Leaders navigate policies and regulations and take risks while doing so. They also secure funding as they initiate their program. This category echoes the system of the exosystem found in EST. Leaders also noted substantial challenges to initiating NBL programs due to initial policy and regulations which can be explained in the exosystem.

Theme 3: ECLs Served as a Catalyst for Leading an NBL Program

Based on the data analysis, ECLs served as a catalyst for leading a NBL program. Theme 3 was evidenced in all 3 data types and was informed by the two coding categories: *Professional development initial training:* and *families as stakeholders*, which were evidenced in the data sets 9 and 98 times, respectively. *Professional development*: *initial training* was mentioned in interviews and present in documents, however, was not evident in the observations. In total there were 107 data codes present for Theme 3.

Professional Development: Initial Training: *Professional development: Initial training* is defined for this research as securing certifications, previous education, previous experience, and onboarding. During the interviews, respondents were asked to report on their experience as they initiated their programs, and *Professional development: Initial training* was mentioned. Six of the 14 participating leaders referenced *Professional development: Initial training* as a catalyst for leading a NBL program.

Respondents recognized their education in the field of early childhood education, certifications received before beginning the program, and years of experience in NBL and

ECE before initiating the program. Leaders indicated the importance of *Professional development: Initial training* in their role as the leaders of NBL programs and this is evidence through the quote by P10, "I worked before as a teacher at a Child Development Center for about five years." P1 echoed the concept of previous experience before initiating their program by indicating her years of experience before initiating her program with an emphasis on NBL before onset,

> I've been an outdoor education instructor for the past 6 years and then that's like being paid as a naturalist. And then I also volunteered at the zoo for four years as an education docent, doing the same thing, just NBL outside, just at the zoo.

Along with years of experience, the educational background was also discussed during the interviews and exemplified through the quote by P11, "And to be honest, we dreamt about doing something like this for many, many years. We both went into education, after kind of having this dream of opening up a school one day." This statement is an example of educational background and is triangulated by the observation of every site. Both experience in the field of ECE, and an educational background in ECE supported leaders as catalysts for leading NBL programs. Within each of the interviews, *Professional development: Initial training* consistently emerged as a primary focus of the school leaders. They specified the importance of professional development, and attention to *Professional development: Initial training*, either formal or informal, was referenced by every school leader. *Professional development: Initial training* and educational background were evidenced through the observation of learning spaces.

The observations and documents I analyzed confirmed the interview data around *Professional development: Initial training* and were evident through observations of learning spaces where teacher and school leader bios and degrees were publicly displayed. For example, at C3, there were teacher biographies with their vision boards explaining their previous experience, and priorities were communicated. There were also professional degrees and certifications present at the entrances to the family childcare providers at C4 and C6. On their communication boards by the front door. At one of the NBL sites, there were two licensing boards, which both had documentation with certifications of the leadership team on display. At C3, C4, and C6, I observed how initial training and certifications, previous experience, and years of education were typical by noting the family-facing bulletin board displays. It was evident through this observation that leaders were catalysts for NBL sites through initial training, which affirms the statement provided during interviews.

The category of *Professional development: Initial training* was confirmed as a key element in the leaders' experiences as they initiated their programs as evidenced by bios on the websites including introductory summaries of the school staff. For example, at C4 they established records in their documents by sharing their completion of their bachelor of arts in child development, with an emphasis on preschool administration. P13 from C4 also shared their educational background as completing a bachelor's degree in liberal studies as well as master's in early childhood education. P12 had their bio online where they shared information about their years of experience in NBL for 17 years. These are a few examples of how leaders become catalysts for NBL through initial training and

educational background. Initial training influenced the leader's experience as they initiated their programs and was observed on websites and documents. Participant leaders prioritized their initial training as it plays a pivotal role in the initiation of their programs. ECLs prioritize their initial training to initiate NBL.

Families as Stakeholders. *Families as stakeholders* were developed as a category for the theme leaders and served as catalysts for initiating NBL because they engaged with families. During the interviews, respondents were asked to report on their experience as they initiated their programs, and *families as stakeholders* was mentioned 58 times. Leaders indicated the importance of *families as stakeholders* and 12 out of 14 respondents confirmed this finding. For example, *families as stakeholders* were recognized by Participant 7 when sharing family buy-in, "So the families were... It was different then; I think because they were so invested in our program because they had been the same with the teachers coming to the groundbreaking ceremony." Another example of *families as stakeholders* is discussed by Participant P9, "we want to share our philosophy with families, how we want to teach it to children, how we want to hold meetings, like from small things to big things. We are all very equally involved in kind of creating how the program runs." Within each of the interviews *families as stakeholders* consistently emerged as a primary focus of the school leaders. They referenced the importance of *families as stakeholders* through communication, navigating family interest, creating buy-in, and shared collaboration in the initiation of the program. Attention to the *families as stakeholders* was mentioned by 12 of 14 school leaders, and was evident at every school site.

An example of triangulating the data around *families as stakeholders* was through observations of the learning sites where 4 of the 6 locations had visual confirmation. Examples of the *families as stakeholders* can be found in C3, C4, C5, and C6. Once at the learning site, there was evidence of *families as stakeholders* through a large branch with yarn with pictures of families hanging from it. At the same site, there were portfolios with the children's names, to communicate with families through. Another example was at C4 where the information was written in Spanish as well as English, to include Spanish-speaking families. At C4, there were clipboards with family pictures. At C5 I observed a sign which stated, "Welcome to _ preschool." At C6 evidence of *families as stakeholders* was evident through a sign indicating parent parking for pickup and drop off. These examples shed light on the role of family as stakeholders as leaders serve as catalysts for initiating NBL programs. The leaders put these items in place, to facilitate family buy-in and commitment to their program. It was evident through these observations that leaders are catalysts for initiating NBL through *families as stakeholders*, which affirms the statement provided during interviews.

The category, *families as stakeholders* was confirmed on 31 occasions and triangulated as a key element in the leaders' experiences as they initiated their programs as evidenced by 4 of the 6 locations established records in their documents. *Family as stakeholders* influenced the leader's experience as they initiated their programs and was observed 31 times in documents. An example of the *families as stakeholders* is through the welcome portion of the family handbooks in which the 4 sites provide an intentional welcome message to families. They also include information such as menus, general

announcements, and program schedules to engage with parents upon entering the program. Within the documents analyzed, *families as stakeholders* is evident through licensing regulation communication, as well as a detailed outline of program policies and procedures. Similarly, in the enrollment packet from C4, they exemplify family as a stakeholder where they encourage parents to contact the leadership personnel if they have any questions or concerns. They indicate the importance of parents feeling comfortable and safe from the beginning of their experience at their particular school site. Participant leaders prioritized *families as stakeholders* as they played a pivotal role in the initiation of their programs. ECLs prioritize *families as stakeholders* to initiate NBL.

Summary. Leaders serve as catalysts for initiating nature-based learning programs by developing and conducting initial staff training. They also support *families as stakeholders* by providing them with resources for their children. Families represent the mesosystem in ELT, which is aligned with the research framework.

RQ2: ECL Experiences Maintaining NBL Programs

The findings from the data-informed three themes that are aligned with ECL experiences about maintaining NBL programs. The following discussion includes an overview of Themes 4-6 and an analysis by coding category with examples from the raw data. Finally, I provide an overview of how these three themes informed RQ1.

Theme 4: ECLs Believed Continuous Collaboration and Improvement Are Key to NBL Success

Based upon the data analysis, ECLs believed that continuous collaboration and improvement are key to NBL program success. Theme 4 was evidenced in all 3 data

types and all 14 participants remarked about continuous collaboration and improvement. This theme, the first theme aligned with RQ2, was informed by the three coding categories: *program evolution*, *families as partners*, and *community collaboration*, which were evidenced in the data sets 273, 178, and 79 times, respectively. In total there were 530 data codes present for Theme 4.

Program Evolution. *Program evolution* refers to the ways leaders evolve their programs to meet the needs of their community, modify program offerings to be flexible, participate in targeted marketing, engage in innovative programming, and stay informed on current best practices in NBL. During the interviews, respondents were asked to report on their experience as they maintain their programs, and *program evolution* was specified 145 times. Leaders indicated the importance of *program evolution*, and it was recognized by 14 out of 14 respondents. For example, *program evolution* was referenced by P1, "We can also use other locations to expand our demographic and expand our content to other people." Participant 1 shared the importance of expanding the program to the local demographic to offer content to other individuals in the community. This excerpt is an example of *program evolution* in NBL. Another example is evolving the program offerings where P12 stated:

> And that's really where the model that we use kind of got a footing where we would just listen to what the need was in the community and each year develop a new program based on what was being requested. And we still do that today. So now in addition to our weekly outdoor exploring nature classes, we also have a

branch that does similar classes on school campuses and meets the students where they are.

Within each of the interviews *program evolution* consistently emerged as a primary focus of the school leaders. They mentioned the importance of *program evolution* Attention to program evolution was mentioned by every school leader, and evident at every school site.

Another example of *program evolution* as a priority was when discussing continuous collaboration and improvement through an interview in which the land contributed to the *program evolution*. The program began belonging to the Tonga tribe, an indigenous Native American tribe of Southern California. The land was then bought and became a wildlife sanctuary where the natural landscape and local ecosystem were used to teach the community. As the program evolved, they began to offer nature classes to homeschooled children and their families. That aspect broadened as the need was expressed by the community. As the program evolved and gained momentum, it then evolved into offering camps and field trips.

Nature-based learning leaders report the importance of flexibility as their programs evolve to meet the needs of their community. In their interview, P12 highlighted their experience when they stated,

> And our program started in 2005, very casually with a neighbor asking me to lead a gardening class at the local community garden. And after that, the parents asked me when I could teach it again and that went on for about 6 months. This is prior to[child's name] starting. And then at the end of 6 months, one of the parents who

> was a homeschool mom asked me if I would consider starting something more consistent so that her children could be involved, with learning with me outdoors every week throughout the school year.

This statement is an example of *program evolution* and is triangulated by the observation of the NBL sites.

The category of *program evolution* was evident through the observation of learning spaces where an example of bus parking is evident. While the program did not initially offer field trips, they demonstrated flexibility and responsive practices by developing these practices to meet the needs of the community. Another example of *program evolution* is the surrounding houses in the neighborhood around the NBL program at C4. This shows how a home evolved to an in-home daycare and now serves as a NBL center. The surrounding community provides evidence of the program evolving in response to the needs of the community. Another example is through the beginnings of a butterfly garden at C1 where there was an interest in developing the program to expand their offering based on the needs and interests of the community. These examples provide evidence for triangulating the data around *program evolution* through observations of learning spaces. Once at the learning site, there were 13 examples of *program evolution*. It was evident through this observation that leaders believe continuous improvement is key in NBL's success, which affirms the statement provided during interviews.

The category of *program evolution* was confirmed and triangulated as a key element in the leaders' experiences as they maintain their programs as evidenced by 5 of the 6 locations established records in their documents. *Program evolution* influenced the

leader's experience as they maintained their programs and was observed 20 times in documents. Participant leaders believe continuous improvement is key in NBL's success through *program evolution* as it contributes to the maintenance of their programs.

Families As Partners. The category, of *families as partners* is identified as the collaboration with families, communication with families, addressing family concerns, partnering on goal setting, and parent committees. During the interviews, respondents were asked to report on their experience as they maintain their programs and *families as partners* was referenced 112 times. Leaders indicated the importance of *families as partners* and 13 out of 14 respondents recognized it as key to the success of their NBL program. For example, *families as partners* was specified by Participant P10,

> Making the effort to visit their house or give them a lot of us, a lot of our time, each of our families have our personal phone numbers. We text daily, they can call us if they ever wanna talk to us. So, I think we maintain our relationships through a lot of open communication and just being available, creating that sense of community within our school.

Within each of the interviews *families as partners* consistently emerged as a primary focus of the school leaders. School leaders stated the importance of *families as partners*.

Another example of *families as partners* as key in NBL success is when discussing developing and nurturing relationships with families. In their interview, C7 highlights their experience in the statement,

> Tonight we have Back To School Night. So just starting that third week of school when everyone's finally here, parents getting to meet each other, getting to spend time with their teachers in the morning at Coffee and Conversations, and then at night for Back To School Night with kids and then without kids.

This statement is an example of *families as partners* and is triangulated by the observation of learning sites.

The category, of *families as partners*, was evident through observations at learning sites. Some examples are at C3 and C1 where I observed designated spaces for families. At O3, there was a table set up in the classroom with a sign that stated, "This table is set up to allow families time to spend five minutes together during drop off or pickup." I observed *families as partners* where school leaders focused their attention on maintaining communication, collaboration, time, and space for their families to participate in shared experiences. For example, C7 states,

> I think like, yeah, just keeping that connection. We have a family advisory council as well, which we did not have in the beginning. We've had it for about three years now. Depending on what's going on, the amount of participation varies, but I think that because we have it, it's nice to say that we have something that supports the families and the teachers and admin, honestly.

This leader clearly states the importance of continuous collaboration through family partnerships for NBL success. It was evident through this observation that leaders sustain family partnerships, which affirms the statement provided during interviews.

Families as partners was confirmed as a key element in the leaders' experiences as they maintain their programs as evidenced by document analysis. Family partnerships were established as a category in documents. *Families as partners* influenced the leader's experience as they maintained their programs and was observed 63 times in documents. An example of *families as partners* is through C3 Document 1 in which they explore the requirements of the family advisory council to involve and support teachers, leaders, and families. Another example is from C4 Document 1 where they share about their gratitude for the opportunity to be in a partnership in the care and education of their child. *Families as partners* is evident through statements indicating the importance of an open line of communication as vital to children's success while enrolled in the NBL program, as evidenced through C4 Document 1. ECLs believe continuous collaboration and improvement are key to NBL success. Along with the family partnership, community collaboration is identified by school leaders as contributing to NBL success.

Community Collaboration: During the interviews, respondents were asked to report on their experience as they maintain their programs, and *community collaboration* was mentioned 52 times. Leaders indicated the importance of community collaboration, and it was referenced by 11 out of 14 respondents. For example, *community collaboration* was discussed by Participant P5, "Our traveling naturalist programs and community outreach. So, I supervised one of our traveling naturalists, and as we grew and had more needs, I grew into the role of education director, and then I had oversight over all our little subdivisions of our education department." Community outreach through volunteer opportunities, community partnerships, high school and college

students, and community events is an important aspect contributing to the success of their programs.

Within each of the interviews *community collaboration* consistently emerged as a primary focus of the school leaders. Another example of community collaboration as key to NBL success is when discussing marketing and volunteer efforts For example, P4 stated, "I guess we keep things going through marketing and telling folks about our awesome organization, marketing to schools, marketing to team, so that they can volunteer. And a lot of it is word-of-mouth. Folks know that it's a really awesome nature spot." This statement is an example of *community collaboration* and is triangulated by the observation of school sites.

Along with community collaboration through marketing, school leaders recognized the importance of community volunteers to manage their learning spaces. School leaders focused much of their attention on maintaining the program by ensuring they have relationships and partnerships within the community. For example, P12 stated:

> We do outreach to the community through social media, of course, a website, and word of mouth. We also do occasional, like once-a-year print flyers or mailed outreach to the community… Now that we own a 39-acre wilderness site, we have a whole program and timelines around managing the land and incorporating volunteers and community service to help with all the different aspects of maintaining nature spaces.

This leader clearly stated the importance of involving the community in not only the function of the programs, but also provide opportunities to serve the community.

School leaders mentioned the importance of community collaboration and it was evident at the school sites. *Community collaboration* was observed at the NBL sites and confirmed the opportunity for community involvement. For example, at C2, there were signs for an upcoming event where they offered a petting zoo, pony rides, games, and crafts for members of their local community. At C4, I observed *community collaboration* by noting a hand-crafted poster with the community celebrations taking place at the school site. *Community collaboration* is an important element in the success of an NBL program. While at the learning site, there were 7 incidents exemplifying *community collaboration* which affirms the statements provided during interviews.

School leaders believe that continuous *community collaboration* and improvement are key to NBL success through community collaboration. *Community collaboration* was confirmed and triangulated as a key element in the leaders' experiences as they maintain their programs as evidenced by the locations established records in their documents. *Community collaboration* influenced the leader's experience as they maintain their programs and was observed 21 times in documents. For example, in Document 1 from C2 they share that they host both public and private events and provide hands-on learning opportunities for everyone who wishes to enjoy nature. In D2 from C2, they state that they have community programs for everyone, along with volunteer opportunities, and even offer an artisan market on site. C4 D1 indicated collaboration within the community in which the leaders meet outside of school for cultural and learning opportunities to build community relationships. Participant leaders prioritized the reciprocal relationships

maintained with the local community as these relationships played a pivotal role in maintaining their programs.

Summary. NBL leaders believe community collaboration and improvement are key to NBL success. Three categories support this theme, they are *program evolution*, *families as partners*, and *community collaboration.* Families as partners are found in ELT through the mesosystem and extend to the exosystem which is community collaboration.

Theme 5: ECLs Noted Ongoing Needs for Compliance and Success

Based on the data analysis, ECLs noted ongoing needs for compliance and success when maintaining NBL programs. Theme 5 was evidenced in all 3 data types. This theme, the second one aligned with RQ2, was informed by the three coding categories: *maintaining compliance*, *maintaining funding*, and *materials and resources*, which were evidenced in the data sets 349, 52, and 1,082 times, respectively. In total there were 1,483 data codes present for Theme 5.

Maintaining Compliance. *Maintaining compliance* with policy and regulations is defined in this research as following regulatory requirements, implementing internal policies and regulations, adhering to CDC guidelines, and following state-mandated policies. During the interviews, respondents were asked to report on their experience as they maintain their programs, and maintaining compliance was specified 114 times. Leaders indicated that *maintaining compliance* was of importance and 13 out of 14 respondents remarked on this ongoing need during their interviews. Leaders indicated the ongoing need for compliance for example, licensing regulatory compliance was recognized by participant P14, “Also finding the frustration part of it is, that doesn’t

matter if I have one LPA come in and say this thing is fine, the next time someone else comes in, it might be somebody different and will tell me a different story." This participant explains the importance of consistency across analysists to remain in community care licensing compliance. Maintaining licensing compliance affects child safety, family enrollment, program operation, and the reputation of the site in the community.

Within each of the interviews *maintaining compliance* consistently emerged as an ongoing need and a focus of the school leaders. They remarked on the importance of *maintaining compliance* with internal policies and regulations as well. Attention to *maintaining compliance* was mentioned by every school leader, and evident at every school site. Another example of *maintaining compliance* as an ongoing need is when discussing internal policies such as the zero-waste policy enforced at C1, C2, and C3. In their interview, P4 highlights their experience with *maintaining compliance* when they state, "Our Zero Waste Policy, sometimes I have to enforce that with the public if they're visiting on-site, so talking to them about not bringing in single-use plastic because it aligns with our zero-waste statement and how we teach our kids through our curriculum." Not only is this policy enforced with external visitors, but each of the school leaders from the three respective sites highlights the need to enforce this policy with staff, children, and families.

Along with internal policy compliance, every leader mentioned the importance of maintaining an open line of communication with their licensing analyst to remain in compliance. School leaders focused much of their attention on maintaining the program

by ensuring they abide by the recommendations offered by their respective licensing analysts. *Maintaining compliance* is an integral component of initiating a NBL program because community care licensing can close the school site if they are out of compliance. For example, C7 states “I felt like my first analyst, I had a really good relationship with her and so I would call and ask every little question, ‘Here’s my list of burning questions. And how can you support me?’ Because I know that it’s their goal to help us, not scare us, and sometimes it’s a little bit of both. But I feel like, yeah, I feel like I really try to stay on top of things even with like … and legislation and bills that are pending and supporting and being an advocate for the field in general. “ Along with an open line of communication with their licensing analyst, this leader brings to light the importance of being aware of legislation and bills to advocate for their program. To continue to operate, the school leader must be aware of the current political implications affecting their NBL program. This leader clearly states the ongoing need for compliance for the success of their program. This statement is an example of *maintaining compliance* and is triangulated by the observation of every site.

The category of *maintaining compliance* was evident through observations of the learning spaces. At C1, I observed how they maintain safety compliance by noting the emergency radios and medical emergency bags. At this site, there were radios with codes for different emergencies printed on the back. At this site I observed the leader *maintaining compliance* by having a first aid supply kit, Band-Aids, and gloves. At O3 there was a visual daily schedule, displays of the roll call, and evidence of the headcount process. These observations indicate the leader’s attention to maintaining licensing,

supervision, and regulatory agency compliance. At C4 there was evidence of the proper documentation for a licensing family childcare center, this is another example of *maintaining compliance*. Additionally, at C2 there was substantial evidence of the zero-waste policy through signs, recycling bins, labels, and reusable materials. All confirm their adherence to maintaining the zero-waste policy. While at the learning site, there were 115 incidents observed to exemplify *maintaining compliance*. It was evident through this observation that leaders experience ongoing compliance maintenance, which affirms the statements provided during interviews.

Maintaining compliance was evident as a key element in the leaders' experiences as they maintained their programs as evidenced by the document analysis from each of the locations. Participating locations established records in their documents. *Maintaining compliance* influenced the leader's experience as they maintained their programs and was observed 120 times in documents. An example of *maintaining compliance* was found in the sick policy outlined in C2 Document 1 where the CDC recommendations for the COVID-19 policy and procedures are outlined. They include guidance for identifying symptoms, and the policy surrounding the health and safety of the children. Participant leaders prioritized *maintaining compliance* as an ongoing need for NBL program success. ECLs prioritize maintaining compliance to sustain their NBL program.

Maintaining Funding. The category of *maintaining funding* is identified as securing ongoing financial backing via private and public contributions. During the interviews, respondents were asked to report on their experience as they maintained their programs, and *maintaining funding* was recognized by 9 of the 14 respondents. For

example, maintaining funding was remarked on by participant P4 when discussing the fundraising events, they hold on-site,

> Yeah, I know that _ is funded by donors and people who pay for public programming, and we also do events on our site as well, so it's a non-profit organization, and I guess we keep things going through marketing and telling folks about our awesome organization.

As evidenced in this quote, *maintaining funding* is specified by school leaders when discussing maintaining their programs. They maintain funding through private donors, operating as a non-profit, and payments through public programming. Within each of the interviews maintaining funding consistently emerged as a primary focus of the school leaders. They mentioned the importance of maintaining funding. Attention to *maintaining funding* was remarked on by school leaders, and evident at school sites.

Another example of *maintaining funding* as an ongoing need for the success of a NBL program is when discussing tuition via private pay. It is important to note that several of the school sites do accept third-party entities such as Children's home society, OCBE, and the Department of Education, however private pay is another way to maintain funding. School leader P7 states, "But also supporting working families supporting working families, having scholarships to support families that maybe can't afford the tuition, accepting OCBE and other stipends through the government and the work that we wanted to do for that." By accepting both public financial support, along private pay, school leaders maintain their NBL programs.

Another school leader, P12, shares their insight to *maintaining funding* in their interview where they state, “We also do occasional, like once-a-year print flyers or mailed outreach to the community. Financially, we keep our programs running through paid participation, fundraisers, grant writing, and direct ask through our network of donors related to managing the property.” To maintain funding, it is evidenced that several lines of funds be in place. Through tuition, private funding, fundraiser events, subsidized care, and private pay, NBL school leaders address the ongoing need for a successful NBL program. Without proper funding in place and a steady flow of revenue, the program is unable to operate. There is overhead involved in running an NBL program, so funding is an important part of the school leaders’ experience. I observed how school sites maintain funding through the observation of learning spaces.

Maintaining funding was evident through observations of learning spaces. For example, at C1 there was merchandise for sale. The merchandise included books, water bottles, clothing, jewelry, and other nature-related items. This merchandise not only advertised the program but also generated revenue as items were purchased. At C2 there was also a plant sale. Selling the native plants that were grown on-site is another example of how the schools maintain funding. Another revenue flow was through operating scout programs. There were posters at C2 that advertised the scout programs, this was another example of how *maintaining funding* was triangulated through observations. At C1 and C2, I observed how school leaders maintained funding for their programs by noting items sold and programs offered for revenue. It was evident through observations that leaders maintained funding, which affirms the statements provided during interviews.

Maintaining funding was confirmed as a key element in the leaders' experiences as they maintained their programs as evidenced by 34 incidents in the documents reviewed. Funding was maintained through customers, donors, family transactions, fees, and registration. For example, in Document 3 from C2 they shed light on donors they work with through donor lists. In Document 1 C2, deposit amounts and fee schedules are outlined regarding public programs and field trips. At C4 in D1, there is evidence of the registration fee of $150 along with re-registration fees. At this site, they also indicate late payment fees, late pick-up fees, and that tuition is required to be paid in advance. Four of the five sites address *maintaining funding* and locations established records in their documents. Maintaining funding influenced the leader's experience as they maintained their programs and was observed 34 times in documents. Participant leaders prioritized *maintaining funding* as they played an essential role in ongoing needs for compliance and success. ECLs address the ongoing need for compliance and success through *maintaining funding*.

Materials and Resources. Compliance and success are also maintained through *materials and resources* offered at each of the NBL sites. *Materials and resources* are defined as the physical structures, equipment, toys, and materials provided in the learning spaces. During the interviews, respondents were asked to report on their experience as they maintained their programs and *materials and resources* were recognized 20 times. Leaders indicated the importance of *materials and resources* which was remarked on by 10 out of the 14 respondents. For example, *materials and resources* were remarked on by participants P1 and P6 when discussing animal habitats and husbandry. Animals are one

aspect of nature-based learning and live animals were observed at every location. P1 addresses the animal husbandry during an interview when they state, “I’m also in charge of all the husbandry for our animals and I’m in charge of creating partnerships “I am in charge of the animals… I asked for a lot of research topics like trying to find a consolidated diet between our tortoise, rabbit, and bearded dragon so that we could try to curtail some of our spending because a lot of these animals need a diverse diet.” As evidenced in these two examples, animal care and husbandry are an ongoing need for success.

The category of *materials and resources* consistently emerged as a primary focus of the school leaders. School leaders mentioned the importance of *materials and resources* such as equipment, toys, books, and furniture, and was evident through observations of the learning spaces. An example of triangulating the data around *materials and resources* was through observations of learning sites. At all six sites, I observed how *materials and resources* played an integral role in the success of NBL programs. Once at the learning site, *materials and resources* were observed and noted 713 times. Some of the materials found in every site were natural toys such as wooden blocks, pinecones, and recycled plastics. There were fabrics, beads, shells, and stones found at every learning site as well. Other materials observed were naturally occluding such as boulders, stumps, logs, sand, trees, and mud. Domestic animals such as bearded dragons, chickens, tortoises, snakes, rabbits, and dogs were observed. Wild animals were also observed in the naturescapes and outdoor learning spaces such as squirrels, lizards, insects, and birds. *Materials and resources* were evident through the observations which

affirms the statements provided by school leaders. Document analysis was also conducted and confirmed the findings, which triangulated the key element of *materials and resources in* the leader's experiences as they maintained their programs.

Materials and resources as an ongoing need for success in NBL is evidenced through the analysis of the documents at three of the school sites. C2 D1 addresses their school as striving to supply a wide selection of games and safe experiences for children while on site. C5 D1 addresses the puddles and abundance of wildlife children encounter during operating hours. C4 D2 calls out paint, brushes, paper, and glue for children to participate in projects with. These are some of the various examples provided through document analysis highlighting materials and resources as an ongoing need for the success of a NBL program. Materials and resources are recognized within school documents on 14 occasions. Participant leaders prioritized materials and resources as they played a pivotal role in ongoing needs for compliance and success. ECLs prioritize *materials and resources* to maintain NBL.

Summary. Leaders noted ongoing needs for compliance and success. This theme was developed through the three *categories maintaining compliance, maintaining funding,* and *materials and resources*. As leaders maintained their programs, they focused on the microsystem which is evident through the attention made to materials and resources children engaged with. The Macrosystem is also evident in this theme because leaders maintain local and state policy compliance.

Theme 6: Leaders Must Maintain Authentic Relationships at Every Level

Based upon the data analysis, ECLs indicated that to maintain NBL programs, it is important to maintain authentic relationships at every level. Theme 6 was evidenced in all 3 data types. This theme, the final one aligned to RQ2, was informed by the four coding categories: *experience of the child*, *employee experience*, *human qualities,* and *leader as a stakeholder*, which were evidenced in the data sets 290, 322, 55, and 30 times, respectively. In total there were 697 data codes present for Theme 6.

Experience of the Child. *Experience of the child* is identified in this research as about the curriculum, children as participants, children in nature, meeting children's needs, and sharing experiences with children. During the interviews, respondents were asked to report on their experience as they initiated their programs, and *experience of the child* was remarked on 123 times. All 14 leaders indicated the importance of the experience of the child in maintaining authentic relationships. For example, the *experience of the child* was specified by participant P1 states, "But I did debrief at the end of each program, and I explained the reasoning why we should be doing it this way and have it be more open-ended and follow student's curiosities. And from that, I think they began to see how it was affecting the kids even more." Children are identified as active learners in this context and the role of the teacher is to nurture their curiosity through inquiry-based learning in nature with emergent curriculum.

P6 highlighted the concept of nurturing children's interests by sharing their while in nature, "If a group of students is just becoming detached, they're losing interest, trying to maintain that is a little bit easier because with kids I can actually interact with them

and I can speak to them about a thing that they're interested in and then find some relation to nature somehow or just spark off on how interested I am about like these redwood trees and how the canopy of a redwood tree can host its own ecosystem with its own other trees in the tree." Through a mutually respectful relationship, children are actively engaged in their learning process and development at a NBL learning program. In this example, the teacher recognized that the children had lost interest in the concept, through reflective teaching practices this naturalist was able to redirect their attention to something meaningful in their learning space. By bringing their attention to the canopy above them, children were actively engaged and encouraged to think creatively about their immediate environment.

Within each of the interview *experience of the child* consistently emerged as a primary focus of the school leaders. They recognized the importance of children as participants and the importance of nurturing meaningful relationships where their interests informed an emergent curriculum. Attention to the *experience of the child* was remarked on by every school leader, and evident at every school site. Leaders recognize and share the importance of the *experience of the child* in initiating their program. An example of triangulating the data around the experience of the child was through observation of learning spaces.

Throughout the observations of learning spaces, there was clear evidence of concern for the *experience of the child*. For example, at C1 they teach the plant lifecycle by looking at seeds and how they move on fox fur. This example represents *experience of the child* where children are provided with sensory and hands-on experiences to actively

engage in their learning experiences. This highlights children as valuable contributors to their learning and development. At O3 I observed the authentic relationships between leaders and children through their indoor learning space. The example was from O3 where there was a classroom community gathering area for children to participate in story time. They also each had their own beehive-shaped cubby area, with their names labeling their belongings. This evidence provides further support for the experience of the child as an important aspect of maintaining authentic relationships. By doing so, children are reflected in their learning space. Once at the learning sites, there were 92 incidents of *experience of the child* observed.

It was evident through this observation that leaders must maintain authentic relationships through experiences with children, which affirms the statement provided during interviews.

I conducted a document analysis and the *experience of the child* was confirmed and triangulated as a key element in the leaders' experiences as they maintained their programs. Experience was as evidence 169 times in documents. *Experience of the child* influenced the leader's experience as they maintained their programs and was evident through C5 D3 where they explain the child-centered curriculum. Children are explained in this document as co-creating their learning objectives where teachers research alongside the children. They also share about the child's portfolios in documenting the achievements and milestones of each child's development. At C6 D1, attention is paid to how the classes are informed by the interests of the children and spontaneous in nature. To facilitate learning in this collaborative way, leaders must have meaningful

relationships with children. Participant leaders prioritized the *experience of the child* to maintain authentic relationships at every level.

Employee Experience. *Employee experience* is defined for this research as employee retention, experience, relationship, job duties, teacher training, and role. During the interviews, respondents were asked to report on their experience as they initiated their programs, and *employee experience* was recognized 268 times. Leaders must maintain authentic relationships at every level, this includes their relationships with their employees. All 14 leaders indicated the importance of *employee experience* and one of the most common aspects was related to employee collaboration. Teachers at each site were heavily involved with the processes of family communication, self-evaluation, and interactions with children. These aspects stem from the overall attention and value of the employee as a collaborator and contributor to the program. Developing a culture in which employees are advocates and catalysts for the success of the program is the responsibility and result of the school leader. A culture of collaboration is developed by the school leader and is evident through the employees' experiences. For example, self-evaluation was mentioned by Participant P7, "And so I want teachers to know what's meaningful to me or what my core values are for them so that they can do better at those things, so that their evaluation, I guess, is more positive. But then just sharing the things that they're doing and the goals that they have, how what the percentage of the goals that they had the prior year are completed, or if they wanna continue working on those." It is evident that teachers are the cornerstone of their self-evaluation and set their own goals at this school site. Not only does the school leader explain the expectation but follows through with the

employee to ensure that it is reflective of their personal and professional goals. Within each of the interviews *employee experience* consistently emerged as a primary focus of the school leaders.

All school leaders at each site remarked on the importance of *employee experience*. Another example of employee experience as a priority when discussing authentic relationships is through their interactions with families. In their interview, P10 highlighted their experience when explaining the relationship, the school leaders and employees have with the families, “So it talks about forming really deep, genuine bonds with each family that we serve.” This statement is an example of employee experience with families and is triangulated by the observation of every site. Every leader highlighted their efforts to maintain authentic relationships through *employee experience* by involving employees in their professional development, self-evaluation, a contributor to the program, roles as professional educators, and relationships with children and families.

An example of triangulating the data around *employee experience* was through observations of C1, C2, C3, C5, and C6. There was evidence of the employees’ experience at 5 out of 6 of the learning sites. At C1 there was a native plant nursery and propagation area within the nursery. There was a sign that indicated this area was only for authorized personnel, this sheds light on the roles and responsibilities of the employees. The leadership team indicated that this natural area is for the employees to tend to and enjoy. At C3 I observed the employee experience by noting thank-you signs from the teachers. This confirms a positive relationship between the teachers and other members

of the school community. At C3 there was evidence of teachers as valued members of the community through their meet-the-teacher displays where teachers shared their interests and created visual representations of themselves. Once at the learning site, there were 13 incidents of *employee experience*. It was evident through this observation that leaders maintain authentic relationships at every level, which affirms the statement provided during interviews.

Employee experience was confirmed and triangulated as a key element in the leaders' experiences as they initiated their programs as evidenced by the information outlined in the documents from each school site. School locations established records in their documents of *employee experience*. *Employee experience* influenced the leader's experience as they maintained authentic relationships at their programs and was observed 43 times in documents. Much of the information discovered through the document analysis shares policies and guidelines for employees using benefits, holidays, salary, California labor law, and teacher expectations and roles. By providing clear expectations and detailed information regarding their roles, responsibilities, and benefits school leaders nurture trust and transparency with their employees. This exemplifies how leaders maintain authentic relationships with their employees. Participant leaders prioritized the *employee experience* as they maintain authentic relationships at every level to maintain their NBL program.

Human Qualities. *Human qualities* refer to the human characteristics, personality traits, and mode of conduct when engaging with other stakeholders on site. During the interviews, respondents were asked to report on their experience as they maintained their

programs, and *human qualities* were mentioned 38 times. During interviews, 11 out of 14 respondents remarked on the importance of *human qualities* such as passion, love for the job ownership, connection, balance, and commitment. Leaders indicated the importance of *human qualities*, for example, P9 states, It takes a lot of love, ma'am, a lot. It's kind of like what I was saying about finding the right kind of teacher. It takes an incredible amount of commitment, and not just to wanting to teach in general but to the nature-based aspect of it. You can't just really like being outside, you have to understand that we are trying to create the next generation of stewards to protect our planet to protect our environment.

This leader explains the importance of love and commitment to NBL and creating stewards of the environment. The role of the leader includes *human qualities* such as love and commitment to lead an NBL program. P12 sheds light on the importance of nurturing relationships as the school leader. The *human qualities* of enjoyment, gratitude, and fulfillment is explained in the following quote,

> Relationships with the families are one of the most pleasurable aspects of running the business. [laughter] And the relationships are so important because they're, the families who participate in our classes the, who receive all the really precious experiences and who share their joy with us and who come to us with their challenges asking for support. Yeah, I'm just really grateful for all the families who have been with us for many years and who also are just starting for the first time.

Within each of the interviews *human qualities* consistently emerged as a primary focus of the school leaders as they maintain authentic relationships at every level. This statement is an example of *human qualities* and is triangulated by the observation of school sites.

Data explaining the category of *human qualities* was confirmed through observations of O3 where they had a social-emotional corner for children. This area had emotion charts, sensory items, feelings flashcards, fidget spinners, pillows, blankets, and a reading area with calming strategies chart. At C3 I observed how *human qualities* were valued by noting this calming area in the classroom. It was evident through this observation that leaders maintain authentic relationships at every level through *human qualities*, which affirms the statement provided during interviews.

Human qualities were confirmed and triangulated as a key element in the leaders' experiences as they initiated their programs as evidenced by document analysis from the participating locations. Locations established records of *human qualities* in their documents such as personal integrity, code of conduct, good judgment, personal, professional, friendly, and productive communication. *Human qualities* influenced the leader's experience as they initiated their programs and were observed 17 times in documents. Participant leaders prioritized *human qualities* as they maintained authentic relationships at every level. ECLs prioritize human qualities to maintain NBL. Leaders must maintain authentic relations and are the stakeholders for this task.

Leader as Stakeholder. *Leader as stakeholder* refers to the support they offer to their community, relationships built with families and educators, program supervision,

and program coordination. These aspects of the leaders' roles and responsibilities rest on a foundation of authentic relationships. During the interviews, respondents were asked to report on their experience as they initiated their programs, and *leader as a stakeholder* was recognized 30 times. 12 out of 14 respondents remarked on the importance of *leader as a stakeholder* and they indicated the importance of this category in maintaining authentic relationships. For example, the leader as a stakeholder was recognized by participant P1 when discussing debriefs following programs. They stated,

> So I like to do a debrief after every program and ask them what were some questions that you asked today that you found led to a great discussion or that you found led to a clarification on a concept that the kids were struggling on.

The leader facilitates these conversations and as a result, maintains authentic relationships centered around collaboration with their employees. Within each of the interviews *leader as a stakeholder* consistently emerged as a primary focus of the school leaders. They remarked on the importance of a *leader as a stakeholder*. Attention to the *leader as a stakeholder* was recognized by school leaders, and evident at school sites.

Another example of a *leader as a stakeholder* as a priority is when discussing collaboration with employees. In their interview, *leader as stakeholder* highlights their experience when discussing the roles of the leader with teachers and families,

> And so since we kind of operate under those conditions, the teachers have a big role, especially new teachers have a really big role in deciding kind of everything about how we run the program, how we want to share our philosophy with families, how we want to teach it to children, how we want to hold meetings, like

> from small things to big things. We are all very equally involved in kind of creating how the program runs.

This statement is an example of *leader as stakeholder* because they nurture the conditions through their leadership approach to foster collaboration and shared responsibility. *Leader as a stakeholder* is triangulated by the observation of school sites. An example is at C1 where I observed the effects of the daily responsibilities of the school leader.

An example of triangulating the data around the *leader as stakeholder* was through observations of the gates and locks on campus. At C1, there was a key to open each building, the lab, the nature museum, and the shed. There were also front gates, and signs for busses to line up for field trips. There was a large, locked gate in the back, and guidance on safety checks in the morning to ensure there were no pieces of broken glass or other materials that could get injured. Ensuring these safety measures are in place is the responsibility of the school leader, and with that holds liability for safety. *Leader as stakeholder* is evident in this observation as they are responsible for ensuring the safety of each stakeholder, and this role lends to maintaining authentic relationships. There is a physically and figuratively safe space for children to learn, families to explore, and educators to teach. It was evident through this observation that the *leader as stakeholder* must maintain authentic relationships at every level, which affirms the statement provided during interviews.

The category of *leader as stakeholder* was confirmed and triangulated as a key element in the leaders' experiences as they initiated their programs as evidenced by document analysis of participating locations. School sites established records of *leader as*

stakeholder in their documents. *Leader as stakeholder* influenced the leader's experience as they initiated their programs and was observed 4 times in documents. Participant leaders prioritized their role as stakeholders as maintained authentic relationships at every level. ECLs prioritize *leader as stakeholder* to maintain NBL.

Summary. The theme that leaders must maintain authentic relationships at every level was developed out of four categories which were the *experience of the child, employee experience, human qualities,* and *leader as a stakeholder*. Experience of the child reflects the microsystem, whereas the employee experience reflects the mesosystem. Experience of the child is also elevated in experiential learning theory where children develop their understanding through lived experiences. As leaders maintain authentic relationships, they navigate movement through these complex systems and their relationships evolve at multiple levels. To navigate and maintain authentic relationships, leaders must embody human qualities and take risks.

Summary

Fourteen participants from six locations answered the two RQs. Nature-based program leaders were interviewed to help establish their experiences as they initiated and maintained their programs. The participants elucidated this study by answering comprehensive interview questions that pertained to their experiences as they initiated and maintained their programs. From the interview responses, six themes emerged that aligned with the two RQs for this study.

RQ1

Results from the participant's responses along with observation of learning spaces and document analysis expanded upon their interview responses and triangulated the data. Results from the interviews, observations, and document analysis answered the first RQ: What are the experiences of ECLs when instituting NBL programs in the United States? Their responses conveyed that ECLs prioritize both physical and philosophical structures, noted substantial risks and challenges, and served as catalysts for initiating NBL programs.

The first theme that emerged was ECLs prioritize both physical and philosophical structures to initiate NBL through learning spaces and philosophy and vision. Learning spaces in this research refer to the physical environment where learning takes place such as the outdoor spaces, indoor spaces, equipment present, how the space is used, what it looks like, what it feels like, and the sounds present. Learning spaces were prioritized by each school leader and were evident through each of the data sources used in this study. The philosophical structures: philosophy and vision, were identified as prioritizing diversity and inclusion, committing to green toys and recycled materials, respect for local habitats and the environment, and fostering a child-centered approach to teaching and learning.

The second theme was *ECLs noted substantial risks and challenges to initiating NBL*. The second theme was evident through highlighting their experiences with initial policy and regulation in which they followed both internal and external policy to initiate their program. Initial policy and regulation refers to both the internal and external policies

which were set in place upon initiation of the NBL program. These policies and regulations also refer to the requirements that inform and drive the daily operations of the program. Leader risk was identified as how school leaders navigate multiple roles, managing shifting priorities, and the responsibility of the site supervisor. Funding is another important aspect of navigating challenges for school leaders. Funding refers to financial overhead, public funding, private funding, and the effects of universal preschool on NBL institutions.

The third theme answering the first RQ was that ECLs served as leadership catalysts for initiating NBL, as evident through professional development initial training and families as stakeholders. Within each of the interviews initial training consistently emerged as a primary focus of the school leaders. They remarked on the importance of professional development, and attention to initial training, either formal or informal, was specified by every school leader. Examples of initial training are professional development days, onboarding, new employee orientations, and mentorship. Initial training and educational background were evidenced through the observation of learning spaces. Families as stakeholders was defined by characteristics of family risk, invested interest, and identified as guardians or parents of children enrolled in NBL programs. Families as stakeholders were developed as a category for the theme leaders and served as catalysts for initiating NBL because of their engagement with families.

RQ2

The second RQs was: What are the experiences of ECLs as they maintain NBL programs? Three themes emerged in answering this RQ which were the ECLs believed

that continuous collaboration and improvement, addressing ongoing needs for compliance and success, and maintaining authentic relationships at every level were essential for maintaining successful NBL programs .

The first theme answering RQ2 was The ECLs believed that continuous collaboration and improvement are key to NBL success. Three categories supported the development of this theme: *program evolution, families as partners,* and *community collaboration. Program evolution* refers to the ways leaders evolve their programs to meet the needs of their community, modify program offerings to be flexible, participate in targeted marketing, engage in innovative programming, and stay informed on current best practices in NBL. Attention to program evolution was recognized by every school leader, and evident at every school site. *Families as partners* is identified as the collaboration with families, communication with families, addressing family concerns, partnering on goal setting, and parent committees. Within each of the interviews families as partners consistently emerged as a primary focus of the school leaders. *Community collaboration* refers to outreach through volunteer opportunities, community partnerships, high school and college students, and community events is an important aspect contributing to the success of their programs. Within each of the interviews, *community collaboration* consistently emerged as a primary focus of the school leaders.

The second theme answering RQ2 was ECLs noted ongoing needs for compliance and success. The three categories supporting the development of this theme were; *policy and regulations: maintaining compliance, maintaining funding,* and *materials and resources*. *Maintaining compliance* refers to compliance with internal policies and

regulations. Attention to maintaining compliance was indicated by every school leader, and evident at every school site. They maintain funding through private donors, operating as a non-profit, and payments through public programming. Within each of the interviews *maintaining funding* consistently emerged as a primary focus of the school leaders. Compliance and success were also maintained through materials and resources offered at each of the NBL sites. *Materials and resources* are defined as the physical structures, equipment, toys, and materials provided in the learning spaces. Within each of the interview *materials and resources* consistently emerged as a primary focus of the school leaders.

The third and final theme that answered RQ2 was that leaders must maintain authentic relationships at every level. This theme was developed from four categories: *experience of the child, employee experience, human qualities,* and *leader as stakeholder.* Attention to the experience of the child was mentioned by every school leader, and evident at every school site. They remarked on the importance of children as participants and the importance of nurturing meaningful relationships where their interests informed an emergent curriculum. *Employee experience* is defined for this research as employee retention, experience, relationship, job duties, teacher training, and role. Leaders must maintain authentic relationships at every level, this includes their relationships with their employees. *Human qualities* refer to the human characteristics, personality traits, and mode of conduct when engaging with other stakeholders on site. Within each of the interviews human qualities consistently emerged as a primary focus of the school leaders as they maintain authentic relationships at every level. *Leaders as stakeholder* refers to

the support they offer to their community, relationships built with families and educators, program supervision, and program coordination. Attention to the leader as stakeholder was recognized by school leaders, and evident at school sites.

Conclusion

Chapter 4 included a discussion on how the six themes developed from the data addressed the two RQs regarding leaders' experiences as they initiated and maintained NBL programs. Three different themes aligned with both RQ1 and RQ2, respectively. Chapter 4 provided insight into the data collection, data analysis process, and evidence of trustworthiness. In Chapter 5, I provide details to interpret the findings, explain the limitations of the study, and provide recommendations for future research. I also share the implications of the results of this study and provide a conclusion for the entire study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this exploratory case study was to discover the experiences of NBL leaders as they initiated and maintained NBL programs. Literature supported the positive benefits of NBL programs, and evidence suggested children spend more time outdoors (Bal & Kaya, 2020; Barrable & Booth, 2020; Cordiano et al., 2019). Time spent outside leads to higher levels of cognitive development, bio-affinity, self-confidence, and pro-environmental behaviors. Although there are limitations of NBL, the school leader's ability to navigate shifting priorities for initiating and maintaining their programs indicates success based on the data. These constructs inform child participation in NBL programs and influence their availability and support them.

Although school readiness skills develop through participation in NBL preschools (Fyfe-Johnson et al., 2019; NAAEE, 2023), those experiences are dependent on teacher engagement and training. Teacher participation and successful implementation of NBL programs are affected by the level of administrative support available from the administration. Research supported the need for teachers to have innovative leaders in NBL programs (Somoza-Norton & Whitfield, 2019).

Innovative leadership is defined as displaying a visionary approach to education, creating a strong community, facilitating trust and loyalty, being action oriented, and participating in collaborative inquiry. Little was known about how NBL leaders experience their ability to be innovative leaders. An understanding of their experiences may lead to positive social change.

Nature of the Study and Why It Was Completed

To address the RQs in this qualitative study, I chose an exploratory case study design. This design was best aligned with the purpose to explore and understand leaders' experiences in NBL programs. Through an exploratory case study and the conceptual framework of EST, PBLT, and ELT, I explored leaders' experiences within an NBL setting. In addition to the influence of these theories within these programs, the intersections of these theories was used to explore the phenomenon under investigation. Insight into the leaders' experiences through this framework provided a comprehensive understanding of best practices, leadership strategies, and shared experience.

The phenomenon investigated was leaders' experiences as they initiated and maintained NBL programs in the United States. This exploratory case study was designed to explore this phenomenon within authentic contexts to better understand participants' dynamic relationship with that phenomenon (see Zainal, 2007). The goal of the current research was to understand the experiences of NBL leaders as they initiated and maintained their NBL programs.

Summary of Key Findings

The first RQ focused on the experience of ECLs as they initiated NBL programs in the United States. The findings from the second RQ indicated the experiences of NBL leaders as they maintained their programs. The strongest category of the six themes was materials and resources, which was observed 1,082 times. The next most influential aspect of initiating and maintaining NBL programs was securing and maintaining learning spaces with 507 observations. The third most influential factor was maintaining

compliance with policy and regulation with 349 observations, while the fourth was philosophical structures with 346 data points. Following these top four categories was employee experience, the experience of the child, and families as partners. As evidenced through the interviews, observation of learning spaces, and document analysis, learning in and with nature with a shared philosophy and a vision reflecting NBL were the top two indicators of school leaders' experiences. In the following sections, I interpret the findings of the research. I also describe the limitations of the study, recommendations for further research, and implications for positive social change. I conclude this chapter with a message that captures the essence of the study.

Interpretation of the Findings

The findings of the study contribute to the field of early childhood education by supporting a scholarly understanding of NBL programs to better serve the leader's ability to successfully implement NBL programs. The findings for RQ1 were that leaders prioritized physical and philosophical structures, noted substantial risks and challenges, and were catalysts for initiating their programs. The findings for RQ2 were that leaders believed that continuous collaboration and improvement were key to NBLs' success, noted the ongoing need for compliance and success, and indicated the need to maintain authentic relationships at every level. The findings of this study represent the experiences of leaders who initiated and maintained NBL programs. Participants identified their experiences and provided data that were analyzed to answer the RQs and fill the gap in knowledge regarding NBL in early childhood education.

RQ1: Findings Related to Past Literature

Findings from RQ1 showed that leaders prioritized both physical and philosophical structures to initiate NBL. ECLs also noted substantial risks and challenges to initiating NBL, and ECLs served as catalysts for initiating NBL. Literature supports the findings that school leaders prioritize physical structures through PBLT (Boyd, 2019). PBLT supported the facilitation of exploring NBL leaders' experiences because of the unique outdoor space in which learning took place (Masters & Grogan, 2018). ECLs in the current study noted substantial risks and challenges to initiating NBL programs, which is confirmed through the literature on innovative leadership. Innovative leadership is a key contributor to innovative educational initiatives (Alsbury et al., 2018; Judkins et al., 2019; Somoza-Norton & Whitfield, 2019). Innovative leadership is defined as a technique or philosophy in which the leader positively influences their direct reports to maximize potential (Somoza-Norton & Whitfield, 2019). This confirms the emphasis leaders place on philosophical structures to initiate NBL.

In addressing the first RQ, leaders also noted substantial risks and challenges initiating NBL through policies and regulations, leader risk, and funding. This finding is confirmed in previous research. Policy regulations, licensing restrictions, and social implications were key contributors to current participants' experiences and their ability to navigate the relationship between these factors and the success of their programs. Some barriers to teacher development and time spent learning outdoors were fear of parent litigation, policy implementation, liability, regulatory agencies, and licensing restrictions (Gull et al., 2020), which are also some of the barriers to NBL. Current participants

served as catalysts for initiating NBL through professional development and families as stakeholders, which is confirmed in previous literature. Participants' skill set is something that is taught, practiced, and learned inside and outside of the classroom and during professional development or on-the-job training. For teachers and school leaders to be prepared for the role of leading an NBL program, they must undergo professional development and training (Ginsburg & Audley, 2020). For teachers to successfully participate in NBL programs, they must have the support of their families, community, and leadership teams (Gull et al., 2020; Zandvliet & Perera, 2022). To ensure that NBL continues to serve as an option for children and their families, attention must be paid to the benefits of nature endeavors (Browne-Ferrigno & Björk, 2018; Hubbard & Datnow, 2020). The current study extends the knowledge of NBL by identifying how families serve as stakeholders in NBL.

RQ2: Findings Related to Past Literature

Through this study, school leaders were able to share their experiences of initiating and maintaining their NBL program. School leader participants emphasized their experiences maintaining NBL programs, and findings were used to answer RQ2. ECLs reported that continuous collaboration and improvement are key to NBL success, they noted ongoing needs for compliance and success, and they indicated the need to maintain authentic relationships at every level. These phenomena are confirmed through past research, and the current study extends the knowledge in these areas. Continuous collaboration and improvement are confirmed in the literature. For place-based learning to be successful within the field of NBL, collaboration is the central factor associated

with higher levels of PBEE practices (Duffin & Perry, 2018). Bradshaw (2018) highlighted the phenomenon of teachers and parents working in collaboration with each other to provide environmentally conscious learning experiences for young children. The current study extends the knowledge on collaboration by exploring program evolution, families as partners, and community collaboration.

Current participants noted ongoing needs for compliance and success. This theme is confirmed in the literature. Educational platforms and policies placed more emphasis on the importance of standardized core curriculum, state testing, and indoor learning (Baird et al., 2020; Louv, 2008) despite the known positive benefits of outdoor learning (Zamzow & Ernst, 2020). The current study extends previous research by providing insight into maintaining compliance, maintaining funding, and the importance of materials and resources. Leaders must maintain authentic relationships at every level. This finding is confirmed in previous research where the leaders as stakeholders with multiple roles were established (Hubbard & Datnow, 2020). The current study extends previous research by providing a detailed account of leaders' experiences as they maintain authentic relationships at every level. The categories further developed under this theme were the experience of the child, the employee's experience, human qualities, and the leader as a stakeholder. As teachers and leaders engaged in outdoor learning programs, they were responsible for the learning experiences of the children in their care, while balancing family expectations, regulatory agency requirements, and job duties (Gull et al., 2020; Lewis, 2018). Participant leaders in the current study provided data that

were analyzed to answer the two RQs. School leaders identified their experiences to fill the gap in knowledge regarding NBL in early childhood education.

Findings Related to Conceptual Framework

The concepts grounding this study and comprising the framework were ELT (Gencel et al., 2021), EST (Bronfenbrenner, 1979), and PBLT (Sobel & Johnson, 2004). I focused on the social constructs that supported and limited NBL programs that influenced the leaders' experiences of them (see Baird et al., 2020). The findings aligned with the conceptual framework for this study. These concepts framed the RQs because they influenced the leaders' experiences.

Experiential Learning Theory

ELT (D. A. Kolb, 1984) is based on concrete experiences in which individuals participate in reflective observation. This aligns with the current study through child experience in which the school leaders ensured children had inquiry-based and emergent learning experiences. The school leaders prioritized the children's experiences to support their learning, development, and nature connection. During interviews, school leaders explained the importance of children's experiences on 92 occasions. Evidence of children's experiences was also observed on 29 occasions and was present 169 times in archival documents. ELT aligned with leaders' experiences as they initiated and maintained NBL programs through the category of child experience. Another category that aligned with ELT was through employee experience in which school leaders encouraged reflective observations and practices. Employees were cocollaborators on daily operations, planning, implementing, and connecting with families.

Ecological Systems Theory

The current findings illustrate the importance of Bronfenbrenner's (1979) EST. In Bronfenbrenner's EST, five systems constitute an individual's environment. Bronfenbrenner identified the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The microsystem is the experience of the child; the mesosystem is composed of family, school, and community; the exosystem includes extended family and neighbors; and the macrosystem represents the ideologies of the culture. The chronosystem is the environmental and sociohistorical events that take place during a child's lifetime. In the current study, Bronfenbrenner's EST was evident in the microsystem, or the experience of the child. Evidence of the mesosystem was found in families as stakeholders and families as partners. The exosystem was evident through the learning spaces along with the employee experience. The chronosystem was evidenced through maintaining compliance with local policies and regulations, and through philosophical structures.

Place-Based Systems Theory

PBST was evidenced through the physical structures and the learning spaces. The learning spaces are the areas where children spend most of their time and include indoor areas, outdoor learning environments, nature trails, and natural wooded areas. PBST was evident in the observation of learning spaces and was noted 73 times during interviews. Observation of learning spaces confirmed the importance of physical structures such as learning spaces 414 times and was confirmed through document analysis on 20 occasions. The importance of PBST was found in recent research and was confirmed

through all data sources including interviews, observation of learning spaces, and analysis of archival documents in the current study.

Inquiry-Based Learning

The conceptual framework for this research is confirmed through the three theories: ELT, EST, and PBLT. However, there was one additional theory that influenced the leaders' experiences. The emergent theory was inquiry-based learning (IBL) on behalf of the school leaders, teachers, and children. All stakeholders engaged in inquiry, reflection, emergent approaches, and continuous evolution (see Dewey, 1938). An example of IBL can be found in the experience of the child who engaged in an emergent curriculum. The experience of the child was noted 267 times by school leaders, observed on 92 occasions, and found in documents 169 times. This additional theory was observed for all six learning sites. IBL focuses on asking questions, which contrasts with traditional education as a teacher-directed approach (Kinsey & Moore, 2015; Zudaire et al., 2022). In IBL, teaching occurs in response to children's interests to create meaningful learning experiences. Findings from the current study indicated that participants maintained authentic relationships at every level, including the children who participated in their programs.

Limitations of the Study

There were some limitations in the current study. The first limitation to trustworthiness was the disadvantage of an exploratory case study design. There were weaknesses related to dependability and limitations to transferability. A qualitative exploratory case study design presents advantages and disadvantages (Yin, 2016). Yin

(2016) explained that one of the key disadvantages or limitations is the absence of systematic processes because there are few methodological guidelines as a part of this approach. This lack of structure means that the researcher develops methodological considerations for grounding the research. In the current study, the weaknesses related to dependability were that I was the sole researcher and my perspective may have influenced what information was determined to be relevant in the research. As the sole researcher for this study, I reflected on the methodology for collecting, analyzing, and presenting the data. Additionally, I ensured alignment between the RQs and the literature reviewed, as articulated in Chapters 3 and 4.

The second limitation to trustworthiness is transferability. Transferability was the degree to which the results of the research could be generalized to other populations within a different context (Ravitch & Carl, 2021). The weaknesses related to transferability in this research may have been in the general location where the research took place. Since the study took place in the United States, there are local constraints that limit the transferability of data collected. Local policies influenced the leaders' experiences, however, in other areas of the country, international policies differ.

I took several reasonable measures to address the limitations of the current research by ensuring due diligence and taking exhaustive measures while planning, collecting, and analyzing data. Since a qualitative exploratory case study can lack structure, I ensured it was addressed by safeguarding the alignment of the RQs and literature review to develop a robust, organized, and systematic approach to the methodology. To address transferability in my research, I provided details describing the

context and assumptions of the research with full transparency in an organized and intentional manner.

To establish dependability in this research study, further research using the same methods in a similar context would be beneficial. A detailed description of the research methods ensured dependability in the current study. This concept informs the notion of research bias. Researcher bias is when the researcher either intentionally, or unintentionally influences the results of the research resulting in the manipulation of the outcome (Ravitch & Carl, 2021). The bias that could influence the study outcomes was that I had an affinity towards spending time outdoors in nature. To address research bias, I used an iterative coding technique. Additionally, I verified with more than one data source to limit research bias through document analysis, interviews, and observations of learning spaces. I also had the findings reviewed by my committee chair as well as the Walden University institutional review board. Another limitation to trustworthiness that was addressed in Chapter 1 addressing external validity or generalizability I used a qualitative, exploratory case study approach to ensure reliability in this research.

Recommendations

The results of this study detailed the experiences of school leaders as they initiated and maintained their NBL programs. During interviews participants provided 170 data points answering RQ1 and RQ2. Observation of learning spaces resulted in 1,810 data points and document analysis resulted in 689. Categories and themes emerged from the 3,869 data points, which were presented in the previous section. In this section, I will provide information on recommendations for future research. The first

recommendation is a thorough evaluation of leaders' experiences as they navigate policy and regulation of NBL, the inclusion of teacher and parent perspectives pertaining to leaders, and finally the role of emergent curriculum and inquiry-based learning on leaders' experiences**.**

Policy and Regulations: Licensing Requirements

It is important to note that every school leader remarked on the disconnect between licensing requirements, and the applicability of those regulations and policies to a NBL program. Leaders indicated the importance of licensing regulations overseeing the naturescapes and holding them to the same requirements as traditional school settings where natural materials were not a primary focus. For example, it was recognized by Participant P10,

> I think specifically for us being a family childcare program, there are a lot of licensing regulations that try to inhibit the type of environment that sometimes we want to implement. There are many things that we wanted to have, like bigger boulders and bigger tree trunks and a little bit more risk involved, but we weren't able to do it because of licensing and there are certain regulations we have to follow.

School leaders focused much of their attention on maintaining the program by ensuring they abided by the recommendations offered by their respective licensing analysts; however, those policies do not align with the philosophical structures of an NBL program.

The next steps for research should include studies on the inconsistencies between the policies and regulations, and the needs of NBL programs. Taking a detailed approach in assessing licensing requirements and those needed to successfully implement an NBL program. Through a robust analysis of Title 22, the regulations that apply to the Community Care Licensing Division in this state, research would feature how to better navigate current policy, and potentially provide additional resources and training to current and prospective NBL school leaders.

NBL Teacher and Parent Perspectives

Based on the findings of the current research, recommendations for further research that are grounded in the strengths and limitations of the current study are to investigate the experiences of teachers and parents as stakeholders in NBL programs. The perspectives of teachers and parents would provide additional confirmation or disconfirmation of the experiences leaders described. The additional perspectives would validate or neglect to validate the leaders' perceptions of their experiences and provide further confirmation of their statements. This study explored the experiences of NBL leaders as they initiated and maintained their programs. Teachers and families were not invited to communicate their experiences of leaders as they initiated and maintained their programs. Their perspective could provide further information on how to better support school leaders.

Emergent Curriculum and Inquiry-Based Learning

Recommendations for further research that are grounded in the literature reviewed are to explore emergent curriculum and inquiry-based learning as central to NBL.

Literature supports and confirms inquiry-based learning and emergent curriculum as central philosophies and phenomena that inform the experiences of the children, teachers, families, and school leaders within the NBL paradigm (Zudaire et al., 2022). Further research within these theories would provide more insight into the leader's experiences and create a better understanding of how to better support them.

Implications

The findings of the current study indicated the experiences of leaders as they initiate and maintain the NBL program. Although these findings are not always generalizable to other populations, the implications of this study may inform quality improvement or social change. In this section, I include implications for social change at the school, individual, and community levels. I also discuss methodological, theoretical, and empirical implications. I conclude with an overview of considerations for professional practice.

Social Change

Organizational: School Level

The potential impact for positive social change at the level of the school leader Is to provide them with information on best practices, resources, and support. With information on best practices for initiating and maintaining their programs, school leaders can make informed decisions and implement strategies and techniques to better support their NBL program. The difference this study makes to professional practice is through supporting current and prospective NBL leaders in their ability to navigate, facilitate, and maintain quality NBL programs. This research will bring about positive social change by

providing support for nature-based program leaders. It has the potential to encourage current leaders to improve their programs and inspire prospective leaders to take on the important task of innovating NBL. With better understanding and support, more nature-based programs will become available. This will provide parents and families with more options for early childhood programs to send their children.

Individual: Parents and Children

The impact of positive social change for parents is that they have more options to support their children through NBL programs as they become more available. Children will experience a positive social impact by having more opportunities to thrive within a nontraditional learning setting and a supportive environment to increase their natural connection. Children will have more opportunities available to them to obtain the benefits provided through NBL.

Societal or Community

The findings are significant because they fill a gap in the literature explaining leaders' experiences while they run their programs. The social implications of this study may provide local stakeholders with key information about NBL and potentially influence local policy and regulations to better meet the needs of these programs.

Methodological

The methodological implications for future research are to expand the research to a broader community, across the country, and potentially internationally. Since this research was an exploratory case study that took place in the United States, the data collected are limited to the local community. With information gathered across the

county, and internationally, a more robust understanding of NBL leader experiences as they initiate and maintain their programs is possible. This information has the potential to accelerate a paradigm shift in the United States from a standardized teacher-focused learning experience, to a partnership with families and students to better meet their learning and childcare needs.

Theoretical

The theoretical implication of this research is that with a culture of collaboration and authentic relationships with all stakeholders, NBL is feasible. Through a focus on the experience of the child in which children are key contributors to their learning experiences, school leaders empower and include them as valued. Employees become partners and engage in reflective practice to not only have ownership of their experience in NBL but also contribute to the success and meaningfulness of the program. As employees are engaged in collaboration with each other, decision-making at the school level, and meaningful collaborative relationships with families, they also contribute to the school leaders' experience and the overall success of the NBL program.

Another important theoretical implication that surfaced during this research was the human qualities of compassion, kindness, honesty, and transparency in all aspects of the leaders' interactions with stakeholders. These human qualities contribute to and inform the success of an NBL program, and the commitment school leaders must nurture authentic relationships is strengthened. In all areas of initiating and maintaining an NBL program, the school leader is the primary stakeholder. They consistently navigate shifting priorities and take on several roles on-site. The theoretical implication of this

phenomenon is that leaders have too much at stake, and more support is needed from outside resources such as state policy and regulatory agencies. They need support and a platform through which to express their needs as a NBL leader. Without this open line of communication with policymakers and enforcers, NBL leaders will inevitably experience burnout, and the opportunities for continued NBL success will diminish options for NBL programs.

Empirical

The empirical implication of the current research is that with evidence of the school leaders' experience, knowledge can lead to long-term change in policy and regulations, develop and strengthen support for school leaders, and increase opportunities for children and families to join quality NBL programs. With information on best practices of school leaders who have experience initiating and maintaining programs, information to integrate these practices into current programs is now accessible. Implications for this topic are that more research is needed to better support NBL leaders.

Conclusion

NBL leaders have shared experiences as they initiate and maintain NBL programs. Those experiences center around what is in the best interest of the environment, children, families, teachers, and their local and global communities. There is a large amount of responsibility placed upon the shoulders of NBL leaders, with little support from local policies and the community. Rather than working in collaboration with regulatory agencies, school leaders are required to operate despite the limitations placed upon their program. These constraints limit their ability to truly operate NBL

programs with fidelity, for fear of repercussions from regulatory agencies. This in conjunction with the emphasis placed upon traditional preschool settings with teacher-delivered content, requires a paradigm shift to a child-centered approach. While NBL has proven positive benefits for children, school leaders are limited in ways in which to successfully facilitate their programs. What school leaders have done in response to these limitations, is focus on the human qualities they possess to nurture meaningful relationships, to do what is in the best interest of all stakeholders in their program. In this respect, NBL leaders are true innovators. Innovative leadership was evident at all of the locations and through the interactions with school leaders. These school leaders were purpose-driven, to improve upon the quality of the environment, the lives of the children in their care, and their community.

This study examined school leaders' experiences as they initiated and maintained their programs, and it is evident through this qualitative exploratory case study, that leaders have the skill set to inspire current and prospective leaders in innovating their own. With the understanding that more support is needed for these leaders, change can authentically take place. This research has provided a platform for leaders to share their experiences and open a line of communication and networking with other NBL leaders. Their experiences are shared, and with these shared experiences momentum and information are gained towards developing NBL, not only in the United States, but at a national and global level.

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Appendix A: General Observation Template

Observation of Learning Spaces

Informed by recommendations of observational fieldnotes as outlined by Ravitch and Carl (2021) and Walden University Methodology Department

OBSERVATION PROTOCOL

Setting: _____

Observation #: _____

Observer Involvement: _____

Date/Time: _____

Place: _____

Duration of Observation (start/end times): _____

The Background:

Physical setting (Describe in thick rich detail what it looks like, sounds like, and any other details).

- Outdoor Spaces
- Indoor Spaces
- Equipment Present
- How is the space used?
- What does it look like?
- What does it feel like?
- What does it sound like?
- Evidence of the macrosystem?

Time:	Observation:	Code:

Themes: _____

Appendix B: Interview Protocol and Guide

Template for Interview Protocol

Date	**Time**	**Interviewee Code #**	**Location of Interview**

Introductory script:

Thank you so much for being willing to participate in an interview for my doctoral study. As I have mentioned, the purpose of my study is to explore the experiences of NBL leaders as they initiate and maintain their programs. I wanted you to know that I have a specific definition of a NBL leader, which is a member of leadership who has spent at least a year facilitating an NBL program. As you answer my questions today, please keep this definition in mind.

I will be audio recording our interview today so that I may make a transcript so that I can be sure to have an accurate record of what you shared with me today.

Before we get started do you have any questions?

[START RECORDING]

Background/Introductory Question

At the time you consented to participate in this study, you also answered some demographic and introductory questions. I'd like to spend a few minutes having you expand on these a bit more.

- How long have you led the NBL program you currently work at?

- How long have you worked in the field of NBL in Early Childhood Education?
- What is your position and role at your current NBL program?

Table of Interview Questions:

Transition Statement*: My first group of questions relates to what are the experiences of ECLs when initiating NBL programs in the United States.*

RQ, Interview Question (IQ) & Framework Alignment		
IQ	**Framework Addressed**	**Notes**
IQ 1: How did your program begin? Where were you part of beginning it and what was your role?	ELT	
Prompts: I heard you say….		
IQ 2: Give details about your experience with the families as you began your program.	Bronfenbrenner's EST: Microsystem	
Prompts: Can you expand upon…..		
IQ 3: Explain your experience with your staff as you started your program.	Bronfenbrenner's EST: Mesosystem	
Prompts: What I understand is…… If you didn't start the program, what knowledge do you have about it?		
IQ 4: Please share your experience navigating policies and regulations as you began your program.	Innovative Leadership Theory	

	Bronfenbrenner's EST: Macrosystem	
Prompts: Can you elaborate upon……		

Transition Statement*: Now that you've shared your experiences when initiating your program, I like to move to questions related more to what are your experiences as you maintain your NBL program?*

RQ, Interview Question (IQ) & Framework Alignment		
IQ	**Framework Addressed**	**My Notes**
IQ 1: Please Share some of the ways you maintain your program. (Keep your program going?)	Innovative Leadership	
Prompts: I heard you say….		
IQ 2: Please Describe your experience with families as you maintain your programs.	ELT	
Prompts: Can you expand upon…..		
IQ 3: Please Explain your experience with your staff as you maintain your program.	Bronfenbrenner's EST: Exosystem	
Prompts: What I understand is that……		
IQ 4: Please Discuss your experiences with policies and regulatory agencies as you maintain your program.	PBLT	

Prompts: Can you elaborate upon……		

Final IQ.

Is there anything else about initiating and maintaining a NBL program that we have not yet had a chance to discuss?

Closing Script: *Thank you so much for your time today. I do appreciate you sharing your thoughts with me.*

Do you have any questions for me?

You have my email in case you have any questions, and I will send you the initial findings for you to confirm.

Thank you for your time. Goodbye.

Concluding Statement

At this time, I will get in touch with you through e-mail to provide you with an opportunity to review my initial findings from your interview. Then, you will have adequate time to provide me with feedback if there is anything you would like to change to better reflect your position on these questions. I will share the results of the data collected once I analyze the findings and organize them in the study. Again, all of your identifiable information will be kept confidential, and your answers will be secured. If you have any questions or concerns, please feel free to reach me.

Appendix C: Document Analysis Template

Archival Data Review

Participant:

Location:

Date:

Ask participants to share relevant documents which focus on their experience as a leader of a NBL program specific to the following criteria:

- Daily responsibilities and operations
- Areas of perceived success or strengths
- Aras of perceived need or further development
- Interactions/ Relationships with parents
- Interactions/ Relationships with Teachers

Documents may include:

- Mission and vision statements
- Articles or papers
- Meeting Minutes
- Employee Handbook
- Parent Handbook
- Professional development logs, goals, and certificates
- Professional reflections

Appendix D: Summary and Alignment of RQs, Themes, and Coding

RQ1: ECL experiences with instituting NBL programs.

1. Theme 1: ELCs prioritize both physical & philosophical structures to initiate NBL programs.
2. Theme 2: ELCs noted substantial risks & challenges to initiate NBL programs.
3. Theme 3: ELCs served as catalysts for leading NBL programs.

Theme	Coding category	*n* of data source		
		I	O	D
1	Physical structures: Learning spaces	414	73	20
1	Philosophical structures: Philosophy & vision	50	205	91
2	Initial policy & regulation	47	98	31
2	Leader risk	0	15	0
2	Funding	0	7	1
3	Initial training: PD	0	6	3
3	Families as stakeholders	9	58	31
RQ Total		520	462	177

RQ2: ECL experiences with maintaining NBL programs.

4. Theme 4: ELCs believed continuous collaboration & improvement are key to NBL program success.
5. Theme 5: ELCs noted ongoing needs for compliance & success.
6. Theme 6: ELCs must maintain authentic relationships at every level.

Theme	Coding Category	*n* of Data source		
		I	O	D
4	Program evolution	13	210	20
4	Families as partners	3	112	63
4	Community collaboration	7	52	20
5	Maintaining compliance with policy and regulations	115	114	120
5	Maintaining funding	7	11	34
5	Materials & resources	1040	24	18
6	Child experience	92	29	169
6	Employee experience	13	267	42
6	Human qualities	0	38	17
6	Leader as stakeholder	0	30	0
RQ Total		1290	887	503
Overall Total: RQ1 + RQ2		1810	1349	780

Note: I = interviews; O = observations; D = document analysis