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Supporting Multimodal Literacies in Early Learning Settings: A Case Study of Two Child Care Centres in Alberta

Fischer, Rhonda

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Supporting Multimodal Literacies in Early Learning Settings: A Case Study of Two Child Care
Centres in Alberta

by

Rhonda Fischer

A THESIS

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Abstract

In early learning settings, multiple modes of communication are used to help young children convey meaning. These modes, or multimodal literacies, include signs, images, gestures, sounds, speech, movements, and actions. In this doctoral research, I explored how early learning and childcare educators support multimodal literacies in young children. Using a multiple case study, I utilized video walk-throughs of eight different educator playrooms, interviews with early childhood educators, and pedagogical documentation collected from educators to further my understanding of how multimodal literacies are supported in early childhood settings. The findings of this study revealed that educators conceptualize multimodal literacies differently; however, they include agency, embodiments, intentionality, and play as key aspects of children's multimodal literacies. Conceptualization and understanding of the multiliteracies pedagogy are also examined. The findings also showed that educators of young children use multiple strategies to support multimodal literacies including pedagogical documentation, responsive environments and a co-inquiry model of noticing, naming, and nurturing. Lastly, my findings reveal that educator participation and finding a balance between supporting play and ideas and following children's lead in play is critical in supporting multimodal literacies.

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Dedication

This dissertation is dedicated to the educators who participated in my study. My appreciation for your willingness to sharing your playrooms, insights, and knowledge with me cannot be measured. Without your enthusiasm to share your ideas, expertise, and experiences with me, this study would not have been possible.

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Chapter 1: Introduction to the Study

Over the years, as I have observed children in play, the multiple ways they express themselves and communicate their ideas have repeatedly resonated with me. An example from a recent observation of a three-year-old child engaged in solitary block play illustrates these multiple modes of expression. As Sophie (pseudonym) built a block structure, she started to hum to the tune of “Happy Birthday.” Sophie then stacked some smaller blocks on top of the larger structure. She repeated the words “Candle stick, candle stick.” I was surprised by this vocabulary choice, and I wondered if she was depicting a cake with her blocks. I also wondered if Sophie was repeating words and literacy practices from her family. Maybe she was doing a mash-up or her own reworking of the nursery rhyme “The Butcher, the Baker, the Candle Stick Maker.” She continued to build the block structure taller and taller, until the blocks tumbled to the ground. Immediately afterwards, Sophie tumbled to the ground, rolled over twice, and repeated the phrase “all fall down.” I noticed how she was connecting the blocks to her full-body movements and to a popular nursery rhyme. As I observed Sophie, I was fascinated by the ideas she enacted and embodied through block play. I was curious and I wanted to know more about Sophie’s multiple modes of expression and their connection to literacy learning.

This chapter includes an overview of the context of the study, including my background as a researcher and what led to the study topic. I also include the research problem and research questions. I conclude the chapter by discussing my theoretical framework and researcher positionality, which guide my work as a researcher.

Context of the Study

I have been an instructor at the postsecondary level for over twenty years, supporting students to become early learning and childcare educators. Part of my role and the courses I have taught focus on language and language development. I have always been both passionate and interested in supporting children's language development and finding ways to ensure my students are equipped to support children in their language development. I was first introduced to *Flight: Alberta's Early Learning and Care Framework* (Makovichuk et al., 2014) in 2015. The authors discuss multimodal literacies and include multimodal literacies as a holistic goal for young children. While I had heard of multimodal literacies, I was uncertain what they were, and I was unaware of how best to support children's multimodal literacies. When I enrolled in my doctoral program, we began studying multimodal literacies in my classes. I was first exposed to the New London Group (1996), Kress (1997), and Jewitt (2005), along with other theorists who discussed multimodal literacies and children's meaning making. My background knowledge and my new learnings from my courses led me to wonder more about multimodal literacies and how I could help educators develop their own understanding of multimodal literacies. I also pondered how educators could best support multimodal literacies in young children.

Multimodal literacies are a component of the multiliteracies pedagogies proposed by the New London Group (1996). Within the multiliteracies pedagogy are two areas the New London Group focuses on: multilingualism focusing on the need for more diverse, global literacies and multimodality concentrating on multiple modes of expression (Jewitt, 2008). In my study, I focus primarily on the multimodal aspect of the multiliteracies pedagogy, which the New London Group defines as multimodal literacies or various modes of meaning, including "linguistic, visual, audio, gestural and spatial" (p. 78). The New London Group elaborates on these modes

and stresses that multimodal literacy is the “relationship among modes” (p. 80) and that “all meaning-making is multimodal” (p. 81). The rationale for the shift from a print-based view of literacies to a broader multimodal viewpoint is the recognition of the dynamic way in which we use literacy and convey meaning. Kress (1997), who was a member of the New London Group, echoed the concept that “messages are always multimodal” (p. 9). He defined these modes as images, gestures, and actions, and emphasized gestures and actions to highlight the active use of these modes. Kress also stated that children will use the sign or mode that “best suggest[s] or carr[ies] the meanings which they intend to make” (p. 11). Jewitt (2005) theorizes that “multimodality attends to meaning as it is made through the situated configurations across image, gesture, gaze, body posture, sound, writing, music, speech, and so on” (p. 247).

In early learning settings, the idea of multimodal literacies has also been explored. For example, the Reggio Emilia philosophy has explored multimodal literacies in reference to “the hundred languages of children” (Malaguzzi, 1981). Rinaldi (2006) states that “all languages” (p. 175) of expression and communication are essential and all languages of expression must be equally valued (Rinaldi, 2006).

When children play, they employ multiple modes of communication simultaneously. While engaged in play, children are not “guided by someone else’s experiences” (Friedman, 2011, p. 97). Rather, they are free to decide the play’s direction and what ideas they wish to express and explore (Stacey, 2009). Fromberg (2002) defines play as “voluntary, meaningful, symbolic, rule-governed, pleasurable, and episodic” (pp. 10–12). Roessingh and Bence (2018) discuss the common threads of play as “pleasure or amusement, simple, sheer joy, and play as its own reward or self-reinforcing” (p. 29). Play is “vital and fundamental” (International Play Association, 2016, p. 2) to children and therefore guides my research. Moreover, the connection

between play, multimodal literacies, and the strategies educators use to support multimodal literacies is paramount in my research study.

The importance of multimodal expression has been examined in many studies with young children in early childhood settings (Bezaire, 2009; Haggerty, 2010; Thiel, 2015) and within elementary school settings (Lenters, 2016 a, 2018; Wohlwend, 2008). These studies have shown the multiple ways children express their ideas and meaning making. While these studies examine children and their use of multimodal literacies, little research has been done on the early childhood educator's strategies to support multimodal literacies. Therefore, this study seeks to understand the strategies early childhood educators utilize to support multimodal literacies in young children.

Research Problem

Research has indicated the importance of early childhood educators recognizing children's multimodal literacies in early learning settings (Kress, 2010). However, little research exists to help us understand the range of strategies educators who work with young children utilize to support their multimodal literacies.

Purpose

The purpose of this study was to understand how educators support young children's literacy learning in the context of an early learning classroom. The study examined the various strategies early childhood educators use to support multimodal literacies.

Overarching Research Question

In this case study, I asked: How do early learning and childcare educators in Alberta support the development of young children's multimodal literacies?

Sub-Questions

These additional research questions helped guide my study:

1. How do educators conceptualize and define multimodal literacies?
2. What strategies and pedagogies are educators using to support children's multimodal literacies?

Theoretical Framework

My work was grounded in constructivist theories, through which I aimed to capture the experiences of early childhood educators. Lincoln, Lynham, and Guba (2018) explain that “we construct knowledge through our lived experiences and through our interaction with other members of society” (p. 115). Holding this view, I co-constructed knowledge alongside the early learning educators in my research. As a researcher, I did not believe I held the truth or the answers, but that I learned alongside others. At the same time, I recognized that “different people may construct meaning in different ways” (Crotty, 1998, p. 9). I was drawn to understanding early childhood educators’ voices and ensuring these voices were obvious in my research. A social constructivist paradigm emphasizes that “the basic generation of meaning is always social” (Crotty, 1998, p. 55). Social constructivists attempt to “gain increased knowledge regarding their study and subjects by interpreting how the subjects perceive and interact within a social context” (Lincoln et al., 2018, p. 124). In keeping with a constructivist paradigm, I attempted to understand “multiple perspectives of the same data” (Lincoln et al., 2018, p. 128). For my case study research, I used multiple perspectives to understand the strategies educators used to support children’s multimodal literacies.

The Researcher

After completing my master of education degree in 2001, I began teaching early learning and childcare and educational assistant courses at the postsecondary level. In my role as an instructor, I have focused on supporting children's language and literacy development, and I am interested in play and the Reggio Emilia philosophy. I am also a university field placement coordinator, supporting early learning students exploring communication and relationships, play and curriculum, and professional practice. In this role, I noticed the connection between children's play, their multimodal literacies, and how pedagogical documentation and observations support multimodal literacies. These experiences have contributed to my growing passion and interest in exploring multimodal literacies and play in young children.

Researcher Positionality

As a researcher, I was guided by certain assumptions, positions, and beliefs. I position myself as a social constructivist wherein I believe meaning is constructed by the individual based on their culture and experiences. My second belief is the importance and value of play. In early learning centres, time for free, uninterrupted play is critical (Friedman, 2011; Hewes, 2006; International Play Association, 2016; Makovichuk et al., 2014). Play provides children with the opportunity to use language and multimodal literacies in a natural way. The third assumption is children's agency and choices in early learning settings. My belief is that play, and the use of multimodal literacies, should be child directed, whereby children have agency in the direction of play (Gandini, 2011; Thiel, 2015; Wohlwend, 2008). The next belief that guides my research is children's multiple modes of expression. I define multimodal literacies as children's use of various signs, images, gestures, sounds, speech, movements, and actions to convey meaning (Jewitt, 2008; Kress, 1997; Makovichuk et al., 2014; New London Group, 1996;

Rinaldi, 2006). In my research, I considered all these multiple modes of expression. I also follow many Reggio Emilia philosophies and I hold an image of the child as a strong, capable, citizen (Makovichuk et al., 2014; Malaguzzi, 1994). Having a strong image of the child means that I see children in a positive light. I see their capabilities and abilities to use multimodal literacies to express their ideas. My final assumption is the value and importance of trained professional early childhood educators working in early learning centres. Having education and training enables educators to reflect on their practice and to use their knowledge of children for observation and documentation (Pacini-Ketchabaw, Nxumalo et al., 2015; Stacey, 2015).

Definition of Terms

Funds of Knowledge: “Familial or cultural knowledge, skills and resources essential for functioning and well-being” (Moll, et al., 1992, p. 133).

Level 3: Certification level from Alberta Child Services. Holder of this credential has a minimum of two years of education from a postsecondary institution.

Level 2: Certification level from Alberta Child Services. Holder of this credential has a minimum of one year of education from a postsecondary institution.

Literacy: The multiple ways we make meaning and communicate as a social practice (Larson & Marsh, 2015).

Materiality: The connectedness and intra-actions between people and materials (Lenz Taguchi, 2010). The theory that people impact or act on materials and those materials also impact people (Pacini-Ketchabaw, Kind, & Kocher, 2016).

Multiliteracies Pedagogy: From the New London Group (1996). Offers a new way to look at literacies, including cultural and linguistic diversity and multiple forms of representation or multimodal literacies (Jewitt, 2008).

Multimodal Literacy: Children’s use of various signs, images, gestures, sounds, speech, movements, and actions to convey meaning.

Pedagogical Documentation: A visual presentation created by educators that includes photographs, work samples, and text or learning stories to highlight children’s play and learning (Stacey, 2015).

Play: Fromberg (2002) defines play as “voluntary, meaningful, symbolic, rule-governed, pleasurable, and episodic” (pp. 10–12).

Rhizome Theory: A metaphor of a root or bulb that describes an interconnecting, multilayered system. This system is ever-changing, multifaceted. and never ending (Deleuze & Guattari 1987).

Chapter 2: Literature Review Resulting Conceptual Framework

In early learning settings, multiple modes of communication are used to help young children make meaning. Some examples include the typical modes of reading, writing, speaking and listening and the use of gestures, visuals, touch, and the use of technology. The New London Group (1996) in their multiliteracies pedagogy coin the term multimodal literacies to recognize the need for a conceptualization of literacies that encompassed more than reading and writing. I look at literacy and the multiliteracies pedagogy further. I also explore these definitions and subsequent concepts of multimodal literacies that have been proposed since 1996. I will examine intentionality, and agency, and multimodal literacies as embodied literacies. Likewise, some of the numerous studies on play and play as a multimodal literacy will be explored. Lastly, strategies to support multimodal literacies, including the co-inquiry model, pedagogical documentation, and responsive environments, will be examined. I conclude this chapter by outlining my conceptual framework.

Much research exists on multimodality and literacy in school settings; however, I will intentionally focus on early childhood, particularly children from infancy to six years of age, for several reasons. During early childhood, children are rapidly developing their language and literacy skills, and they use various modes, including play, to construct their understanding of the world around them. In early learning settings, children are exploring materials and interacting with others to communicate ideas. The child employs multimodal literacies as they share ideas and explore materials. These concepts of literacies and multiliteracies will be explored further throughout this chapter.

Literacy

Many definitions of literacy exist, many of which depend on the theoretical frame of the theorist. I focus on the definitions that most closely align with my social constructivist ontology. Larson and Marsh (2015) define literacy as “the ability to decode, encode, and make meanings using written texts and symbols” (p. 5). To this definition they add: “the multiple ways which we make meaning,” “the importance of modes other than words” (p. 5) and the idea of “literacy as a social practice” (p. 7). Beaty and Pratt (2011) define literacy as a “process of *meaning-making*” (p. 4, italics in original). They elaborate that typically this means reading and writing; however, in early learning settings, literacy may also include how “children make sense of their world through playful exploration” (p. 4). Gee (2015) also defines literacy in “social and cultural terms” (p. 31) or as a “social practice” that has no meaning without the “cultural context” (p. 91). Finally, in her definition, Cook-Gumperz (2006) defines literacy as “both a set of practices for understanding the world around us, in which written and spoken language form a continuum, and a set of statements about the values or necessity of these activities” (p. 3). Cook-Gumperz goes on to state that “literacy is inseparable from the historical context” (p. 21). In all these definitions and descriptions, three key ideas stand out. The first is the idea of literacy as meaning making or making sense of the world around us. Second is the importance of the cultural context. Literacy is how culture is transmitted and how children come to understand their own culture. Third, the social aspect of literacy is key. Literacy is about conveying and understanding the ideas of others.

In their work, Raban and Scull (2013) are critical of a sociocultural lens of literacy and state, “Within this sociocultural view, literacy practices are larger than acts of print-based reading and writing” (p. 101). The authors go on to argue that “the integration of social and

cognitive views of literacy represents the developing concept of early literacy that should be prevalent in preschools” (p. 102). Raban and Scull advocate for the integration of a cognitive approach to literacy that focuses on print-based skills that need to be developed alongside of this sociocultural use of language. These language theorists suggest:

Early childhood educators need to understand the different forms literacy takes in the life experiences of the children they work with; they need to have a clear understanding of the principles of early learning as they build conceptual frameworks for understanding later formal literacy instruction. (p. 102)

A clear understanding of the development of literacies skills is missing from the sociocultural perspective. In their multiliteracies pedagogy, the New London Group (1996) expands on notions of literacy, particularly a more sociocultural approach to literacy, which I discuss next.

Multiliteracies

In recent years, there has been a shift from a text-based definition of literacy to a much broader definition. The New London Group (1996), in their multiliteracies pedagogy, uses the term *multiliteracies* “to focus on the realities of increasing local diversity and global connectedness” (p. 65). Multiliteracies conveys the “multiple modes of representation” (p. 64). The primarily text-based definition used before 1996 does not address the multiple and diverse ways people make meaning or use technology and does not serve students’ literacy learning for the future. The two variations in communication highlighted by the New London Group are cultural and linguistic diversity, or multilingualism, and multiple forms of representation, or multimodal literacies (Jewitt, 2008). Takeuchi (2015) summarizes these differences as “contexts of culturally and linguistically diverse societies in which students bring multiple national languages into the classroom and a multiplicity of communication channels and media” (p. 164). Both multilingualism and multimodal literacies are key components of today’s literacy learning.

Multimodal literacies, which is the focus of my research, involve making meaning through various modes or means.

Multimodal Literacies

The New London Group (1996) identified five design elements or modes of meaning—linguistic, visual, audio, gestural, and spatial—and the way these modes are connected for communication (p. 7). The researchers suggested that there was not just one set of language skills and that in a “profound sense all meaning making is multimodal” (p. 81). One member of the New London Group, Gunther Kress, defined slightly different modes of communication as images, gestures, and action. Kress (1997) suggested different modes to indicate the dynamic nature of children’s communication. Kress also stated that children will use the sign or mode that best suggests or carries the meanings they intend (p. 11). A decade later, Jewitt (2008) expanded these definitions, stating:

Multimodality attends to meaning as it is made through the situated configurations across image, gesture, gaze, body posture, sound, writing, music, speech, and so on. From a multimodal perspective, image, action, and so forth are referred to as *modes*, as organized sets of semiotic resources for meaning making. (p. 247, italics in original)

Jewitt added to both the New London Group’s and Kress’s definition to include different modes of expression.

Newer research on multimodality has questioned the notion of representation and multimodal literacies. As Lenters (2016a) states, “a rational and representational view of multimodal literacy . . . sees an autonomous subject at the center of the literate activity, acting as an agent of meaning-making, applying fixed meanings or interpretations to objects and symbols in that meaning-making” (p. 283).

Using representation to describe multimodal literacies is limiting since it positions the user at the centre of the meaning making and limits interpretation to the user alone. These meanings become fixed rather than open to perspectives and multiple meanings. Leander and Boldt (2013) propose a “nonrepresentational” (p. 26) description of multimodal literacies as they theorize that “literacy activity as not projected toward some textual end point, but as living its life in the ongoing present, forming relations and connections across signs, objects, and bodies in often unexpected ways” (p. 26). Rather than multimodal literacies as a representation of ideas, Leander and Boldt describe “moment-by-moment unfoldings” (p. 33). The ideas proposed by Lenters and Leander and Boldt point towards a more sociomaterial perspective of multimodal literacies. I explore these definitions further in sections on embodied literacy and intentionality in multimodal literacies.

Flewitt (2013) defines multimodal literacies as “the many different modes in printed and on-screen texts (such as image, layout, colour, sound, and language) and also the different modes that people use as they engage in face-to-face interaction (such as gesture, gaze, movement, artefacts, and language)” (p. 296). It is important to note that Flewitt is not referring to digital literacies alone but also face-to-face literacies as well. Some theorists have noted that multimodal literacies do not equal digital literacies but may encompass other modes such as gesture, embodiments, movement, and sound (Bezaire, 2009; Roswell et al., 2008). As Bezaire (2009) suggests, “while multiliteracies theory is often associated with electronic and digital modes of communication, many types of ‘literacy variation’ are considered within multiliteracies discourse” (p. 38). With so many modes of communication, multimodal literacies are commonly used by children in early learning settings to express ideas, which I will describe next.

Multimodal Literacies in Early Learning Settings

The Reggio Emilia approach to learning provides an example of multimodal literacies in early learning settings and recognizes the multiple ways children express themselves. As children are viewed as capable citizens from a Reggio Emilia perspective (Gandini, 2011), it is recognized that they can communicate in multiple ways. This idea of multiple modes of expression is described as “the hundred languages of children” (Malaguzzi, 1981). Rinaldi (2006) describes the hundred languages as a “strategy for the construction of concepts and the consolidation of understanding” and as “a declaration of the equal dignity and importance of *all* languages, not only writing, reading and counting” (p. 175, italics in original). The concept of the hundred languages represents the importance of multiple modes of expression and communication.

While researchers (e.g., Jewitt, 2008; Kress, 1997; New London Group, 1996; Rinaldi, 2006) may postulate slightly different notions of the concept of modes, the key is that children make meaning using the multiple modes of learning and communicating that are available to them. These definitions and explanations of multimodal literacies have both differences and commonalities. All the definitions involve children making meaning through various means of expression. The definition I use to define multimodal literacies is children’s use of various signs, images, gestures, sounds, speech, movements, and actions to convey meaning. Next, I explore the concept of intentionality in these forms of expression.

Intentionality in Multimodal Literacies

In this section, I explore two different perspectives on children’s intentionality. In their multiliteracies pedagogy, the New London Group (1996) proposed the need for a broader definition of literacies that encompassed multimodality and multilingual expression. Previously,

these researchers had suggested the idea of design, including “available designs, designing, and the redesigned” (1994, p. 74). They described this designing as an “active and dynamic process” (p. 74), which suggests intentionality. According to them, through the “iterative nature of meaning making drawing on the Available Designs to create patterns of meaning that are more or less predictable in their contexts” (p. 76). Again, this suggests the child is deliberately using literacy. As children use multimodal literacies to create meaning, there is an active yet intentional quality to their engagement. Other theorists have also described this intentionality. Children are active participants in multimodal literacies as they create new modes and “existing modes are transformed” (Jewitt, 2008, p. 247). However, a contradictory argument is that the child may not always make deliberate choices about the signs they employ or the message they are trying to communicate, but these may occur naturally as the child communicates.

One major criticism of the multiliteracies pedagogy (New London Group, 1996) is that it does not account for the “spontaneous and improvisational, and a moment-by-moment unfolding” (Leander & Boldt, 2013, p. 29). Leander and Boldt (2013) argue that children often are not concerned with the mode; instead, they are just in the moment and are unintentional or uncertain of what will happen. For them, children are “not designing toward anything but are simply becoming” (p. 36). Other theorists comment on the unexpected and unpredictable ways in which children communicate and learn. For example, some researchers use Deleuze and Guattari’s (1987) rhizome theory as a response to concerns about intentionality (Kuby et al., 2016; Leander & Boldt, 2013; Lenters, 2016a, 2016b), comparing communication to the unpredictable, multifaceted growth of a rhizome. An example of the unforeseen and unintentional ways children use literacy is discussed in Kuby et al. (2016). The researchers note “surprising and unexpected intra-actions with materials, other people, modes, time, space,

language, and bodies” (p. 398). Kuby et al. also observed that children in their research “did not always have an end goal” (p. 397). This speaks to the difference between the New London Group’s (1996) intentional design and a more unintentional approach. In Kuby et al.’s study, the children’s ideas were constantly changing and evolving as the children used various modes to express their ideas. Children live in the moment; many times, they are engaged in exploration without forethought or preplanning. Children’s literacies are often about the process, the being, or the doing rather than an intentional literary product.

Various researchers have explored and contested the concept of intentionality in multimodal literacies. There is discussion over whether children use multimodal literacies deliberately and intentionally or spontaneously and naturally as they express their ideas and communicate with others. The notion of agency in the use of multimodal literacies is closely related to intentionality, as I explore in the next section.

Agency in Multimodal Literacies

Agency is defined by (Makovichuk et al., 2014) as having control and choices of one’s own learning and exploration. While using multimodal literacies, children are active participants, and they choose to represent ideas that are of interest to them in their visual representations (Kress & van Leeuwen, 2006, p. 8). At the same time, the child decides the purposeful, “most plausible, most apt form” (p. 8) through which to communicate their ideas. Much of the research describes the concept of agency and choice in play (Bezaire, 2009; Binder, 2014; Thiel, 2015; Wohlwend, 2008). As children engage in play, they are purposely selecting the ideas they want to express (Binder, 2014) and what is “real, meaningful and relevant” to them (Bezaire, 2009, p. 63). Wohlwend’s (2008) research found comparable findings; she notes that when children are afforded agency in multimodal literacy and play, they “are freer to invent their own signs with

whatever materials, modes, and semiotic systems (including play) are suited to the immediate purpose” (p. 128). Agency allows children to choose what ideas they wish to express and how they wish to express their ideas. Agency is in the hands of the child rather than controlled by an adult. Children demonstrate their power of choice as they actively engage in popular culture, such as superhero play (Thiel, 2015). During play and literacy moments, the child is fully engaged and designing their own play. During these moments of engagement and agency, a child is making multimodal literacy decisions.

Agency in play and multimodal literacies is a significant concept. Agency gives children the power to make their own choices, control play, and determine which ideas they wish to express. The children become agents and directors of their use of literacy. Agency directly relates to the children’s embodied literacy, which is described in the next section.

Embodied Literacies

While children are playing and using multimodal literacies, their whole body may take on meaning as they become another, such as a superhero, an animal, or a favourite character from books or media. At other times they may try out ideas, such as the idea of blocks becoming a cake with candles, as demonstrated by Sophie in my introductory narrative. Many researchers explore the concept of multimodal literacies as embodied literacies (e.g., Binder, 2014; Leander & Boldt, 2013; Lenters, 2018; Thiel, 2015). Lenters (2018) notes the “embodied sense making” (p. 643) that occurs as children engage with print and text. She also identifies “embodied experiences with that text—responses of the whole body, not just the mind” (p. 646). This connection to meaning making and multimodal literacies may become “a visceral, preconscious response of the body (individual and collective)” (p. 648).

Embodiments may occur in oral storytelling, play, and drawing of the story. Binder (2014) observed this embodiment in her research as the children were “moving in and with the story” (p. 19). Leander and Boldt (2013) propose the idea that children are “simply becoming” in their research on a child and his play with Japanese Magna cards. The child’s play and literacies evolve as the child becomes part of the play. Embodiments may occur during children’s ordinary play moments. “Entanglements and embodiments” have been observed by other researchers as children engaged in play and created multimodal projects. Moreover, Kuby et al. (2016) refer to “in-between or entangled becomings” (p. 404) as children create multimodal projects.

These embodiments are deep meaning making moments that encompass the whole body. Thiel (2015) proposes the idea of “muchness,” which she defines as an “embodied, intellectual fullness that manifests through an internal compulsion to be engaged in an activity that one has a particular affinity for or curiosity about, unstopped by challenges or frustrations” (p. 41). This muchness occurs, for example, through multimodal superhero play. During play, the child becomes a part of the play; children are embodied in the play. They may lose track of time and place and simply become. Children are in the moment, and their sole focus may be on their play. Embodiments also occur as children create and express their ideas through multimodal literacies. The materials children engaged with also reflected embodiments. The connection between play and multimodal literacies is explored in the following section.

Play

The International Play Association (IPA, 2016) defines children’s play as “any behaviour, activity or process initiated, controlled and structured by children themselves; it takes place whenever and wherever opportunities arise” (p. 1). The IPA argues that play is “intrinsically motivated” and “undertaken for its own sake, rather than as a means to an end” (p.

1) and that opportunities for “spontaneous play” need to be available in childcare settings. Friedman (2011) refers to phrases including “fool around, have fun, participate, mess about” and “light-hearted, open-ended inquiry” as she defines play (p. 97). Friedman also describes that during play, children are not “required to answer someone else’s questions or be guided by someone else’s experiences” (p. 97). The value of “hands on, concrete materials that encourage exploration, discovery, manipulation, and active engagement” is maintained by Hewes (2006, p. 4). Roessingh and Bence (2018) summarize play as including the following threads: “pleasure or amusement, entertainment/fun; simple sheer and pure joy for children; and play is its own reward and is self-reinforcing” (p. 29). Play is also valuable for children’s learning. As Stacey (2009) asserts, “play provides an opportunity for children’s exploration, problem-solving, incubation and development of big ideas, and therefore, learning” (p. 49). For Vygotsky (1978), play provides an opportunity for children to practice adult roles and a chance to be “totally free” (p. 98). Makovichuk et al. (2014) define play as “intrinsically motivated, controlled by the players, concerned with process rather than product, non-linear, free of externally imposed rules and characterized by the active engagement of the players” (p. 145). I resonate with and agree with this definition of play, and I also see the language benefits of play.

Other authors have proposed various continua or matrices to describe the variations of play forms. For example, Roessingh and Bence (2018) propose a “matrix” for play with “two continua” (p. 29) whereby the play can be either adult or child directed and, on a separate continuum, may be in a structured or unstructured environment (p. 29). These authors advocate for a “balanced approach” (p. 31) with careful consideration by the educator of how materials and activities are chosen. Roessingh and Bence propose that programs “will benefit from a certain amount of free play (child-initiated and unstructured), imaginative and creative play”

(p. 33). In their research, Pyle and Danniels (2017) propose a slightly different continuum of play. At one end of this continuum is free play or child controlled or directed play that is free from “adult interference” (p. 279). At the opposing end is teacher-directed play, which is termed “learning through games” (p. 283). Along the continuum the play includes “inquiry play, collaborative play, and playful learning” (p. 283). The inquiry play is based on the child’s interests but is extended by the teacher (p. 282). In contrast, within learning through games play, games are used to engage children in academic material. Both continua offer various means of educator engagement within play to support children and their learning. These continua provide children the opportunity to engage in free, undirected play. Yet on the other end of the continua there is the potential for more direct teaching and educator intervention to deliberately teach skills or build literacy. Play along both continua would also support children and their literacy, which I go over next.

Play and Literacy

Various researchers make the connection between play and literacy (e.g., Hewes, 2006; Kerwin et al., 2017; Roessingh & Bence, 2018; Vygotsky, 1978; Wohlwend, 2016). For example, Hewes (2006) describes the “relationship between symbolic play and literacy development” (p. 2), arguing that “pretend play with peers engages children in the same kind of representational thinking needed in early literacy activities” (p. 2). While children are engaged in pretend play, they foster their literacy skills as they use language to explain and build their play. Play allows children to be creative, interact with others, solve problems, and “foster language and literacy skills” (Kerwin et al., 2017, p. 64). Vygotsky (1978) also notes the value of interacting with others through play, and he states learning occurs only “when the child is interacting with people in his environment and his peers” (p. 90). Roessingh and Bence (2018)

advocate for the importance of play such as “shared storybook reading; loose parts play; playing with plasticine; arts and crafts projects; music, songs, and nursery rhymes; cooperative play; and outdoor play and exploratory play” (pp. 32–33) in a play-based program. These forms of play may support language development as well as other aspects of development.

Other theorists advocate for the notion that child-directed free play may provide children with the most agency and the greatest opportunity to use multimodal literacies as they choose (Binder, 2016; Thiel, 2015; Wohlwend, 2016). Within dramatic play, children have an opportunity to use their imaginations, participate with others, and use language skills (Wohlwend, 2016). Wohlwend refers to play as a “printless literacy” (p. 66) in which children use their oral language and literacy skills. Within dramatic play children have an opportunity to use their imaginations, participate with others and use language skills (Wohlwend, 2016).

Bezaire (2009), in her research of kindergarten’s play and literacy, notes:

Through play, children are fully engaged using many sign systems—linguistic, visual, audio, gestural, spatial . . . and combining these modalities, thus moving beyond traditional conceptualizations of language and literacy teaching and learning. Play offers multiple ways of experiencing, representing, responding to, working through and inquiring about ideas and the world. (p. 87)

In Bezaire’s research, free play provided the children the opportunity to use multiple modes of language in meaningful ways. Other researchers, such as Genishi and Dyson (2014), explain the connection to play and language and how, through play, children have “ideas to symbolize and narratives to share” (p. 238). Genishi and Dyson explain that play is “grounded in children’s understanding and use of symbols, things that stand for other things and that develop in complex ways” (p. 229). Through play, children can symbolize and share ideas and engage in meaning

making or multimodal literacies. I explore the connections between play and multimodal literacies in the next section.

Play and Multimodal Literacies

During play, the various communicational modes may work together. Play is how children make sense of the world around them, and in play, children are constantly making meaning. The International Play Association, (2016), p. 2) describe play as “vital and fundamental” to children’s development and as “enhancing children’s ability to function in society and culture” (p. 2). Through play, children can use literacy modes in meaningful and socially intrinsic ways. In her study of Canadian kindergarten children, Binder (2014) notices the interconnection of modes, including gestures, sound, writing, or drawing, and how these lead to a “deeper understanding than [simply] dictated text could offer” (p. 18). Kress (1997) shares the idea that “everything is potentially meaningful, and [is] capable of use in representation and communication” (p. 93). I see that this is most evident during play.

Other studies examine the use of curriculum frameworks to connect play and multimodal literacies in young children. For example, Haggerty (2010) studies kindergarten children in New Zealand and conducted research on how New Zealand’s Te Whariki curriculum can be woven through multimodal literacies and play. A key finding from Haggerty’s research that supports the work of Kress (1997) is that some modes are better suited for some play tasks than other modes. Haggerty observes how multimodal literacies interact and support each other and support children’s play and meaning making.

Researchers have observed children creating meaning through various modes during play, including “drawing, constructing, printing, painting, dancing, moving, designing, singing, computing” (Bezaire, 2009, p. 70) and “photography, sculpture, painting, poetry, and

mathematics” (Serafini, 2015, p. 413). Serafini (2015) perceives these modes as ways for children to “represent different concepts and information” (p. 413). There is an interconnectedness of modes during play. Bezaire (2009) notices the “intentional meaning making—which was intertextually linked to other texts, a play theme or idea re-played, re-visited, re-created through multiple modes” (p. 85). Play provides children with the opportunity to connect to other literacies, including text, and revisit and modify ideas.

Within play, children engage in what Kress (1997) terms “transduction” (p. 133), which is the act of transferring from one mode of expression to another. Researchers note that by “selecting among modes and transforming one form into another” (Wohlwend, 2008, p. 133), children engage in transduction. For example, Wohlwend (2008) noticed children initially drawing but soon engaging in play and multimodal expressions to accompany their drawings and further their meaning making.

Play is an essential element of early childhood settings. Play provides children with the opportunity to communicate with others using various modes of expression. During play, children are free to express whatever ideas they choose to represent. Play also contributes to children’s use of multiple modes used synchronously to express ideas. While engaged in play, children will commonly use the mode that best represents their thoughts. Play also allows children to revisit ideas, thus expanding their thinking and representation of their ideas. In the following sections, I explore pedagogies educators can use to support play and multimodal literacies.

Pedagogies to Support Multimodal Literacies in Young Children

Educators can support the multimodal literacy practice of young children through numerous means. Educators commonly use the co-inquiry model to support play and multimodal

literacies. Within the co-inquiry model, observation and pedagogical documentation strategies support children's play and multimodal literacies. Educators also use responsive environments to support children's play and multimodal literacies.

Co-Inquiry Model

Within an emergent curriculum, many educators use the co-inquiry process to make sense of and come to a greater understanding of children's play and multimodal literacies. The co-inquiry model also helps educators to support and nurture children's play. Abramson outlines three stages of the co-inquiry model: documentation, communication, and action (pp. 6–7).

Within the documentation phase, Gandini and Goldhaber (2001) write, “educators can explore questions, examine children's thinking, and plan and respond to new problems, situations, and ideas” (p. xx). The documentation is reviewed and discussed in the communication stage. In the action stage, a “plan of possibility” (p. 7) to further the children's play is devised (pp. 6–7).

Abramson (2008) describes the co-inquiry model and its purpose this way: “Co-inquiry relies on the sharing of ideas and understandings in both capturing and conveying the children's experience through the documentation and as the adults exchange ideas in the meeting discussions” (p. 4).

In describing a co-inquiry cycle Stacey (2009) describes how we observe children, make meaning of what the children are doing, decide what to do, and then “plan next steps” (p. 14). Like the description of the co-inquiry model from Abramson, Stacey recommends starting with our observation of children and then building on their interests to “facilitate deep exploration” (p. 19). Stacey also recommends documenting the children's play which “enables children's learning and teacher's thinking to be made visible” (p. 18).

The authors of *Flight: Alberta's Early Learning and Care Framework*, influenced by the work of Abramson, describe co-inquiry as “a learning and research process that helps educators co-construct knowledge with children. It involves observation and documentation, reflection and interpretation, and planning and taking action” (Makovichuk et al., 2014, p. 86). These three phases of the co-inquiry process are referred to as co-learning, co-researching, and co-imagining of possibilities. Importantly, this co-inquiry model is a cyclical process. The process continues again with observing and documenting the new play experience.

Observation. Observation is a valuable tool used by early childhood educators to support children and their multimodal literacies. As educators notice children's use of multimodal literacies, they are positioned to support these literacies. Malaguzzi (1994) explained the importance of observation: “This means that when you learn to observe the child, when you have assimilated all that it means to observe the child, you learn many things that are not in books—educational or psychological” (p. 54). Malaguzzi believed that through observation, educators can learn a great deal about each child. Stacey (2009) and Curtis and Carter (2013) echo the significance of observation. Stacey writes:

The process of observation—noticing, documenting, and reflecting on small moments spent interacting with individual children—is valuable because it put teachers in touch with a child's thinking. (p. 45)

Curtis and Carter (2013) describe the “amazing learning encounters” (p. 9) an educator will gain from observing children. Following observation, educators often reflect on their observations and document these moments in pedagogical documentation to further make sense of what the child has done (Gandini, 2011; Stacey, 2009; Wien, 2013).

Reflection. After educators have observed children, the next step is to make their own meaning of these observations. Gandini (2002) describes the reflection that occurs after observation, saying that educators “compare, discuss, and interpret together their observations” (p. 18). The purpose of the reflection is to “understand children better, and to evaluate the teachers own work, thus promoting their professional growth and to facilitate communication and exchange of ideas among educators” (Gandini, 2002, p. 19). Stacey (2009) uses the term “reflective practice” (p. 65) to describe the deep-thinking moments educators engage in to make meaning of what children have done. Stacey further considers the role of reflection as she refers to the “missing middle” (p. 66), the gap that occurs when “teachers plan without taking time to reflect” (p. 66). Stacey argues for the importance of “reflecting with colleagues, using journals, sharing thinking, engaging in complex thinking, thinking about thinking and dealing with practical issues” (pp. 66–69). The reflection Stacey discusses requires time and commitment from educators. Stacey also contends that without “slowing down,” the educator can miss “children’s ideas” (p. 81). Without taking the time to reflect, educators may miss children’s multimodal literacies and meaning making moments.

Planning. Following reflection, the educators are then able to nurture or extend the play. Using their observations and reflection, the educators can plan next steps to meet children’s interest or ideas. Stacey (2018) recommends that educators’ next steps or planning involve offering an “invitation or provocations to further explore the interest,” or adding other materials to the environment to support the play (p. 105). Stacey also mentions that, at times, “slowing down and observing further” (p. 106) may help to further the play. Each of these options shows how educators purposefully plan curriculum to fit children’s interests but also build on their ideas and further their thinking.

Pedagogical Documentation

In early learning settings, educators use pedagogical documentation to document children's play and learning. Pedagogical documentation was first used in Reggio Emilia to highlight children's play and show families and others what children had done (Rinaldi, 2006). Pedagogical documentation makes children's thinking and ideas visible and helps others see their viewpoints and perspectives (Rinaldi, 2006; Stacey, 2009; Wien, 2013). Rather than being evaluative, pedagogical documentation demonstrates what the child knows and can do. As Stacey (2009) explains, "documentation is important because it tells the story of a project, an ordinary moment, the development of an idea, intriguing or puzzling event, or anything else that a teacher feels is essential to communicate to others" (p. 108). Documentation allows the educator to see the significance of the children's play and, at the same time, notice and capture details. Educators can see what the play is all about and examine "what is under the surface" (Stacey, 2009, p. 109).

Pedagogical documentation is described as "a process for listening to children" (Wien, 2013, p. 1), with potential benefits of visualizing "children's learning processes" (Rinaldi, 2006, p. 16). When using pedagogical documentation, educators reflect on what the children have done and why this was meaningful to the child. These events are examined closely, reflected upon, and interpreted. Through this thoughtful reflection, educators "discover what we did not yet know how to see" (Wien, 2013, p. 2). For Wien (2013), "documentation offers insight into children's thinking, feeling, and worldview" (p. 3). Rinaldi (2006) describes pedagogical documentation as a "process for making work visible and subject to interpretation, dialogue, confrontation (argumentation) and understanding" (p. 16). Typically, this is done by reflecting with other educators and sharing ideas and perspectives to understand the children's play better.

Researchers have used pedagogical documentation to make meaning of and to understand children's multimodal literacies.

The importance of documenting children's play to see the connection between play and multiple modes of expression is revealed by Haggerty (2010). While documenting one child's bicycle riding, she noticed the relationship between his kinesthetic literacy of bicycle riding and his visual and oral literacies. In her research, Haggerty asked, "Does the process of documenting children's strategies in different modes enable children to see their work in a different light and alert them to unseen dimensions?" (p. 185). She found that documentation not only makes the child's multimodal literacies visible, but also allows educators to expand on and further develop these literacies (p. 188). Unless an educator shares her documentation and discusses it with the child's family, the connection between home and the childcare centre may not be evident.

Pedagogical documentation was also used by Kuby et al. (2016) in an elementary classroom to examine children's materiality and multimodal representations. The pedagogical documentation afforded the researchers the opportunity to investigate typical classroom activities, "unexpected occurrences" (p. 402), and "time, space and materials" (p. 403). The importance of pedagogical documentation in noticing and making sense of children's multimodal literacies is evident. Documentation helps to make apparent children's communication of ideas through multiple modes. In the next section, I explore the strategy of responsive environments, including time, space, materials, and participation.

Responsive Environments

Responsive environments support multimodal literacies and children representing their ideas; they also "acknowledge that there are many ways to explore and demonstrate knowledge" (Makovichuk et al., 2014, p. 64). Within the Reggio Emilia perspective, elements of the

environment, materials, relationships, and time are essential as children build and express their ideas (Gandini, 2002, 2005). In *Flight*, responsive environments “are continually reflected on as educators respond to children’s interests and exploration through the design elements of time, space, materials, and participation” (Makovichuk et al., 2014, p. 64). I discuss each of these elements below.

Time. Within a responsive environment, a key element to consider is time. Makovichuk et al. (2014) describe the importance of time “for play, for inquiry, for thinking, and for pursuing an interest alone or with friends and educators” (p. 64). This time is important, they assert, “if learning is to become meaningful for the learners” (p. 64). In other words, if children are to have meaning-making moments and explore multimodal literacies, they need time to do so. Gandini (2002) describes the notion that for children, “time is not set by a clock” (p. 17), and she contends that children instead have their own “personal rhythms” (p. 17) that need to be considered when planning activities. Wright and Gravett (2002) argue that children need enough time to “go deep into an idea” (p. 218). In examining children and their big ideas, Wright and Gravett found that often projects may last for many months for children to explore ideas fully. Others also contend that children need large blocks of time during play to fully explore their ideas (Stacey, 2009; Wien & Kirby-Smith, 1998).

Space. Space, or the overall environment, is an essential component to consider within a responsive environment. Reggio Emilia’s philosophy means “beautiful and functional spaces” (Schwall, 2005, p. 19). Schwall (2005) describes the importance of environments:

Our school environments and the materials they offer to children on a daily basis are an integral part of learning experiences. When the atelier as well as our school environments are continually developed and used in purposeful ways, they

transform our everyday life in schools into a living manifestation of the richness of a child's potential. (p. 31)

Similarly, Stacey (2009) contends that it is essential that the environment or space is set up in response to the children's interests and how they use the space.

In Reggio Emilia's philosophy, the environment and spaces are referred to as the "third teacher" (Gandini, 2011, p. 2), whereby children explore and learn from the environment and materials. The use of materials and the social practices and social spaces created are also significant. The importance of these spaces is demonstrated as the children "construct social spaces in peer culture within the classroom by pretending a person, thing, or place is someone, something, or somewhere else through multimodal orchestration of talk, image, gaze, gesture, and sound effects" (Wohlwend, 2008, p. 130). The notion of place and materials as teacher also considers the "intra-active relationship between people and materials" (Kuby et al., 2016, p. 399). For example, in Kuby et al.'s (2016) research, as the children explored various materials in play, their ideas and knowledge evolved, as, in turn, did their social place.

The connection between space and the child leads to a deeper view of literacy and includes place-based pedagogies. Many authors reflect on place and the sociocultural dynamics of the children and educators. Children's literacies have a connection to place. Haggerty (2010), upon talking to a child's parents, discovered that a child was extending his kinesthetic home literacy of bicycle riding and bringing this into the daycare place. Haggerty summed this up by stating that "a sociocultural view, which recognizes social, cultural and literacy practices as interconnected, helps to highlight the variability in what is seen to count as a literacy" (p. 188). The importance of place and the connections with others in those places is vital to children's multimodal meaning making. As Comber (2016) asserts, "it often seems to be forgotten that

teacher's work and children's learning is accomplished across time and space by particular people in specific spaces" (Comber, 2016, p. 3). Within the space, materials also need to be considered, which I discuss next.

Material. Materials are necessary for a responsive environment. Children need a variety of materials presented aesthetically. As Colla (2005 as cited in Gandini, 2005), suggests, "in the selection of materials, one has to succeed in giving possibilities for beauty and creativity" (p. 67). Piazza, in his interview with Gandini (2005), proposed a similar idea about how one needs to consider the "way materials are presented" (p. 13). Stacey (2009) also outlined the importance of the materials within the environment as she described the need to "provision the environment with inviting materials (for example, found objects, loose parts, and reference materials) in response to children's ideas" (p. 89). Stacey also stated that, as educators observe the children and how they interact with the materials, educators can determine "what to do next" (p. 87).

In terms of multimodal literacies, there is an interaction between children and the materials they use. Materials "are viewed as active agents" (Kuby et al., 2016, p. 399) that have "an active part in shaping learning" (Pacini-Ketchabaw et al., p. 35). Children interact with materials and the environment around them. The environment and materials are not passive as children act upon them. The materials and environments may be changed and used by children to express their ideas and meanings.

The materials available to children impact play and meaning making. Children effortlessly use the materials to explore their meanings and express their ideas. In Wohlwend's (2008) research of kindergarten to grade two children, she notes how the children engage with various materials during play. Wohlwend realizes that "children more easily appropriate and creatively exploit the material possibilities of objects to convey their messages in comparison

with adults” (2008, p. 132). The materials impact not only the play but also the meaning the children create. Varied materials can create different meanings for children. At the same time, children use materials to express their thoughts about the world around them. Cohen and Uhry (2011) examine the block play of children and find that “Block play is multimodal and can allow children to experiment with materials to represent the world in many forms of literacy” (p. 80). The block materials play a critical role in the meaning making process as children name their block structures and use unit blocks to represent ideas symbolically (Cohen & Uhry, 2011). Children’s ideas are expressed differently with varied materials. Thiel (2015) described the importance of materials as the children in her study engaged in superhero play. She proposed that opportunities to use costumes and materials give children another means of using movement with their whole bodies that might not be expressed through traditional print literacies. Again, varied materials may have resulted in a different expression of ideas. The children’s interaction with the materials also changes the meaning-making processes. Kind (2010), who examines the use of art materials with young children, states, “meaning is not fixed in specific material, images, processes, or artwork; rather meanings are generated in their use and interaction” (p. 124). For example, as they interact with clay, different children may use clay to express different ideas.

Researchers contemplate the notion of revisiting materials and offering children repeated exposure to materials to build ideas and gain a deeper understanding. Piazza (2005, as cited in Gandini, 2005) postulated that “a first encounter for children with material to explore and act on them is a necessary step in the children’s process of knowing” (p. 13). The more children explore materials, the more familiar they become with these materials. The children’s thinking and meaning making often grow with each encounter with materials. As Piazza suggests, “As

children use their minds and hands to act on a material using gestures and tools, they begin to acquire new skills, experiences, strategies, and rules” (as cited in Gandini, 2005, p. 13). Kind (2010) echoes this idea about the importance of multiple “encounters with material” (p. 2).

Participation. The educator’s role and participation are also crucial in a responsive environment. Early childhood educators make conscious decisions about what environments will best support children. In doing so, educators make intentional decisions about how to support children’s multimodal literacies. In various research, educators intentionally decide to set up the environment to support play and literacies (Bezaire, 2009; Kuby et al., 2016; Wohlwend, 2008). In these studies, had educators made different decisions or participated in numerous ways, different play and multimodal literacies may have resulted. Stacey (2009) describes the educator’s role as one of “facilitator” (p. 19) who invites children to “discover more, dig, deeper, and construct further knowledge” (p. 19). By noticing children’s ideas and multimodal literacies, educators can build ideas, find out what children know, and think about next steps to further incite the play. The notion that educators need to “provoke and facilitate experimentation” and “invent together” with children is suggested by Pacini-Ketchabaw, Kind, and Kocher (2017, p. 6). Educators have a definitive role in supporting children’s play and multimodal literacies. The educator’s role within a responsive environment is to further the children’s thinking, ideas, and multimodal literacies (Pacini-Ketchabaw, Kind, & Kocher, 2017, p. 6). At the same time, as educators support children, they ensure this is done alongside or with the child, respecting the child’s agency and choices. Using the child’s interests and ideas, the educator’s role within a responsive environment is to further the children’s thinking and multimodal literacies.

While there is a plethora of research on multimodal literacies in early learning settings (e.g., Binder, 2014; Cohen & Uhry, 2011; Kuby et al., 2016; Thiel, 2015; Wohlwend, 2008),

little of this research examines strategies to support multimodal literacies. Through my research, I hope to answer the research question: How do early learning and childcare educators support the development of young children's multimodal literacies?

Summary

In summary, children use multimodal literacies to convey their meanings every day. Children sometimes intentionally use these multimodal literacies as they choose the mode that best fits their communication needs. During other moments, children may be so deeply involved in their play that they react and just use multimodal literacies without forethought or planning. Children also have the agency to use multimodal literacies. They are free to express their ideas as they desire and are active agents in their own meaning making processes. Children are embodied in their play and communication as they “become” part of the play (Kuby et al., 2016; Thiel, 2015). Responsive environments including, materials, time, participation, and the environment, also impact multimodal literacies. Children may choose materials that are most useful to represent their ideas (Wohlwend, 2008). Simultaneously, as children interact with materials, materials are transformed as meaning and ideas unfold. Multimodal literacies are also connected to place and others (Comber, 2016; Wohlwend, 2008). The environments and connections to others are central to the meaning making process and multimodal literacies. Children also need time to explore multimodal literacies and time to develop their ideas.

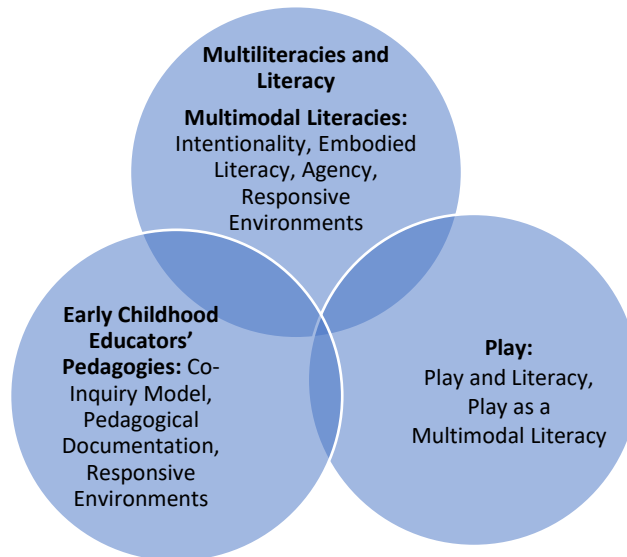
Play is directly connected to multimodal literacies, especially in early childhood settings. While at play, children construct and communicate their thoughts and ideas. Multimodal literacies are used to convey these ideas. Within early childhood settings, educators can enhance children's multimodal literacy development.

When educators notice, name, and document children's multimodal literacy practices within the co-inquiry model, they can nurture and extend this communication. Pedagogical documentation affords educators the opportunity to celebrate children's ordinary play moments and their use of multimodal literacies (Stacey, 2009; Wien, 2013). Through my own research I hope to discover how pedagogies can be utilized to support multimodal literacy development in young children.

Conceptual Framework

Upon review of the literature, multiple themes emerged in relation to one another. These themes and their relationships are outlined in my conceptual framework (see Figure 1 below). My conceptual framework examines the intersection between play, literacy, and multiliteracies, including multimodal literacies and early childhood education pedagogies. Each part of the model is described in more detail below.

Figure 1. Conceptual framework.



Literacy: Literacy is described as a social practice where children decode and encode and make meaning or sense of their world (Beaty & Pratt, 2011; Cook-Gumperz, 2006; Gee, 2015; Larson & Marsh, 2015). Literacy is at the heart of my study as I want to determine how children's literacy practices are supported.

Multiliteracies pedagogy: The New London Group (1996) offers a new way to look at literacies, including cultural and linguistic diversity or multilingualism and multiple forms of representation or multimodal literacies (Jewitt, 2008). The multiliteracies pedagogy helps to frame my research and helps me to consider the multiple and diverse ways children communicate.

Multimodal literacies: Recognizing the diverse ways children use multimodal literacies is an integral part of my conceptual framework. Not only did these significant uses of multimodal literacy emerge from my review of the literature, but they also guided my analysis of the data I collected.

Intentionality: As children use multimodal literacies, they make deliberate and intentional decisions about the meanings and ideas they wish to express (Jewitt, 2008; New London Group, 1996). At other times, children are not acting with intention but instead are just exploring their ideas (Kuby et al., 2016; Leander & Boldt, 2013). During these times, the process or communication is not intentionally planned out.

Agency: Children have choices and agency to express the ideas that interest them. Children are active participants, and they decide on the purpose and ideas they wish to convey (Bezaire, 2009; Binder, 2014; Wohlwend, 2008). Children may be directors of their play and the ideas they want to express.

Embodied literacies: During play and the use of multimodal literacies, the child's whole body may become involved in the meaning making (Binder, 2014; Leander & Boldt, 2013; Lenters, 2018; Thiel, 2015). These embodiments may be referred to as becomings or entanglements (Kuby et al., 2016; Leander & Boldt, 2013). The child may become so focused on their play and meaning making that they become part of the play.

Play: Play is defined as intrinsically motivated, active exploration, discovery, and active engagement (Hewes, 2006; Friedman, 2011; Fromberg, 2002; International Play Association, 2006). Play is where children use literacies including multimodal literacies to build their ideas and meaning making; therefore, play is a key component of my conceptual framework.

Play and literacy: During play, children are creating meanings in multiple ways (Kress, 2010; Serafini, 2015; Wohlwend, 2008). Play provides children with the opportunity to express their ideas and, in some cases, use multiple modes simultaneously to express their ideas (Kress, 2010). Free play provides children with the opportunity to explore literacy and create meaning.

Play as a multimodal literacy: While engaged in play, children often use multiple modes simultaneously to express their ideas. During play, the various communicational modes may work together as a multimodal literacy. Through play, children use literacy modes in meaningful ways to share their ideas (Binder, 2014; Kress, 1997). Children may choose the mode that is best suited to convey their ideas or concepts (Haggerty, 2010; Serafini, 2015). Children may also engage in “transduction” (Kress, 1997, p. 133) as they transfer from one mode of expression to another.

Early childhood educators’ pedagogies: Early childhood educators support children daily. Part of this support involves supporting multimodal literacies in young children. Depending on how educators respond to multimodal literacies, the child can be supported and encouraged to utilize various forms of expression.

The co-inquiry model: (Abramson, 2008; Makovichuk et al., 2014) Is utilized by educators in supporting multimodal literacies. Observation, reflection, and pedagogical documentation are strategies within the co-inquiry model educators use to support children’s multimodal literacies. As educators observe children, they may notice children’s multimodal literacies, reflect on these moments, placing educators in a position to nurture the play.

Pedagogical documentation: Helps educators to theorize and meaning making of the children’s play and communicate these theories to others.

Responsive environments: Within a responsive environment, the elements of time, space, materials and participation all impact children and their multimodal literacies. Children need time and the environment or space to build their ideas (Gandini, 2002). There is a reciprocal relationship between the materials and the children’s meaning making (Pacini-Ketchabaw et al.,

2015; Kind, 2010). Along with these materials, the relationships and participation with others also affect children's meaning making processes (Gandini, 2002).

Intersection of multiliteracies and literacies, play, and early childhood educators'

pedagogies: In my research, I wish to explore the intersection of multimodal literacies, play, and early childhood pedagogies. In play-based early learning settings, I believe that these three occur simultaneously. In the next chapter, I outline my research design and describe how I conducted my research to answer my research question: How do early learning and childcare educators in Alberta support the development of young children's multimodal literacies?

Chapter 3: Research Design

Organization of Research Design

In early learning settings, children are using multimodal literacies in numerous ways. As an instructor of early learning educators at the postsecondary level, I have been interested in how educators support multimodal literacies for some time. As outlined in my introduction and expanded upon in my literature review, children use multimodal literacies regularly, and educators can support their use of multimodal literacies. I began my study because I was interested in educator support of multimodal literacies in the Alberta early learning context. I have conducted a multiple case study to develop a deeper understanding of educators' strategies to support multimodal literacies in early learning settings.

In this chapter, I describe my research purpose and the rationale for using a case study. I also outline my procedure, including the data collection methods I used and how I analyzed the data. Ethical considerations are described after that, followed by issues of trustworthiness. The concluding section conveys the limitations and delimitations of my research study.

Research Question

The following research questions guided my study:

- How do early learning and childcare educators in Alberta support the development of young children's multimodal literacies?

Sub-Questions

These additional research questions helped guide my study:

1. How do educators conceptualize and define multimodal literacies?

2. What strategies and pedagogies do educators use to support children's multimodal literacies?

Research Problem

Research has indicated the importance of early childhood educators recognizing children's multimodal literacies in early learning settings (Kress, 2010). However, little research exists to help us understand the range of strategies educators who work with young children utilize to support their multimodal literacies.

Purpose

The purpose of this study was to understand how educators support young children's literacy learning in the context of an early learning classroom. The study examined the various strategies educators use to support multimodal literacies.

Qualitative Research

I used qualitative methods to conduct this study. Creswell (2014) defines qualitative research as "an approach for exploring and understanding the meanings individuals or groups ascribe to a social or human problem" (p. 4). I was interested in understanding how educators support children as they explore multimodal forms of language expression. My aim, therefore, was to obtain rich, detailed information about how educators apply their understandings of multimodal literacies in their work with children. The depth of this information on multimodal literacies cannot be measured or counted as I hoped to reveal detailed stories to facilitate a deeper understanding. Qualitative research does not seek proof or statistical evidence as in quantitative research. Yazan (2015) asserts that the "interest of qualitative researchers is to understand the meaning or knowledge constructed by people. In other words, what really

intrigues qualitative researchers is the way people make sense of their world and their experiences in this world” (p. 137). I wanted to pursue understanding, inquiry, and meaning making and how educators make sense of multimodal literacy strategies in their work with young children. As Lincoln, Lynham, and Guba (2018) explain, “we are shaped by our lived experiences, and these will always come out in the knowledge we generate as researchers and in the data generated by our subjects” (p. 117). I aligned myself with what they refer to as “relativistic ontologies” or “multiple constructed realities” (p. 119) whereby everyone is creating their own viewpoints or versions of the truth. I accepted their notion that, “as researchers, we must participate in the research process with our subjects to ensure we are producing knowledge that is reflective of their reality” (p. 115). I thought of research as a reciprocal relationship where the researcher and participants learn from one another.

Research Design: Methodological Approaches

The subsequent section outlines my research “techniques and processes” (Roberts & Hyatt, 2019, p. 141). I explain why I chose to use a case study and the type of case study I used.

Rationale for a Case Study

Case studies are defined by Merriam (2009) as “in-depth description and analysis of a bounded case” (p. 15). I employed a case study as my methodology because of the rich descriptions obtained through case studies. As Merriam (2009) states:

Qualitative case studies share with other forms of qualitative research the search for meaning and understanding, the researcher as the primary instrument of data collection and analysis, an inductive investigative strategy, and the end product being richly descriptive. (p. 39)

Like other case study researchers, I sought rich description because I was “interested in the meaning people make of their lives in very particular contexts” (Dyson & Genishi, 2005, p. 9). I aimed to hear the early learning educators’ real-life accounts and detailed stories of their work and how they support children’s multimodal literacies. Case study research permitted me to capture educators’ voices and perceptions (Merriam, 2019; Simons, 2009; Yin, 2018). I wanted to examine the educators’ intentionality in their work with young children. I appreciate that case study allows both myself as a researcher and my readers “to understand ideas more clearly” (Cohen et al., 2015, p. 289) and focus on a “holistic description and explanation” (Merriam, 2009, p. 43). By being “immersed in the setting over time,” I hoped to “understand what and how particular events matter[ed] to the people involved” (Dyson & Genishi, 2005, p. 25). In my case study research, this was how multimodal literacy events mattered to the children and educators. I most closely aligned with Merriam and Stake in seeking to create a deeper understanding of educators’ multimodal literacy strategies. This understanding was a reflective process that involved interpretation and multiple realities. As Harrison et al. (2017) explain:

MERRIAM (1998, emphasis in original) maintains a constructivist approach to case study research, whereby the researcher assumes that reality is constructed intersubjectively through meanings and understandings developed socially and experientially. (p. 10)

This constructivist approach aligned with my philosophical stance.

Stake’s (1995) interpretive stance also resonated with me. Harrison et al. (2017) explains that, for Stake, “the role of the researcher in producing this knowledge [of reality] is critical, and STAKE (1995, emphasis in original) emphasizes the researcher’s interpretive role as essential in the process” (p. 11). Yazan (2015) concurs, arguing that, through a “Stakian perspective,

qualitative researchers should expect another level of reality or knowledge construction to occur on the side of the readers of their report” (p. 137). In this interpretive perspective, I saw parallels to Flyvbjerg (2006), who states, “I try to leave scope for readers of different backgrounds to make different interpretations and draw diverse conclusions” and “readers will have to discover their own path and truth inside the case” (p. 238). I would agree that both interpretation and knowledge construction occur, and I want my readers to draw their own conclusions from my case study.

Following the perspective of Stake (1995), I believe the reader will draw their own conclusions regarding generalizability. As Bloomberg and Volpe (2016) state, “a caveat of case study research is that generalizability is not the goal but rather *transferability*—that is how (if at all) and in what ways understanding can be applied in similar contexts and settings” (p. 47, emphasis in original) is what matters. I address transferability in the trustworthiness section of this chapter. I also concurred with Merriam’s (1988) theory of “reader or user generalizability” (p. 177), which she describes as “leaving the extent to which a study’s findings apply to other situations up to the people in those situations” (p. 47). Merriam also outlines that the researcher can improve reader generalizability by providing a “rich, thick description” and conducting “cross-site” analysis, as I have done in my multiple site case study.

Merriam (2009) includes a detailed description of case study research and identifies three distinct aspects: case studies are particularistic, descriptive, and heuristic. *Particularistic* means that “case studies focus on a particular situation, event, program, or phenomenon” (p. 43), which is a “good design for practical problems” (p. 43), such as the question of how educators support multimodal literacies in young children. *Descriptive* means that “the end product of a case study is a rich, ‘thick’ description of the phenomenon under study” (p. 43). I wanted to have a detailed

description of the multimodal language practices educators are using. *Heuristic* means that “case studies illuminate the reader’s understanding of the phenomenon under study” (p. 44). My research shows “previously unknown relationships” (p. 44) about multimodal literacies, particularly the pedagogies educators use to support multimodal literacies. The experiences of early childhood educators are “rooted in the context” (p. 45) of early childhood centres. What happens in childcare centres is different than what might occur in school settings or other settings.

Merriam (2009) stipulates that case studies should be based on a “bounded system” or focus on a “single entity, a unit around which there are boundaries” (p. 40). In my case study research, I focused on two Alberta childcare centres, each as a “single unit of analysis” (Simons, 2009, p. 29). I explored the daily activities of the childcare centres and “attempt(ed) to disrupt the taken-for-granted familiarity of the classroom” (Dyson & Genishi, 2008, p. 29) as I focused on multimodal literacy practices. By using these two cases, I hoped to understand the implications for supporting multimodal literacies in childcare centres in Alberta.

Sampling Frame

My potential sample included all early learning and childcare educators in Alberta that work with children aged one year to 12 years in licensed daycare facilities. There are over eight hundred licensed daycare facilities in Alberta, all of which were potential sites for my study.

Sample

I conducted this multiple case study in a large city in Alberta. I decided to conduct a multiple case study focusing on two centres to capture various perspectives. Considering my research questions (Simons, 2009, p. 32), I sought educators who worked in centres that used pedagogical documentation and a play-based emergent curriculum. I also chose centres that were

using *Flight*, to ensure the educators had some background on multimodal literacies. I used “purposeful sampling” (Merriam, 2009, p. 48) and selected these two sites because I believed these centres both were “samples from which I could learn the most” (Merriam, 2009, p. 48). One case had a pair of educators working in a kindergarten classroom located within a childcare centre. A third educator in this case worked in the toddler room with children aged two to three years of age. In the second case, one participant worked with children aged three to six. There was also a group of three educators in the same preschool classroom who worked with children aged three to six. Another educator was in a leadership role, which provided an additional point of view.

To ensure I had a broad spectrum of perspectives, I wanted to involve both participants who had been practicing educators for five years or more and others who were new to the childcare field and had worked as educators for three years or less. I also wished to conduct my research with educators who had obtained either a Level Two or a Level Three certification from Alberta Children’s Services. By doing so, I hoped to understand the perspectives of various educators.

Furthermore, educators with a Level Two or Level Three credential have completed a minimum of one year of training at a postsecondary institute in Alberta and earned a certificate. This postsecondary training helped educators to be able to discuss their pedagogies in a more theoretical way than an educator without formalized training. All the educators who consented to participate had a minimum of a Level Three credential, and two of the participants also had a bachelor’s degree.

Part of these educators’ training in postsecondary institutions would have involved an introduction to literacy and multimodal literacies. I purposefully selected educators who had

some understanding of multimodal literacies. A working knowledge of *Flight* also provides educators with an understanding of the term multimodal literacies as it is a key component of one of the framework's four goals. Each of the sites in my case study reported that *Flight* was a part of their practice.

Table 1 below outlines the sample.

Table 1: Sample

Case	Pseudonym	Program type and ages of children	Years of experience	Education
One	Abby	ELCC – Toddler Ages 2-3	6	Level 3
	Sherry	Kindergarten within ELCC	10	Level 3, Bachelor's degree
	Hannah	Kindergarten within ELCC	6	Level 3
Two	Beth	ELCC – Supervisory role	10	Level 3, Bachelor's degree
	Debbie	ELCC – Preschool Ages 3-6	3	Level 3
	Rebecca	ELCC – Preschool Ages 3-6	4	Level 3, Bachelor's degree
	Morgan	ELCC – Preschool Ages 3-6	4	Level 3, Started Bachelor's degree
	Brooke	ELCC – Preschool Ages 3-6	5	Level 3, Started Bachelor's degree

ELCC stands for early learning and childcare centre

Table 2: Procedure

Timeline for Data Collection

December 2020	Invited potential centres to participate in research Selected two centres to be my multiple cases Obtained consent from educators to participate in interviews and observations
January–February 2020	Completed video walk-throughs with educators Conducted interviews Obtained consent from families to view pedagogical documentation
March 2021	Analysis of pedagogical documentation for themes— interviewed educators to discuss why they chose the documentation
April–June 2021	Complete data analysis and synthesis for video walk-throughs, interviews, and pedagogical documentation

Once I had obtained ethics approval, I began my research by inviting potential centres to participate in my research study. I contacted these centres to discuss my research through a telephone conversation and a follow-up email. After discussing my research with two potential centres, I determined I would conduct my research at these two centres because they closely aligned with my intention to include a wide variety of educators with both Level Two and Level Three credentials. Both centres also used an emergent play-based curriculum and practiced pedagogical documentation on an ongoing basis. These sites constituted my two cases.

I obtained consent from educators who wished to participate after the sites were determined. I obtained consent from the participants for video walk-throughs, interviews, and pedagogical documentation analysis. The pedagogical documentation I collected from educators pertained to the children in the educators' care; therefore, family consent was obtained to use documentation of their children in my research.

After the consent process, I completed a video walk-through with each educator. These walk-throughs allowed each educator to show me around their playrooms. I gained insights into

the materials and environments each educator worked in. The walk-throughs also provided insights into how the educator supported multimodal literacies through space and materials. These walk-throughs were completed in real time, which allowed me to ask questions about how materials were used and how literacies were supported. Further explanation of these walk-throughs is provided in the Data Collection Methods section of this chapter.

After the walk-throughs, I began interviewing educators using a semistructured interview format. Due to restrictions on face-to-face meetings during the COVID-19 pandemic, these interviews were conducted using Zoom video conferencing. I interviewed each participant in an initial 45- to 60-minute interview. The length of the interviews varied depending on the depth of participant responses. After the interviews were transcribed, I asked participants to review the transcripts for accuracy. Participants were asked to make any additions they deemed appropriate or delete any information they did not wish to have included in the final data analysis. I describe the interview process in more depth in the data collection section.

At that juncture, pedagogical documentation from participating educators was collected. I asked educators to share documentation they believed depicted children's use of multimodal literacies. I asked educators why they had selected this pedagogical documentation, and other questions, in a second brief interview to gain additional insights about the documentation and the educator's process. The documentation and interviews were transcribed and analyzed for themes in the data analysis phase.

Data Collection Methods

I collected data using video walk-throughs, conversational semistructured interviews, and thematic analysis of pedagogical documentation written by the educators. Triangulation of the data was obtained using these three means of data collection. Creswell (2014) contends that if

data is collected from multiple sources and includes different perspectives from participants, the study's validity is increased. I describe the advantages and disadvantages of each data collection method and my rationale for choosing these methods in the subsequent section.

Video Walk-Throughs

My initial proposal was to observe educators to understand the phenomenon of multimodal literacies and how the educators were supporting multimodal literacies. Because of COVID-19 restrictions on visitations at centres, I was unable to observe directly. I decided instead to complete video walk-throughs with each educator. Some were conducted individually; others were done with pairs of educators, as some educators worked in the same playroom. The educators walked me through the playrooms and the sessions were video recorded. In one centre, at the director's request, to protect children's privacy, I could only complete audio recordings. In this centre, I made detailed notes about the materials and the environment since I could not go back and view a video to determine the materials. The walk-through sessions were transcribed, and all transcriptions were sent to participants to confirm the accuracy of the transcripts.

The video walk-throughs acted as a form of observation of the environment. They demonstrated, as Merriam (2009) suggests, "a firsthand account" (p. 117) of what "is happening" (p. 119). Through observations, I contributed to my understanding of the strategies educators use in their daily practice to support multimodal literacies. The walk-throughs allowed me to gain understanding of the materials and the environments. Observations also provided me with "firsthand experiences" and allowed me to "record information as it occur[red]" (Creswell, 2014, p. 191), particularly about the environment. I also noted "unusual aspects" (Creswell, 2014, p. 191) of the environments educators set up to support multimodal literacies. Since the educators walked me through the room, I was able to capture each playroom through the gaze of the

educator. Each educator pointed out and indicated the aspects of the space they thought were particularly important. Because the walk-throughs were recorded, I was able to revisit and check the accuracy of my walk-through findings.

Descriptive fieldnotes and reflective fieldnotes were also used as I completed these video walk-throughs with the educators. Following the recommendation of Creswell (2012), I completed descriptive fieldnotes by listing in detail the materials, spaces, and overall feel of each room, including sensory descriptions. Within my fieldnotes of these video walk-throughs, I also made detailed notes of the setting, including “relevant room features or items” (Phillippi & Lauderdale, 2017, p. 385). This advice from Phillippi and Lauderdale (2017) allowed me to have detailed notes and diagrams of each setting that I could refer to throughout my study and data analysis. Following Creswell’s suggestion, I recorded some of my “personal thoughts, insights and hunches or broad ideas” (p. 217) as I completed these walk-throughs as a form of reflective fieldnotes or a reflective journal. Both forms of fieldnotes helped me to recall what had occurred in the video walk-throughs and make greater sense of these.

Interviews

I conducted conversational interviews on two occasions, the first time to ask my primary interview questions and the second time to discuss why the educators had chosen the pedagogical documentation they had selected. I viewed the interviews as a dialogue or sharing, which led to richer data. Interviews as conversations are viewed as a more interactive style of interviewing. Simon (2009) suggests that a conversational interview helps the researcher “to establish a more equitable relationship between interviewer and interviewee and create opportunity for active dialogue, co-constructed meanings and collaborative learning” (p. 43). I nonetheless used a semistructured interview format to guide my interviews. Merriam (2009) explains that in

semistructured interviews, “either all of the questions are more flexibly worded, or the interview is a mix of more and less structured questions” (p. 90). As Merriam states, “this format allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic” (p. 90). I captured the participant’s views about multimodal literacies and developed a deeper understanding of how these educators support children. Using conversational semistructured interviews as part of my case study research helped convey participants’ voices. Cohen et al. (2015) argue that open-ended interviews allow respondents to show their perspective or “definition of a situation” and “enable important but unanticipated issues to be raised” (p. 205). A potential drawback to interviews is that the participants may not articulate their responses or accurately convey their meanings (Creswell, 2014). To reduce the risk of respondents not accurately describing their ideas, I continued to ask probing questions and sought deeper information. Furthermore, sending the participants the research questions ahead of time clarified the questions and allowed the participants to formulate responses to explain their thoughts and ideas. The primary interview questions are included in Appendix A and the interview questions about the pedagogical documentation in Appendix B.

I also collected field notes about the interviews. As suggested by Phillippi and Lauderdale (2017), I made notes about each interviewee, including their overall demeanour and appearance (p. 385). I also noted if participants were thoughtful or unsure of a specific question and moments when they became excited or animated. Phillippi and Lauderdale recommend “critical reflection” on the fieldnotes, which I did immediately after each interview. I made notes about my initial thoughts, my overall comments, and moments that stood out to me from each interview. These initial thoughts were helpful in my later analysis of the data, particularly some of the highlights of the interviews.

Educators' Pedagogical Documentation

I used pedagogical documentation, such as learning stories or narratives, written by educators to understand how they supported multimodal literacies. In many early learning settings, educators use pedagogical documentation to document the children's play and learning. Pedagogical documentation makes children's thinking and ideas visible and helps others see their understanding (Stacey, 2009; Wien, 2013). Stacey (2009) explains, "Documentation is important because it tells the story of a project, an ordinary moment, the development of an idea, intriguing or puzzling event, or anything else that a teacher feels is essential to communicate to others" (p. 108). Rinaldi (2006) calls pedagogical documentation a "process for making work visible and subject to interpretation, dialogue, confrontation (argumentation) and understanding" (p. 16). In my research, pedagogical documentation helped me gain a deeper understanding of children's multimodal literacy practices and how educators supported these practices through documentation. I also gained insight by discussing with the educators their reasons for choosing the pedagogical documentation they provided and how this documentation represented the children's multimodal literacies.

Data Collection and Analysis

Following the advice of Bloomberg and Volpe (2016), I began my data analysis with a plan in place to deal with large pieces of data. I also followed the advice of Merriam (2009), and I ensured data analysis was done throughout all phases of data collection. I utilized the following steps as outlined by Creswell (2012). I transcribed all data to prepare the data for analysis. I had an online transcription service transcribe the data to save time. I read the data multiple times to obtain a better sense of the data. I then coded the data by first dividing the text into segments and then labelled the segments with codes using colour coding (Creswell, 2012).

Coding was an iterative process that started with only a few codes, including codes for contexts, perspectives, and strategies used by participants to support multimodal literacies (Creswell, 2012). As I went through the data repeatedly, I added additional codes, including in vivo codes that had direct quotes from the participants and pattern codes to consolidate codes (Miles et al., 2020). I then reduced overlapping and redundant codes (Creswell, 2012). I included my “jottings” (Miles et al., p. 96) or notes with inferences and thoughts in the margins as I coded. I obtained inter-observer reliability by asking colleagues who understand multimodal literacies and the role of pedagogical documentation to check my coding throughout the coding process (Bloomberg & Volpe, 2016). For the pedagogical documentation and video walk-throughs, I used a table or matrix to organize my data analysis, and I sorted the data topically and categorically into codes (Merriam, 2009; Miles et al., 2020). Matrices were the most intuitive way to sort through both the pedagogical documentation and the video walk-through data. A sample of my data analysis matrix is included in Appendix C.

Following my coding of the data, I looked for themes, which Creswell (2012) describes as “similar codes aggregated together to form a major idea in the database” (p. 271). I included both common and unexpected themes (Creswell, 2012). I also followed Creswell’s advice and incorporated “detailed information about a few themes rather than general information about many themes” (p. 245). The study’s emergent themes are described in my two research findings sections, Chapters 4 and 5.

Lastly, I interpreted my findings. This interpretation included a review of the major findings and how the research questions were answered, my personal reflections about the meaning of the data, personal views compared or contrasted with the literature, limitations of the study, and suggestions for future research (Creswell, 2012, p. 257). I discuss the interpretations

and synthesis of the findings and connections to the literature in Chapter 6, and my conclusions and implications for future research are addressed in Chapter 7.

Informed Consent

Principles of informed consent must be followed with any research. In conducting this research, I needed to have consent from the educators in my study. Guillemin and Gillam (2004) explain that “informed consent is at heart an interpersonal process between researcher and participant, where the prospective participant comes to an understanding of what the research project is about and what participation would involve” (p. 272). The participants in my study exercised their own free will and decided whether they wanted to participate or not. I ensured all participants were aware of the potential benefits and harms (Simons, 2009, p. 99) of participating in my research. These steps ensured that my research was in keeping with the principles outlined in the Tri-Council Policy Statement on Informed Consent (CIHR, NSERC, & SSHRC, 2010).

An ethical consideration that I contemplated related to informed consent was the issue of anonymity. To protect the participants’ anonymity, I utilized pseudonyms and changed the names of the participating educators, the children in the pedagogical documentation, the childcare centre rooms, and the city I conducted my research in (Simons, 2009). I did not reveal any information about educators or the centre that may lead others to identify the research site. I informed participants about all potential issues, including anonymity, as part of informed consent.

Another issue I needed to be aware of was power (Cohen et al., 2011). Given my current role as a university instructor who has taught some of the educators I interviewed, I needed to be mindful of these power issues. I wondered if the power differential afforded by nature of my position impacted my interviews. I resonate with the description of an interview provided by

Cohen et al. (2011), that an “*inter-view* is a view between people” (p. 205, emphasis in original). Through our relationships and my efforts to create rapport with the educators, I am confident that they viewed themselves as true equals and saw their invaluable role in my research. I ensured the educators knew that I believed each one had “something to contribute, [had] an experience worth talking about, and [had] an opinion of interest” (Merriam, 2009, p. 106). By hearing and recording educators’ voices, I hope I provided educators with a sense of power to share the strategies and multimodal literacies practices they employed with children. Lastly, to limit the perception of my position of power as an instructor, I included a statement on all consent letters that my research was not affiliated with my work at MacEwan University. Such statements also separated my employment and my doctoral study.

Trustworthiness

I addressed the following aspects of trustworthiness in my research: credibility, dependability, and transferability. I discuss each of these below.

Credibility

Bloomberg and Volpe (2016) define credibility as “whether the participants’ perceptions match up with the researcher’s portrayal of them” (p. 162). I aspired to ensure that I “recorded participants’ perspectives accurately” (Simons, 2009, p. 101). I used member checks, and I asked the participants to review the interview transcripts from all forms of collected data to ensure I had accurately captured their voices. Following Simons’ (2009) advice, I provided them “with an opportunity to see and respond to how observations of them [were] presented in case study reports” (p. 105). Bloomberg and Volpe (2016) also describe the importance of using “multiple methods to corroborate the evidence” the researcher obtains (p. 163). I triangulated the educator interviews, video walk-throughs, and pedagogical documentation to ensure I represented the

educators' voices through various data. I also reported any “negative instances or discrepant findings” (Bloomberg & Volpe, 2016, p. 163) or themes.

Dependability

Bloomberg and Volpe (2016) define dependability as “whether one can track the processes and procedures used to collect and interpret data” (p. 163). I ensured that principles of dependability were adhered to by asking colleagues to check my data for consistencies and biases. By checking my data, I achieved “inter-rater reliability” (Bloomberg & Volpe, 2016). To increase dependability, I also ensured that each participant was asked the same questions during my conversational semistructured interviews. I also provide a detailed description, or “audit trail” (Bloomberg & Volpe, 2016, p. 163), of how I collected and analyzed my data. I ensured data quality by having various representations of early childhood educators, checking for my own biases and how I might have “impact[ed] the cases and in turn, [been] impacted by the cases” and “weighing the evidence” to consider which datum I had based my findings on (Miles et al., 2020 p. 262). I also took reflective fieldnotes following each video walk-through and each interview. Completing this reflection helped me to reflect on the data as I was collecting it (Bloomberg & Volpe, 2016). I also used my reflective journal to ensure I was considering my biases as I collected and analyzed the data.

Transferability

I have considered issues of transferability in my research study. Through the rich details I have provided of the childcare centres that participated in my research, the reader can ascertain if the conclusions are transferable to other centres. Merriam (2009) argues that “what we learn in a particular case can be transferred to similar situations” (p. 51). Simons (2009) shares a similar viewpoint, stating, “given sufficient detail and rich description, a reader can discern which

aspects of the case they can generalize to their context and which they cannot” (p. 165). I aspired to “capture the essence” “or universal understanding” (Simons, p. 167) of how participating educators supported multimodal literacies. Bloomberg and Volpe (2016) contend that “transferability can be assessed” by the “richness of descriptions given the discussion an element of shared or vicarious experience” and by “the amount of detailed information that the researcher provides regarding the context” (p. 164). Most of the participating early childhood educators shared the experience of supporting literacy. Because each centre has been described with rich detail, primarily through the video walk-throughs, readers can determine if there are enough similarities between childcare centres to enable transferability.

Limitations

I am aware of the following limitations of my study that may have affected my results (Roberts & Hyatt, 2019). Primarily, I was mindful of my own biases and lens. However, Denzin (2017) describes how our biases prevent us from hearing others (p. 846). He argues that “we can never know the true nature of things. We each are blinded by our own perspectives. Truth is always partial” (Denzin, 2017, p. 843). Being aware of this limitation helped me understand multiple truths and perspectives and my own biases as a researcher. Simons (2009) also discusses subjectivity in her case study research, describing it as “studies documenting and analyzing phenomena appealing to subjective ways of knowing to gain insight and understanding” (p. 162). Simons concludes that we cannot “eliminate subjectivity” but rather the aim is “to recognize when it contributes to insight and understanding and when it might become a potential bias” (p. 163). According to Simons’ criteria, having a “reflexive stance” (p. 163) assisted me as a researcher to be aware of and limit my biases and subjectivity. This reflexivity aligns with my early childhood education philosophy, in which I believe in the importance of

educators reflecting on their practice continually. My own bias and view of children as capable also enabled me to recognize children's strengths and capacities in using multimodal literacies. I was limited by the inferences I made from the case, highlighting what Simons refers to as "further concerns focus around the personal involvement and/or subjectivity of the researcher" (Simons, p. 2009, p. 24). However, I minimized these inferences and subjectivity by providing enough information on the experiences of educators so that "readers can make their own judgements about their relevance and significance" and "the validity and usefulness of the findings" (Simons, 2009, p. 24). The rich details of my case study allow readers to make their own interpretations. Additionally, my reflective journal helped me to keep my biases in check throughout the research process.

Delimitations

I made the following decisions in consideration of narrowing the scope of my study and what elements to include or leave out (Roberts & Hyatt, 2019). I chose to study educators who work in centres with children aged one to six years of age. I could have also looked at out-of-school care programs or family day homes; however, I decided to focus on childcare centres and kindergarten programs rather than other early childhood programs. I focused my study on educators who hold a level three or level two credential from Alberta Child Services. Since these credentials are granted to educators who have completed a minimum of one year of postsecondary training, this choice ensured that participants had some theoretical knowledge of literacy development in young children. Rich data was obtained by having these delimitations.

Summary

This chapter has outlined my rationale for using a qualitative research design and how I used qualitative methods to investigate how early childhood educators support multimodal

literacies in young children. Using a multiple case study, I determined many of the strategies educators utilize to support multimodal literacies. For data collection methods, I used interviews and video walk-throughs and reviewed pedagogical documentation provided by the educators to determine the strategies educators were using. Data was coded and analyzed for themes, and the findings from the collected data are outlined in the next two chapters.

Chapter 4: Findings Concerning How Educators Conceptualize Multimodal Literacies

My overarching research question asks: How do early learning and childcare educators in Alberta support the development of young children's multimodal literacies? To address this research question, I consider the following sub-questions:

1. How do educators conceptualize and define multimodal literacies?
2. What strategies and pedagogies do educators use to support children's multimodal literacies?

In this chapter, I discuss the findings from research sub-question one. Analyzing all three data sources I collected—video walk-throughs, interviews, and pedagogical documentation—led to a deeper understanding of how educators conceptualize and define multimodal literacies. In Chapter 5, I address the second research sub-question.

Key themes that emerged from the data include conceptualization of meaning making and the concept that everything children do has meaning for them. In this chapter I explore key differences and similarities in how educators conceptualized multimodal literacies and meaning making. The study participants underscored the idea that children are continually making meaning of the world around them and of significant events in their home and family, drawing on their funds of knowledge.

Conceptualization of Meaning Making

The first theme that all the participants highlighted was their conceptualization of meaning making, which included the idea that everything children do has meaning. As Rebecca stated, "On one hand, I think everything children do has meaning for them in some way." Educators defined meaning making as "how the child sees the world" (Morgan) and "how the

child sees things” (Sherry). Both Beth and Hannah described meaning making as how children are “connecting to their world” (Hannah) or figuring out how the world works (Beth). Rebecca provided a similar definition of how children were “making meaning of a situation, or material, movement, context, or concept” (Rebecca). Debbie defined meaning making as: “finding value or understanding in something.” Abby provided a similar definition that included “meaning making in the process of how people construct, understand, and make sense of and apply events and relationship to their self” (Abby). Hannah also mentioned “constructivist learning.”

Like this constructivist concept associated with meaning making, Abby related meaning making to building schema. She stated that “meaning making is an ongoing process where children build schemas and test theories.” Abby provided an example of this in which she described a child who had read a book about airplanes and a few days later brought her a LEGO structure he had made and said, “Abby, Abby airplanes.” Abby described the meaning making process: “So, that means they take what they have learned and have known through the pictures of things, and then they visualized that through LEGO.”

Morgan described meaning making by providing an interesting gear analogy whereby the child adds layers and puts pieces together as the child makes meaning. Morgan explained this gear analogy as follows:

When I think of meaning making, I always think about how when there are gears and then it’s added just one by one, and ideas are just kind of connected to each other. And I think that’s what meaning making means. And I think the gears also represent the things that happen all around us. So, it’s just working together and then for us, you just connect those two pieces.

Morgan's explanation spoke to how children make meaning and connect ideas as they do so. It is similar to the schema example Abby provided, although Morgan did not use the term schema. Importantly, in Morgan's definition, children were building and connecting ideas as they were making meaning.

Various similarities were evident in the educators' descriptions, including the central concept that meaning making is how children relate to and make sense of the world. The educators in my research also described meaning making as how children make sense of experiences and construct learning. A constructivist underpinning was evident from many of the educators' comments. Throughout my data analysis, it became apparent that the educators defined multimodal literacies and meaning making somewhat differently. In the next section, I describe how educators explained multimodal literacies.

Multimodal Literacies Defined

I asked the educators to conceptualize multimodal literacies and how this concept relates to meaning making. Many of the educators spoke about the challenges of defining multimodal literacies. Debbie stated, "Well, I know what it is. But how do I explain it?" Beth echoed these complexities: "It's so hard. How are you even writing your research on this? Because everyone's meaning making is different. Everyone's multimodal literacy is different. It's complex" (Beth). Brooke also conveyed the challenges of defining multimodal literacies, saying, "But multimodal literacies are so hard to explain. Like I don't know how to explain what multimodal literacy is to anyone because it like it's, it's blocks, it's paint, it's us talking, it's me talking with my hands, it's everything, it is communication" "It's such a complex and fun topic because it's so personal and it's so abstract, in my opinion."

The educators defined multimodal literacies as “modes or methods of meaning making” (Beth) or “different modes of expression” (Abby) or how children “make meaning through multimodal literacies” (Sherry). These multiple modes might include “language, music, their body movement, their emotional expression, their art, their mark-making, their math, and their science” (Abby). Debbie used similar terminology as she described multimodal literacies as modes of expressing meaning.

Multimodal literacies, to me, are the modes in which children learn to create meaning for themselves. I think that some children might connect better to block play, while others connect more to dramatic play or drawing. So, I think of multimodal literacies, I think of the way in which a child is creating meaning.

What are they using? Or what mode are they trying to explore through?

Beth also spoke about the various modes of expression children use as multimodal literacies as she expressed a similar definition.

Multimodal literacies to me are—you can use multiple literacies, play, blocks, drama. I don’t know why I said those things that way. Sand, water, all of the things, all of those literacies, we’ll call them, to make meaning. So, your meaning making is intertwined into the literacies, but the literacies kind of stand-alone.

Because the literacies could be the same, like the literacies, if you and I are playing with water, the literacy that we are choosing to use and explore is water.

But the meaning making that each of us is doing is going to be different.

The educators also addressed the importance of materials and multimodal literacies. Rebecca referred to materials themselves as multimodal literacies.

Multimodal literacies are ways of making meaning as well as ways of expressing meaning. So, when a child encounters a material, together with that material, they make meaning of a concept or idea. But also, that material is a multimodal literacy that expresses the meaning that they have created. With the child who is building with blocks, they are working with that material and making meaning. But that material is also a multimodal literacy in that that is how they are making sense of what they were doing and expressing it. So yes, it's a different way of making sense of something or making something visible.

Rebecca's description conveys the connection between materials and multimodal literacies and how she found that materials themselves may be multimodal literacies.

Brooke conveyed the connection between multimodal literacies and communication as she explained how she saw multimodal literacies as communication. She was the only participant who described multimodal literacies as communication, saying, "Communication is what I think of when I think of multimodal literacy. And I think it's communicating with yourself, with yourself and others."

As the educators discussed multimodal literacies and the connection to meaning making, it became apparent that they all saw a relationship between multimodal literacies and meaning making. Rebecca described the connection and similarities.

Multimodal literacies go hand in hand with meaning making, and they kind of have to almost both, not that they have to be present. But it's like you almost need one to get to the other. I think of meaning making as I don't want to say like a product or a destination. But I feel like you're working on getting to this meaning

making moment. So, what multimodal literacy will you use to get there? If that makes sense. That's how I think my brain sees it.

Rebecca described multimodal literacies as a means of getting to meaning making. Debbie offered a similar explanation.

Versus meaning making to me is when children build on their understanding of something, to find that experience valuable to them, so they go hand in hand, but they are different. I think that children use multimodal literacies to have a meaning making moment.

Some educators also noticed a distinction in that multimodal literacies were more about materials and the modes of expression children were using. Hannah clarified this by stating that multimodal literacies are “more of the strategies or the materials that you are using.” She characterized this as different from multimodal literacies.

Meaning making is how they're expressing ideas through the materials they're using. And through this, the experiences they're doing. So, I think it's two different things. Multimodal literacies and meaning making are two different things for me.

Hannah described meaning making as “more internal” than multimodal literacies.

I feel like sometimes meaning making is still kind of more internal. Whereas multimodal literacy is kind of like externalizing what they're thinking about. Because meaning making doesn't always end up turning into something physical, where I feel multimodal a lot of times is kind of taking that idea and then.

Sherry detailed a similar idea about the differences: “They are almost meaning making through multimodal literacies. Like they tried to verbalize, they tried it out, by visually, they’re trying it out hands-on to see if it works, to see what they’re thinking about.”

From the various definitions of multimodal literacies offered by some participants, it was also evident that not all educators saw multimodal literacies and meaning making as the same. Many of the educators saw multimodal literacies as a way of meaning making. Multimodal literacies were also more about materials and the way children use materials for many of the educators. This distinction between multimodal literacies and meaning making was a key yet unexpected finding. In the next section, I explore the use of multimodal literacies and meaning making and the connection to children’s funds of knowledge.

Enacting Funds of Knowledge

The participants explained how children were making meaning, indicating what they know and relating this to their funds of knowledge. The educators explained that children often connected to their home, families, and culture during play. The participants provided examples of the children playing out common themes or current events in their play. The educators describe how children used specific information or ideas from their families and enacted this in their play. Sherry described how this became evident in their dramatic play during COVID-19.

The other day we just started talking about the body, and then the kids suddenly decided that they wanted to be nurses. And then one of the teachers was sick and then, because it’s COVID time, they all needed to go get their masks from their cubbies.

Beth also described how the children at her centre played out their understanding of vaccinations during COVID-19.

You know, there are children right now who, if you were to come to the centre and go into one of our preschool rooms, you could get fully vaccinated. Just fully vaccinated, you get twenty-six shots with DUPLO. And you can just get fully vaccinated here, no problem.

Beth continued to explain how this vaccine play “tells me something about their understanding of the world right now.” In both examples, the educators talked about the children recreating current events and their own understanding of these events in their play.

Abby also described a moment when she observed a child building a treehouse with LEGO blocks and how she wondered where this idea had come from. After talking to the child’s mother, Abby discovered that the treehouse idea came from a cartoon he frequently watched at home. Abby reflected on this moment and said, “So, now I know that he has a memory about what he knows from home, too, and he brings it to the centre.” Children were commonly recreating moments from home, pop culture, and their funds of knowledge in their play. This conveying of ideas in play may take many forms. As Abby described, children use “their body and gestures to express their feelings. They use music, songs, or their own language from home to let us know what is going on. They use their movement and sound to mimic and embody the animals [or other things]” (Abby). Hannah also echoed the idea that children were making meaning of familiar experiences from home: “They’re bringing some sense of their home to the centre because mostly if you will look closely to children’s play it is all about family, it’s all about their experiences, it’s all about some events that they want to go back to.” Rebecca provided this example:

A child was thinking about bridges and using the blocks to try to make a bridge from the ground all the way to the top of the light table. And so, in that, they were making meaning of the bridge in what they were doing. They are using those blocks and making sense of gravity as the blocks are falling. They are making sense of balance, of bridges, and how they work. And I imagine the child has gone over bridges. And so, that's something that they're thinking about. And through using those blocks, they're making sense of that, making meaning out of those things.

The children were recreating what they already knew about bridges in their play, and they used play to help them make sense of those ideas. Debbie provided a similar example of how children were enacting what they knew about building and structures.

For example, building with blocks. And I see children building structures based on what they know about them. And I've seen lots of experiences of children creating steam engines or trains, and I feel like that holds value for them because they're taking what they know about that. And using that mode of blocks to build their understanding on it.

In all these examples, the educators demonstrated how children made meaning out of familiar knowledge or used their funds of knowledge to further their meaning making. They were making meaning of their "lived experiences" (Rebecca).

The pedagogical documentation educators provided demonstrated how the children made sense of the world around them and connected to their funds of knowledge. In the written story supplied by Abby, two-year-old Zach was drawing on a page with straight lines and saying

“Cow, cow,” demonstrating his knowledge of farm animals. He then went and brought over a few puzzle pieces of a cow and again stated, “Cow, cow.” This time, Zach began to draw in a circular motion. As Abby interpreted this story, she wrote:

You were *exploring and representing what you knew* [emphasis in the original] about a cow by way of using language, sound, movement, mark making, and image. You were *constructing meaning* through multiple modes of speech, language, image, and art.

When I asked Abby to outline further the documentation and how the story conveyed Zach’s funds of knowledge, she replied:

He wants to show me what he knows about cows through using language, mimicking sound, and creating art. And then he wants to show that cow. So, he went to get the puzzle and when he saw the puzzle, [he thought] “Oh, there’s something different from my previous cow.” So, I guess he had an idea in his mind like “What should I do now?” Yes, that’s what he’s meaning making of what he knows. And then he transformed his knowledge to the other form of things.

Abby’s interpretation of this story provides insights into how Zach used his funds of knowledge and multiple modes of expression to create meaning. Brooke provided a learning story about a child who used materials in very different ways. Brooke was surprised how Dylan (four years old) connected DUPLO and other materials. Upon discussion with Dylan’s family, Brooke discovered that Dylan was recreating moments from his home when his father had hitched up vehicles. This learning story demonstrated Dylan’s meaning making of his knowledge

from home and how he recreated this in his play. In the documentation Morgan provided, he described how three-year-old Katie recreated the song “Old MacDonald Had a Farm” in her play with animals and DUPLO. As Katie was singing the song “Old MacDonald,” she placed the animals one by one on the train along with a gnome to signify Old MacDonald. As Morgan reflected on his pedagogical documentation, he said, “Katie, in this play, you showed me how you can move and imagine what you already know in new and creative ways.” He also remarked on “how you created your own mini-world based on the song by using the materials around you to represent the story you were singing about.”

From these examples, it became evident that the children were making meaning of real-life experiences and using their funds of knowledge as they conveyed ideas. The children were exploring ideas and concepts that were meaningful to them and, in many cases, came from their home and background knowledge. Play in these examples, provide the children the opportunity to not only use their funds of knowledge but also deepen their understanding of these family and social practices. Connected to the children’s meaning making and their funds of knowledge are agency and choice, which I explore next.

Fostering Agency

A key to the children’s meaning making reported by the respondents was agency and choice. The educators suggested that children were free to make the meaning they chose and determined how they wanted to convey ideas. Events and topics that interested the children often informed their choices about expressing their ideas. All the educators were trying to foster an environment in which children had agency and choice.

Abby described the importance of agency as follows:

I think if the children have free play, this is meaning making play. So, when children choose and follow their interests and create their own imagination work where they test their theory, that's when meaning making happens. They make the connections from what they have known or learned and put it out to trial. They will test and test, create their own world, and increase their imaginations, and then they keep testing, testing until they find the balance.

Agency led to more profound meaning making and the opportunity for children to explore and make meaning of what they were genuinely interested in. Rebecca discussed the importance of children's agency in their meaning making.

It's that choice of what they need to make sense of something or to make meaning. Choosing the materials that they can work with, and working together with, to make meaning of whatever they're working on at that time. And it's not—I think that even if we set something up as educators, as a way to support their meaning making, it is still their choice in what they bring out of it or what they make meaning out of that. It's their own choices and their own agency within that experience. I think that's a big part of it, despite what we might set up. They're the ones who are choosing and who are making the choices about what to make and what to bring out of that.

In her example, Rebecca outlined that even though the educators may have set up the materials and experiences, children had choice and agency regarding what ideas they wished to convey.

The educators also expressed the importance of agency and ensuring the children were free to pursue their interests. Rebecca stated, "I don't think that, you know, they are going to

make as much meaning out of something that they are being told you have to do, that they're not interested in doing." Not only did the children have agency and choice in their play, but the educators ensured they could also decide what ideas they wished to convey and share with others.

Agency, importantly, as the educators revealed, could also be limited by educators. Beth described this:

With some traditional methods or educator thinking, we might actually strip them of their agency without even knowing we're doing it. I think they innately have agency, and they have that within them. And then we, depending on how we make meaning of what's happening, the environments that we're creating, all of those things; we can either support them so that they can explore their agency, or we can strip them of it.

Brooke talked about how educators limited agency by taking the children's ideas and "taking it to where I want to go because that's how I've made meaning, but that might not necessarily be where children are." When Brooke took the children's ideas in a different direction than the child intended, she might also take away their agency and choice about how they wanted to create meaning.

Lastly, the educators all contributed to the children's agency in the playroom setups. Agency was apparent in the video walk-throughs I completed with each educator. All the playrooms had materials readily available for the children. There were multiple places children could play, and they had choices in the materials they could choose for play and meaning making. Educators also spoke about the importance of having materials available to provide options for the children and support their agency. For example, Brooke said, "I think they need

agency and choice in being able to have the materials and mediums that work best for them to convey their ideas, but they don't necessarily need to convey an idea to me or other children. I think a lot about it can be personal." Brooke also spoke about the importance of children having "freedom to explore their ideas in a lot of different ways."

Related to agency was the idea that children had the freedom to use materials in multiple ways and move materials throughout the room. Brooke, for example, spoke about "not having those hard lines around how to use materials and how to be in spaces but leaving it open for children's interpretations and children to bring themselves and their thinking to that space" (Brooke). In Brooke's example, the children could move materials around the space and make the space their own. The educators also spoke about the children using their agency when they engaged in full-bodied play and embodied meaning making, which I cover in the next section.

Embodying Multimodal Literacies

I defined embodiments for the participants as "full-body play or experiences," as many of the participants asked for clarification on the term. The educators provided multiple examples of the children's embodiments in their meaning making, showing that the children were embodying multimodal literacies in their play. One educator described children who were "so committed to the plot lines of kitty and dinosaur play" that the children had minor injuries. Beth relayed the following example: "I see the kitty games start with some pipe cleaners. And they're scratching each other like cats. They are pretending so much to be cats, but they're actually scratching. They were actually scratching each other." The same group of children also were biting each other during dinosaur play. As Beth explained:

But this group, it was the same kitty group, the same dinosaur group. All those children were so invested in and embodying their imagination and really entering

into these games that things are happening. They are very committed to their plot lines.

Beth clarified how the children were embodying these meaning-making moments to the extent that they did not realize they were injuring one another.

Rebecca described a research project she had completed on embodiments. She video-recorded children jumping in puddles and playing outside. When the children watched themselves engaged in play, they started jumping. Soon afterwards, when Rebecca walked into the room, the children embodied these moments and started jumping. She became the “jumping person” to these children, as she explained:

And we would go for a walk, and then I would bring it back using video and document and pedagogical narrations and things like that. And, at first, it was all about watching it, and then I started noticing that the children were telling those stories by jumping in the room. They would jump when the puddle part of the video would come on. Or they would jump from the carpet onto the hard floor, jumping in these puddles and making meaning of what we have been exploring through the whole time that we’ve been doing this. And they really embodied that storytelling or that puddle jumping in their room. And it was really interesting to think about how you really can’t understand or make meaning of jumping in puddles without jumping. You had to embody that. And so, yes, I think that was my most significant example of this puddle jumping and how they embodied that whole process of jumping in puddles.

As Rebecca described, the children embodied what they knew about puddle jumping by jumping in the playroom.

Other educators provided examples of embodiments when children were immersed in puddle and water play or with other materials such as paint. The educators explained that being fully immersed in these moments led to more profound meaning for the children than if they had not fully embodied the play and the materials. Morgan explained that, during these embodiments, the children were making meaning by “experiencing things through their senses in these moments of embodiment. And I think our senses are all about our bodies and understanding and trying to understand what our capabilities are, what our limits are.”

These examples and descriptions show that the children used their whole bodies and embodied meaning making in their play. The children were using their entire bodies to express their ideas. Related to the concept of embodiments is whether children intentionally make meaning, which I discuss in the next section.

Intentional Use of Multimodal Literacies

I also asked each participant if they felt that the children’s meaning making was intentional or not. In most instances, the educators believed that the children had a deliberate goal in mind. The children had an idea in mind that they were trying to convey. Sherry provided an example of intentionality: “If they see some sticks and I really need to make something out of it, and I need tape. So that they have that idea in their head and it’s very intentional, and they know what they need to make it do what they want it to do.” She described how children intentionally asked for materials to enhance what they were doing or to signify their ideas. Other educators noticed children’s intentionality as they expressed what they knew about their family and home life. Debbie said she saw children’s intentionality when they were “laser focused” and

“passionate” and “they’re seeking to learn something in either the way that they’re using a material, or they’ll ask me for materials.” Debbie outlined how the children were making deliberate choices in their play.

And so, I find there’s like intentionality when they’re seeking out something that could be materials or understanding. They’ll ask questions. And I feel like it’s them trying to find understanding in something. So, when I think children are really intentional about it, I think they’re just really focused and seek things out to learn more.

Even though moments may be unexpected, the educators agreed that children were usually intentional in their play and meaning making. Some educators described moments that started as unintentional but gradually became more purposeful. They also talked about moments where the play ended differently than the children had set out.

But I think these meaning making moments can kind of happen without, not that without their awareness, but I think that they can come upon you without even realizing it. I think of children playing with water or sand, and then it mixes in a way or moves in a way that maybe they didn’t expect it to. They weren’t intentional, but for that something to happen with it. But then, all of a sudden, something happens that kind of sparks their thinking. And then I feel like maybe it leads into more of an intentional seeking to understand it if that makes sense. I think it can lead into intentionality (Debbie).

Beth shared similar ideas as she described how the children were not entirely intentional during moments such as dizzy play where the play was exhilarating, on-the-edge play. Children may, as Beth revealed, act on instinct.

I think there is a place for nonsensical play, and they choose. But at the same time, there is maybe not a conscious decision of when that will happen for them. Maybe they're not consciously saying like, "I am about to do some dizzy play." We know they are not doing that. But we can notice some patterns of groups or children where they are building with blocks. And let's say they are building, and there is a lot of focused energy. And then you know that focused energy is going to break at some point, and they head into this like this exhilarated experience for themselves, right, we see that pattern. It is hard to talk about intentionality being like, "Oh, they intentionally do everything," but at the same time, I think if you are listening to yourself, you are listening and doing it intentionally based on what you are feeling. Children just go on what they are feeling and what they are thinking, so they act. That is my understanding, and my interpretation is that they act on their instinct, which is intent, which is intentional. I think, in a way, it depends on what your definition of intention or intentionality is, I suppose.

Beth's comments demonstrated the complexities of intention and the idea that intentionality in children's play and meaning making depends on how one defines intent.

The idea of intentionality seems to be one theme where there was some educator disagreement. Many of the educators felt the children often had a conscious decision in mind and knew the direction they wanted the play to take ahead of time. At other times, the educators explained how the play might evolve and take a new direction that was not intended. Lastly, the

educators described moments that seemed to be entirely unintentional in which play just happened without an end goal or a meaning-making goal in mind. I cover play and the connection to meaning making in the next section.

Play

Another key theme was the idea of the interconnectedness between play and meaning making. Through play, children try out their ideas and build their own theories and understanding. The educators all agreed that play and meaning making are interconnected and influence one another.

Beth described how “there’s safety in play, I think. When you’re pretending to do something or playing something out, you have an opportunity to explore and make meaning of the world around you in ways that maybe conventional everyday life doesn’t allow you to.”

Debbie echoed the idea of safety in play and play as a safe space to explore ideas. Play also afforded children the “time and freedom to explore the space and materials and to explore their own ideas” (Sherry, p. 8). Play also provided children with “comfort zones;” Hannah said that “children, they have their own comfort zones away from adults sometimes.”

Brooke described the importance of play in expressing ideas as follows:

I think that’s it. It’s just that time to think, and be, and sit with ideas, and forget ideas, and revisit them, and to share with others. I think, like playing together and making meaning together is so important, to have your ideas bump up against someone else’s and to test ideas.” “Play is meaning making of their lived experiences, of their imagined experiences, of their daily life of being a child. I think I can’t say it any other way, so I’m putting my hands together [to show] connected, intertwined.

As Brooke described play and meaning making and the connection, she interlaced her fingers together to demonstrate the connectedness visually. Morgan also outlined how play and meaning were not “separate but rather are interchangeable.”

Debbie talked about the connection between play and meaning making and explained the relationship as follows:

I think that children learn through their play. By playing, they’re able to take what they’ve learned or seen from their life outside of the centre and the playroom.

And they can make these kinds of guesses or hypotheses about things. When they’re in play, they are able to negotiate with those ideas and with people and bounce ideas off each other and explore those really valuable ideas; something that provides meaning for them. Essentially making it a meaning making moment.

I think play is a safe place where they can explore something, an idea they have. I think there is a lot of meaning making that comes from play. I think that is why it is so valuable to children because they are just learning so many different skills.

Debbie described both the safety in play and the idea that children develop multiple skills through play. She also explained that children can learn from one another and explore ideas together during play.

Abby was the only educator who spoke about distinct types of play and the importance of free play over structured play to support children’s meaning making.

For me, structured play is the meaning making of the teacher only. They want to make it about a product, what they want. But if we think about the process, the children have a choice in that too. And with structured play, the children will get

bored because it is not their idea. They're not engaged in depth, and they don't interact for a long period of time. And that's a very important point with the structured play. We don't know what the children are thinking, understanding, or meaning making because we make the meaning for them. If we give them opportunities for free play, they will tell us, and they will show us. They will bring to us what is meaning making for them.

Other educators shared similar ideas about the importance of play to support children and their meaning making. Each of the educators in my research clearly articulated the connection between play and children's ideas. Many educators described how play provided a safe space to try out ideas and convey meaning beyond providing a meaning making place.

Summary

Overall, key findings from the video walk-throughs, interviews, and pedagogical documentation reveal various themes related to the educator's conceptualization of meaning making and multimodal literacies. The key themes include the idea that everything children do has meaning for them and that children use their funds of knowledge to make meaning. For these educators, the children's meaning making also involved their agency and choices. The participants suggested that embodiments and intentionality are crucial in conveying ideas. Play and its connection to meaning making was the last theme indicated by the educators in my research. In Chapter 5 I elaborate on the strategies educators used to support children's meaning making processes.

Chapter 5: Findings Regarding Strategies Educators Use to Support Multimodal Literacies

This chapter outlines the strategies the participating educators used to support multimodal literacies. These findings respond to research sub-question number 2: What strategies and pedagogies do educators use to support children’s multimodal literacies? The educators identified several key strategies and pedagogical practices they used to support meaning making. These strategies and practices became apparent through my interviews, video walk-throughs with educators, and review of the pedagogical documentation provided by educators. I have labelled the strategies “using the co-inquiry model” (with subsections on including noticing/co-learning, naming/co-researching, and nurturing/co-imagining possibilities), “employing pedagogical documentation,” and “creating responsive environments” (the latter includes subsections on space, the environment as a third teacher, materials, materiality, educator participation, and time).

Using the Co-Inquiry Model

All eight participants described how they used the co-inquiry model as a strategy to support children’s meaning making. As described in my literature review, the co-inquiry model involves the three steps of noticing or co-learning, naming or co-researching, and nurturing or co-imagining possibilities to help educators plan curriculum and co-construct meaning alongside children. Not all participants referred to this strategy by name as the co-inquiry model. Still, each of them described using the steps of the co-inquiry model and the elements of noticing, naming, and nurturing to find ways to extend children’s meaning making. The educators explained how they used the model by starting with their observations of children and then reflecting on the observation and sometimes sharing these with others. After reflection, the educators found ways

to nurture the children, their play, and their ideas. Rebecca described the co-inquiry process along with examples of how she used the model in practice.

I use a lot of observation and reflection, planning, and action. So, a lot of noticing and naming and then extending those. I will notice when a child is working a lot with water and thinking with water. And we'll try to provide provocations that will extend that and support that meaning making. And thinking about maybe adding scoops or pipes or something that can support their understanding, and then they're meaning making of water and themselves and how it flows and moves, things like that.

Debbie described the co-inquiry process by saying, "I think by observing, reflecting, planning, we make these inferences about experiences that are holding meaning for children, and we can support them in moving forward." The educators used this co-inquiry process to support children's meaning making, extend their ideas, and scaffold their learning.

Next, I address each of the steps of the co-inquiry model in detail with examples of how the educators used each phase to support children and their meaning making.

Noticing/Co-learning

Each of the educators outlined how observations and noticing were vital to both the children's meaning making and the educator's meaning making process. Brooke described the importance of observation in meaning making.

I use the observation to help me inform my next steps and make sure the environment is responsive and is actually for the children living in that environment. Without doing the observing piece, and if I just made decisions and was more reactive than responsive, I don't think that is setting up children to be able to kind of go deeper with their thinking and their meaning making.

Debbie also highlighted the value of observation.

I think observations can give us insight into children's thinking, especially by watching what they're doing, what they're saying, what questions they are asking. And without the observations, I don't think I would know what they want to learn about or do, but by doing those observations, it just kind of gives you some insight into what they're researching.

The critical steps of observing and noticing supported the educators' understanding of what the children were doing and what the children were trying to express. After observation, the educators reflected on their observations and then determined ways to extend the children's thinking and ideas.

Naming/Co-researching/Reflection

A key piece of the co-inquiry model that educators described was documentation and reflections within the naming or co-researching stage. Some of the educators outlined how they used naming to understand what the children were doing. For example, Brooke reported "interpreting it and not skipping that missing middle, like having some time to reflect on what it is and how we make meaning of it." Abby described how she enacted the co-researching process, saying, "and then I will share my observation with others, families and other co-educators, to understand more about what they are trying to do. This step is called being a co-researcher."

Morgan referred to the importance of reflection as follows:

I think observation and reflection after that is a way for us as educators to do meaning making in what they're doing, and to create a bigger understanding and to connect words to what they're doing. And I think when educators understand what children are doing or

try to make sense of what they're doing, we can support them and continue to engage them in pursuing what they want.

Morgan's description depicts the value he saw in observing children and then reflecting on those observations.

Another theme of co-researching was the educator's interpretation and meaning making of these moments. Abby used reflection and sharing with others to co-research and help her understand her observations. She described the importance of educator reflection after the observation process.

I think my wondering and observations might be intentional to know if it's a children's meaning making. And without wonder, I don't understand. I don't have the trigger for me to try to figure it out: "What are they doing? What are they trying? What are they expressing? What are they thinking in their imagination, their ideas, and thoughts?"

Some of the educators spoke about uncertainty, and the idea, as Brooke said, that "I am never certain of the child's meaning making." Educators often made their own meaning and interpretation of these moments without knowing if their interpretation was the same as the children intended. Brooke further explained this uncertainty by describing an example of her own interpretation of a child's meaning making.

We had a new child move into the playroom, and randomly, she'll bring another child their water bottle throughout the day. Water bottles kind of hold meaning for our room in that if someone's upset, another child will often bring them their water bottle. But I noticed this child doing this when people weren't upset, just randomly throughout the room, and I wondered. When I see that moment, I think of her actions as saying like "I'm here," "I can help care for you," "I'm thinking about you in this space with me." So, I

think that's a meaning making moment. But that is just my interpretation of it, and that might not be what's happening for this child, but when I see it, I see caring and a sense of belonging and community and connection happening in a way for this child to connect with others. But it might not be that, but that's how I interpret it, and that's how I make meaning of this child's actions and her negotiating, navigating this new room that she's in.

Brooke's example described her interpretation of what a child was doing and how she made meaning of the moment through her reflection. However, there was a degree of uncertainty in her meaning making. Other educators echoed the idea of uncertainty and how often their observations and reflections were based on their interpretations of what the children were doing.

I asked each of the educators to provide me with a sample of pedagogical documentation that reflected children's meaning making. The pedagogical documentation in the form of learning stories provided the educators with the opportunity to reflect and interpret what they had observed. Most educators also named the goals and dispositions from *Flight* to make further meaning of the children's play. Some educators mentioned the curriculum cross-checking process to name the goals and dispositions (Abby, Debbie, Morgan, Rebecca, Brooke). Morgan said, "And so, just observing Katie (three years old) just really gave me the opportunity to revisit those tools and revisit what it means to, to observe and to understand how these children process meaning making" (PD interview). By using reflection and interpretation, Morgan made more sense out of what Katie was doing. Within the co-researching or naming stage, some educators referred to *Flight* and named goals and dispositions described in the document. Abby explained how she usually selected one or two goals from *Flight* to focus on, saying, "I try not to include a lot of goals in one story, even though there's so many in one. But just like something sparkles

out for me, at that moment, what I think about most” (PD interview). This way, she could also ensure that families were “not overwhelmed” and they knew “what the focus is.” Beth also commented that she used the goals from *Flight* to help her “make meaning” of what the children were doing.

Educator reflection and interpretation, along with the pedagogical documentation, helped the educators make their own sense of what the children were doing so they were ready to co-imagine possibilities or think of next steps to nurture the children’s play and meaning making. In the next section, I explore the next phase of the co-inquiry model, nurturing, and how this supports meaning making.

Nurturing/Co-imagining Possibilities

The educators also discussed how they nurtured and extended the children’s play and ideas. By observing and reflecting on what the children were doing, the educators provided other materials or play opportunities to nurture the children’s play and support their meaning making. Hannah described how the co-inquiry cycle looked in practice and how she nurtured the children’s play. She used observations and noticed the children’s play interest of cheetahs and Power Rangers and then reflected to determine possibilities to extend the play and meaning making into the topic of transformation.

So, we ended up that interest from Power Rangers and from being cheetahs and everything. That interest for our provocation, as it goes, and then we get the idea of, the big idea of their play is more on transforming, transforming spaces, and transforming themselves, transforming materials into something else. You know, like that stuff, so that’s how we do the cycle of co-inquiry. From noticing and then we’re using

provocations to extend more, and then we're getting the idea, and then from that idea, we're planning ahead. (Hannah)

The participants described how they extended the children's thinking. Debbie, for example, constantly explored "how do I extend this forward? And I think about right away, my mind goes to what materials or experiences can I offer to move forward in that" The educators often used provocations to nurture the children's play and meaning making. For example, the educators described how they nurtured play or meaning making by supporting the children with books or other sources of information to further their understanding and knowledge.

Many of the participants said that they tried to ensure they followed the children's lead and ideas. The educators attempted to find a balance to nurture the children's play and meaning making. The educators explored how the key was ensuring that the children were genuinely interested and that "the innovative ideas" helped the children expand their thinking, ideas, and meaning making. Morgan's comments illustrate the importance of nurturing children's ideas. He said, "I think once children create a sense of what they're doing, we can definitely support them more, and how to pursue those imaginations to pursue their thoughts and ideas."

Next, having outlined the three steps of the co-inquiry model, noticing, naming, and nurturing, I further discuss pedagogical documentation, which is part of the co-researching or naming step and is key to educators supporting children's meaning making.

Employing Pedagogical Documentation

Each educator selected a piece of pedagogical documentation to share with me, and I also interviewed each educator to gain insights about why they had chosen that piece of documentation to share with me. Key findings were about how educators selected which moments to document, the value educators found in pedagogical documentation, how educators

shared pedagogical documentation with others, and how educators used documentation to support meaning making.

Many of the educators outlined the importance of choosing which moments to document. When I asked Abby why she had selected that moment to document, she revealed that the moment had “surprised her.” She had not expected the child to respond in the way he did, and she was stunned when two-year-old Zach started to make a round shape for a cow after looking at a puzzle of a cow. Other educators spoke about how they chose moments that were “inspiring” (Debbie) or in which children were “engaged” (Morgan) in the moment. Others talked about how the moment had caught their eye. It was interesting that both Morgan and Rebecca chose to document moments that had personal meaning for them. Morgan wrote about a child who was singing, and Rebecca wrote about a child using a camera. Both educators admitted that these were personal interests of theirs. The educators were often drawn to meaning making moments that held an emotional appeal for themselves as well.

Many of the educators discussed the value and significance of pedagogical documentation. Debbie said:

I think documentation provides meaning making more for educators, not that it doesn't matter for children. But I think at the end of the day, we don't know 100% what experiences children find meaningful, but through our observations and by reflecting, I think we think about the ways that those experiences could hold meaning for children. So, I think essentially, educators come out with more understanding of children's play and experiences.

Debbie reflected on how her pedagogical documentation helped her make sense of the children's play and come to a deeper understanding.

Often the educators shared their documentation to gain valuable insights from children and families. Rebecca illustrated the value of sharing pedagogical documentation with children.

So, it was important to be sharing that with them so that they could see how I was making meaning of things. Through, I mean, the toddlers, I wasn't telling them any of these things, but showing them the pictures and showing them what I was gathering for that pedagogical documentation. This really pushed them to think more or to do more. So, one child, after looking at some of the pedagogical documentation I had made of jumping in puddles, that's when he started to, he got up, and he walked to the edge of the carpet, and he jumped onto the hard floor. And then he walked to the next carpet, and he jumped onto the hardwood floor. And that wouldn't have happened without pedagogical documentation.

As Rebecca reflected on this moment, she described how important it was to share this documentation with the children.

Sherry commented about the value of sharing the documentation with families, saying, "And it's really interesting to see how it—I always think of how it bridges the playroom to the family's life. And it provides so much insight into that family and that child when we share documentation in that way." Debbie also discussed the value in sharing documentation with families.

But I also think that documentation can help families to see the interpretation of their children's play and the meaning making that might be happening. I think that it supports meaning making for me more than I'm not looking at it through a child's lens. I'm thinking of what it supports for me as an educator. I think about families, and there's meaning making in those moments for them too with pedagogical documentation.

By sharing pedagogical documentation with the children and the children's families, the educators gained valuable insights.

The participants also reflected on how these moments represented the children's multimodal literacies. The educators often chose moments where the children transferred ideas or meaning from one mode to another to express meaning making. Examples from the educators exemplified how they understood these moments and how the children were transferring their ideas from one mode to the other and were using multimodal literacies to construct meaning. For example, Abby described a moment when a child was drawing and then drew circles to represent a cow after looking at a puzzle. As she wrote in her educator reflection on this moment, how Zach was “*exploring and representing what he knew* about a cow by way of using language, sound, movement, mark making, and image. You were *constructing meaning* through multiple modes of speech, language, image, and art” (Abby, emphasis in original). Abby highlighted key descriptors about the goal of communication and literacies from *Flight* to highlight Zach's meaning making. Morgan described how, when Katie was singing, she transferred her knowledge of the song “Old MacDonald” to her play. Morgan added, “It was really interesting for me to actually see her thinking happening.” Rebecca described how a child taking images with a camera

captured that idea that there are multiple ways. There are these multiple multimodal literacies, and it really shows what, you know. Using this camera is another way of speaking. It's another way of telling a story about [four-year-old] Michael's perspective. Brooke shared a similar point of view: “I see Dylan (four years old) interact with multimodal literacies and making meaning in the world. And cars attaching and hooking up is a theme and idea and concept that Dylan has been exploring for as long as I've known him.” Finally, Debbie

shared, “I feel like when I watched the children work together, it was more about their meaning making on how their processes and the things that they were doing on the canvas affected the next person beside them.” The pedagogical documentation I collected from the educators shows how the children were using multiple modes of expression, from drawing, to block play, to music and art, to express their thinking and ideas.

Creating Responsive Environments

The educators also described the elements of a responsive environment including space, the environment as a third teacher, materials, materiality, educator participation, and time, and how each of these elements supports children’s meaning making.

Space

Space, the educators revealed, was especially important in supporting multimodal literacies. The use of space was especially apparent in the video walk-throughs I conducted with the educators. Each educator had created an aesthetically pleasing space. Each of the four playrooms I explored had plants, natural light, artwork, framed pictures, and many other elements to make these spaces beautiful. For example, one playroom had a beautiful chandelier made from paper circles hung at various lengths that one of the educators had created. The playrooms also had multiple spaces to explore multimodal literacies, including reading nooks, quiet areas to calm bodies or play alone, places for dramatic play and block play, kitchen centres, writing centres, etcetera. In the video walk-throughs, it was clear that educators had intentionally created spaces for children that were both beautiful and represented the children in the rooms.

Concerning space, the educators also spoke about the importance of areas for “big body games and activities” (Sherry). A couple of the educators talked about children needing to see themselves in the space and that the space needed to represent them.

I believe children need to see themselves in the environment in so many different ways, seeing their photos and family photos. Seeing that part of themselves is in the environment, but seeing their ideas are part of the environment and being accepted for having big and bold ideas (Brooke).

Beth further captured this idea by adding that children “are observing and making meaning of the space and themselves in that space. It’s not a passive thing.” Therefore, children needed to be able to see themselves in the space.

As Brooke described, children also need to have a certain degree of agency within the space: “Letting children move materials and manipulate the environment and the materials and the way that makes sense for them and making sure that they’re seen and heard in the environment as well, I think that all supports meaning making.” Debbie shared the importance of various spaces and children’s agency within those spaces.

I think having different spaces. Outside is a really large space that they can have these really big experiences in, but also small spaces. I think of children building with magnets, and sometimes they want to build like the longest path known to man. And it’s helping them to move some furniture around. That’s okay. But it is giving them the space to do that. And letting them know that they can make those choices is really, really important.

Another critical aspect of space the educators talked about was ensuring space to meet the children’s needs. Abby and Hannah spoke about the importance of spaces for quiet and relaxation. Hannah described how she created a particular “cozy, nook area” to meet the needs of one child and help him “calm his body,” but all the children used the space if they wanted a little “quiet time.” Abby also described the quiet area that she set up in the playroom.

We got a big box and some fabric down, and we created a quiet space because we noticed that there were some children that easily got emotional; they got upset easily. So, we created a quiet place for them. They can go in there to calm down.

All the educators talked about the importance of space and how the environment can influence children's meaning making. Some educators discussed the environment further and referred to the environment as the third teacher, which I discuss next.

Environment as Third Teacher

Many of the participants shared the idea of the environment as a third teacher. Abby said, "Loris Malaguzzi said that environment is the third teacher, and I believe this very much." She went on to describe how the environment should support children and their interests: "For example, if a child wants to engage in a lot of physical play, the space should be available to support this" (Abby). Beth also described how the environment was essential to support play and meaning making.

And I'm not saying you have to take all the materials out of your room, but if they're organized well, then children know this is where things go, this is how it works. It can also mean that they know "I can go here to get what I need." They're more efficient in their play. Because they know where things are to help them move forward to that, "Oh, I have an idea."

Beth's description outlines how the environment in her room supported play and the children's ideas.

Rebecca summarized the importance of the environment this way: "Same with the environment. If the environment is set up in a way that promotes running, um, that will shape the child's meaning making of how we're moving in this room, in the space." Debbie also

mentioned the environment as a third teacher and how even subtle changes to the environment can significantly impact children's meaning making.

I also think about the environment, and we always say the environment acts as a third teacher. It provides so much richness to experiences. And based on your environment, I feel like it can provide different things. An experience that you have inside, and when you take it outside, can change so much. For example, snow, you're outside, and you play with snow, and you see how it reacts in the cold, and what can you do with the snow, and then you bring it inside, it starts to melt. And it just did, the composition changes. I'm a really big proponent, or I just love taking experiences inside and outside and reversing them and seeing how it reacts and how it's different. I think that can provide a lot of meaning for something.

Debbie talked about how the environment can create rich experiences, such as bringing outdoor play inside and vice versa. Along with space, another element of responsive environments the educators mentioned was materials, which I examine next.

Materials

Educators also described how often children used materials in unexpected ways to create meaning. Sherry provided an example of how children created "Beyblades" out of Unifex cubes and how another child created a giraffe out of the same cubes. Sherry described how materials can help children create and do "whatever their imagination tells them to make." Sherry also described the importance of having a variety of materials available for children to support meaning making. This variety, she said, allows children to explore the material "how they want" and "combine materials as well so that they're not feeling like they're kind of stuck in one idea." Sherry went on to describe the importance of materials in conveying ideas: "Children can make

more meaning if they have access to materials and freedom to kind of use them in a different way, and we're not telling them that they have to use it in a certain way" (Sherry). Debbie also expressed the importance of materials, including natural materials.

I think materials are just really important, especially when children have access to them. And they know what's available, and that they have that choice to choose from a range of materials as well, especially natural materials. I just love using natural materials.

Debbie went on to describe how children often use materials in unpredictable ways and how they need the freedom to do so.

I think of space and materials as well kind of going hand in hand, just what materials are offered, what do [the children] have access to, and letting them explore those materials in the way that they want to. I think that sometimes we can see materials in, as an adult, kind of like one way. And you'll see children use them in a way that maybe you didn't think of. And I think letting them be free at that moment to do what they want with it and how they want to use it is really important and not stopping them.

Debbie's comments indicate how important she felt it was for children to explore materials as they wanted to.

Most of the educators in my research discussed materials and their importance in supporting the children's meaning making. For example, Debbie described how materials could enhance meaning making.

I've seen so many times that children ask for materials, and I think they're going to do it this way with those materials, and then they do it that way. And I think that by them doing it differently than what I thought is an example of how I think they're meaning

making. Because they're doing something different than what I thought, if that makes sense? That's another moment, I guess, [where] I can see that maybe children are meaning making because it's different than what I was thinking. It almost makes a meaning-making moment for me because they teach me.

The ways children used the materials often surprised Debbie

Educators also discussed the importance of knowing the children and choosing materials that interested them.

I think that when you're getting to know a new group of children, you can see what materials, or modes, or literacy they're particular drawn to. And allowing children to kind of be masters in manipulating those materials to convey their thinking and their ideas and stretching their thinking with it by providing novel materials alongside those familiar ones, so that they can take what they know about one material and bring it into another one. (Brooke)

Hannah described how she might add images to paint and brushes for the children to "learn something more." Educators were making deliberate decisions about the materials they provided the children. Both Abby and Debbie described ongoing art projects in which the children as a group continued to revisit these art materials over weeks. Debbie was so fascinated by the art project that she decided to capture it in pedagogical documentation. She said, "I got really excited to see a group of children use the art table and the materials on it in such different ways" (PD interview). Abby wondered why the art project interest lasted for so long. She decided that it was the materials and how they offered "something for the children" (Abby). These materials were meaningful to these children.

Abby also provided examples of how meaning making changed with the same material. She offered examples of LEGO and DUPLO: “Some days it’s towers, some days guns, some days airplanes, some days helicopters, some days boats. And the other day it turned into food for the dinosaur” (Abby). Carefully chosen materials can help the children make meaning in multiple ways, as the educators described. Debbie also recounted how, with the art project, she documented the children using the same materials in “such different ways, even though they were presented the same way to each child” (PD interview). Sherry also referred to how the children used the same materials to make different meanings: “Like natural materials, we try to bring in natural materials that the children find outside, which then they turn into everything. They make bridges, they make wands, whatever their imagination tells them to make.” The educators explained how children made meaning or conveyed their ideas with various materials. Related to this is the concept of materiality, which I cover in the next section.

Materiality

Three of the educators spoke about materiality, although not everyone labelled this concept as materiality. Brooke explained materiality and the children’s meaning making.

I think, each time you pick up a material, you’re never the same person as you were before. Like each time you pick up a block, you’re bringing new experiences to that, and you become a different builder each time you pick up blocks, or you build with DUPLO, or you use paint. You’re a different person because you’ve had some experience in between, and it might not be directly about paint, but you could be bringing a different idea to that. Or you might have used a marker, and you might think, does paint work in the same way?

Rebecca also discussed materiality.

When we encounter a material, it really shapes the way that we interact with it. And it shapes the way that we then make meaning out of it. I guess if we have a different type of material, it'll change the way that the child interacts in that space. So, if we have magnets compared to wooden blocks, or clay compared to Playdoh, you know, depending on what material is there, it will shape that experience.

As the educators illustrated materiality, they spoke about the notion that the materials themselves affect meaning making. Another aspect of responsive environments is educator participation, which I discuss next.

Educator Participation

Educator participation was key to meaning making. Many educators expressed the importance of their role in supporting meaning making as they offered the children suggestions or ideas to support their play and meaning making. Rebecca described how she supported and scaffolded children when they were “stuck” with ideas through her participation.

I don't think I'm always necessary to the meaning making, but I think it can help at times. I think sometimes it's hard to make meaning if you get stuck somewhere or if they get stuck somewhere. And having that just, I guess that scaffolding of working together can kind of help push it just a little bit further.

Rebecca provided an example of how she played in the water with a child and modelled squeezing water into pipes, saying, “Maybe they would have come to that same place without me being there. But I think it was helpful to have to work together on that” (Rebecca). Rebecca then followed the child's lead to extend the meaning making moment. Debbie also spoke about the importance of playing with children and being a co-learner to make meaning together and move the children's thinking forward.

I kind of touched on being like a co-player with children and questioning and wondering with them and moving their thinking forward. I think that can support meaning making because you're, you're being an active participant in their experience. And you're learning together, and it just kind of moves their thinking a bit forward as well.

The educators stressed the role of co-player and co-participant and finding a balance as they interacted with the children. While participating with the children, the educators discussed the need to ensure they did not have so much involvement in the play that the children's ideas became "lost." Instead, they wanted to be there to offer support and help children to continue their thinking.

I think, as an educator, you can kind of plant those seeds as well, like you're not just out of the equation. You have a role in this as well that I think can steer children in one direction or another in their play, which is, I think that's part of it. That's part of your role, knowing when to push in one direction and when to pull back. And there's sometimes I can hijack children's ideas because I want to take it somewhere and because that's the meaning I've made of it. What you're saying, what you're doing reminds me of this, let's take it to where I want to go because that's how I've made meaning of it, but that might not necessarily be where children are. (Brooke)

Brooke expanded on this idea of "hijacking the children's ideas" and how she ensured she did not push her ideas onto the children but instead found a balance between guiding children and following their lead.

But I think there needs to be a balance between when to suggest that idea, when to take it somewhere else, and when to take that step back and see what children are thinking.

Because I have found that I can be quick to jump to an idea when children might still be

not ready. The children might not be ready to make that jump, but I'm pushing that jump because I've been part of the play and the co-researching, and I think, okay, let's move on, let's get to somewhere. But that's not where we are, and it is not where we need to be if that makes sense.

Debbie also spoke about this balance and the importance of not changing the children's thinking but at the same time supporting their ideas.

I think it's really important because we don't want to take over their thinking or change the trajectory of where they're going. But you also want to be there to move them forward, that gets them to the right place that they want to go. It's almost like not taking over but being there to support them in that journey. (p. 9)

Both Brooke and Debbie discussed finding a balance when participating with children. In their view, educator participation was often crucial in the children's meaning making.

The last element of responsive environments is time, which I address next.

Time

The element of time was referred to often. The notion that meaning making took time and that the children needed time to explore their ideas entirely was another key theme that appeared. The educators all spoke about the concept of time and the importance of large, uninterrupted blocks of time to explore ideas. Brooke, for example, said, "But I can think of kind of what can set this up for children and having those big periods of uninterrupted play where children can really immerse themselves in their ideas and they can have freedom to explore their ideas in a lot of different ways" (Brooke). Debbie discussed the importance of time as well.

And I think that time is such a big element for children, that they have enough time to work through this idea or have this moment of meaning making. When children, so many

times, you'll give children a prompt too: "We're going to clean up in five minutes." And they'll tell you, "I'm not ready. I need to finish this." And so many times I will say, "Oh, how much more time did you need?" And I think time is so important. If they don't have that time, how do you really have these embodiment moments in meaning making if you don't have enough time? I think your role as an educator is to really be mindful and aware of the time that children are having in these moments.

Children also sometimes need time to revisit their ideas to further their meaning making. Morgan described how sometimes the centre showed children pedagogical documentation to help them revisit ideas: "What we've been working on is taking pictures from their work and making that visible for them. We're working towards revisiting those ideas and kind of building on them or recreating them. Yes, it's definitely something that we will allow them to revisit." Brooke also talked about the importance of "just that time to think, and be, and sit with ideas, and forget ideas, and revisit them." Brooke further discussed the importance of providing children time to revisit ideas for meaning making. She said, "I think, by allowing children to save their work and return to it again and again and again and saving it in the way that they prefer will support them to make meaning, because I think meaning making is, can be, revisiting ideas and revisiting our work." All the educators discussed the concept of responsive environments, including space, materials, participation, and time and the importance of these elements for supporting children's meaning making.

Summary

Overall, the participants spoke about multiple strategies and pedagogies they used to support children and their meaning making. The first key strategy that emerged from the data was using the co-inquiry model, including noticing, naming, and nurturing, to help the children's

meaning making. Pedagogical documentation was an essential aspect of the naming step; it allowed the educators to reflect and be better positioned to nurture the children's meaning making. Responsive environments, including space, materials, educator participation, and time, was another key theme that emerged from the data. These elements were essential in supporting the children's meaning making. It was evident from my research that the educators were using multiple strategies to support meaning making.

Chapter 6: Analysis, Interpretation, and Synthesis of Findings

This chapter synthesizes the key themes that emerged from the findings. I then consider these findings in relation to the literature on multimodal literacies in early learning settings. By examining the literature alongside an analysis of the findings, a more thorough understanding of how educators support multimodal literacies is developed. I used “analytic categories” (Bloomberg & Volpe, 2016, p. 237) that related to each of my research questions and my conceptual framework. Within these categories, I consider and examine patterns. The second level of analysis provided in this chapter allows me to connect these categories to the literature findings (Bloomberg & Volpe, 2016).

The purpose of this multiple case study was to understand how educators support young children’s literacy learning in the context of an early learning classroom within Alberta. The study examined the various strategies that eight early childhood educators were using to support multimodal literacies. The study was based on the following research questions: How do early learning and childcare educators in Alberta support the development of young children’s multimodal literacies? As well, I wanted to answer two secondary research questions: How do educators conceptualize and define multimodal literacies? What strategies and pedagogies are educators using to support children’s multimodal literacies?

In Chapter 4 and Chapter 5, I presented the findings from all the data sources and organized these into themes. Chapter 4 provided the findings for the research sub-question “How do educators conceptualize and define multimodal literacies?” In Chapter 5, I presented the findings for the research sub-question “What strategies and pedagogies are educators using to support children’s multimodal literacies?” After a careful and considered review of the findings, five analytical categories emerged. These categories align with my research questions and

conceptual framework, which guided my study. My analysis is intended to provide a more cohesive examination of the themes and findings.

Each of the analytic categories is presented below. The first category was the educators' conceptualization of multimodal literacies and how this affects their support of multimodal literacies. The second category was the educators' use of the multiliteracies pedagogy. The third category was the co-inquiry model in supporting multimodal literacies. Next, I explored the significance of a play-based, child-directed curriculum in supporting meaning making. The final category was the importance of time, space, materials, and participation in supporting multimodal literacies.

Analytic Category 1: Educators' Conceptualization of Multimodal Literacies

The participants defined multimodal literacies in multiple ways. As outlined in my findings chapter, these definitions included "modes of expression" (Debbie), "communication" (Beth), "tools to make meaning" (Sherry), and "ways to create meaning" (Rebecca). Some educators more than others found that the terms meaning making and multimodal literacies were closely related. In turn, it appeared to me that the way educators defined and conceptualized multimodal literacies and meaning making affected how they supported multimodal literacies. All of the educators' definitions were similar, although there were some nuanced differences in how they defined or conceptualized multimodal literacies and meaning making.

Many educators felt that multimodal literacies and meaning making were linked and similar, but some educators also saw a difference between the two. Sherry stated that multimodal literacies and meaning making were "connected in some way." Still, she felt that "meaning making was more internal" and "multimodal literacies were more externalizing what you are thinking about." She elaborated on this notion by stating that "multimodal literacies are how

children demonstrate their learning” and that children were “meaning making through multimodal literacies.” Sherry’s conceptualization of multimodal literacies fits with Kress’s (1997) definition of multimodal literacies as the different modes of communication, including images, gestures, and action (p. 11). Kress adds that children will use the “mode which best suggests or carries the meanings which they intend” (p. 11). In terms of supporting multimodal literacies, Sherry’s definition leads to how she supports multimodal literacies. Sherry stated she needed to be “aware of what materials will lead each child to make their own meaning through their own literacy they prefer.” She provided children with the materials she thought would best support their multimodal literacies and expression of ideas, which directly parallels Kress’s description.

Other educators saw multimodal literacies and meaning making as more intricately linked and reiterated Kress’s (1997) theory. For example, Rebecca stated:

Multimodal literacies go hand in hand with meaning making, and they kind of have to have both, not that they have to be present. But it’s like you almost need one to get to the other. I think of meaning making as I don’t want to say like a product or a destination. But I feel like you’re working to get to this meaning making moment. So, what multimodal literacy will you use to get there?

Rebecca also saw that multimodal literacies are a means to express ideas. Her description ties into Kress’s definition of multimodal literacies but also to Jewitt’s (2008) definition of “*modes for making meaning*” (p. 247, emphasis in original). Rebecca’s description also helps her support multimodal literacies by adding materials themselves as multimodal literacies.

Abby defined multimodal literacies similarly to the other educators as “different modes of expression.” She was referring to “what [children] have known, so they may spread to

language, to the music, to their body movement, to their emotional, to their to art, to their mark-making, to their math too, to their science.” She was the only educator who mentioned these subject areas in her definition of multimodal literacies. Her definition correlates with Jewitt’s (2008) definition of meaning “across image, gesture, gaze body posture, writing, music and so on” (p. 247). In Abby’s definition the children use their bodies and various modes to make meaning. To support this definition of meaning making, Abby also mentioned the need to ensure that multiple materials are available: “If the material is not available for them, how can they make meaning, how can I make connections from what they know? How can they express what they know? How can they visualize that?” Like the other educators, Abby ensures that various materials are available for multiple modes of expression or multimodal literacies.

The idea of individuality in meaning making was another conceptualization from one of the educators. Beth was the only educator who spoke about individuality in meaning making as she defined multimodal literacies.

Because the meaning making is based on the individual. There are so many different ways to express ideas, and we might be using the same things to understand our ideas. But the meaning making is dependent on the individual making that meaning. You could be making meaning together, in a way. But your interpretations and what you take away will always be dependent on who you are as a person and what you bring to the table.

As Beth clarified that each person has their own interpretation and way of making meaning, she also mentioned that they might use the same mode but express different ideas. Beth’s ideas fit with Jewitt’s (2008) theory that we “need to consider how multimodal texts work *intramodally* (how meaning is constructed *within* modes) as well as *intermodally* (how meaning is constructed

across modes)” (p. 413, italics in original). Beth expressed that she believed in supporting multimodal literacies as she first “interprets what children are making meaning of” and then suggests ways to continue to build these ideas or “adding something new for them to continue exploring the ideas that they’ve already shared with you.” The notion of individuality as a fundamental conceptualization of meaning making helps Beth both interpret the children’s meaning making and help children continue building their ideas.

Brooke suggested the notion of multimodal literacies as communication, saying, “Because it’s like it’s blocks, it’s paint, it’s us talking, it’s me talking with my hands, it’s everything, it is communication.” Brooke added to this: “Communication is what I think of when I think of multimodal literacy. And I think it’s communicating with yourself, with yourself and others.” Brooke’s definition coincides with Kress’s (1997) idea of dynamic communication (p. 11) and Larson and Marsh’s (2015) definition of literacy as “the multiple ways which we make meaning” (p. 5). Brooke supports this communication by first noticing the child’s multimodal literacies and then using responsive environments to support the literacy she observed. She shared a moment where the child was communicating caring by bringing other children their water bottles. Brooke recognized this multimodal communication even though the child had not directly expressed caring: “I see caring and a sense of belonging and community and connection happening in a way for this child to connect with others.” Brooke also pointed out that this was her interpretation of the moment, which may not be the child’s intent. She also spoke about how this moment was surprising to her. Brooke’s example is supported in the research of Kuby et al. (2016) who noted “surprising and unexpected intra-actions with materials, other people, modes, time, space, language, and bodies” (p. 398). Using water bottles to convey the idea of caring or belonging is a “surprising and unexpected” use of materials.

In my research the educators also followed newer understandings of multimodal literacies. Morgan and Abby were the only educators to use the term “representing,” both in their pedagogical documentation, to describe how the children conveyed ideas. Abby mentioned how a child was representing what he knew through drawing and Morgan described how a child was representing ideas through song. Otherwise, to describe children’s uses of multimodal literacies, the educators described how children “express their ideas, make meaning, or convey ideas.” This finding suggests that the educators in my research seem to have a more current understanding of multimodal literacies than either Kress (1997) or Jewitt (2008).

It was apparent that each educator defined multimodal literacies differently, although all in ways supported by the literature. Their definitions influenced the educators and the way they supported multimodal literacies. Some educators used responsive environments to support multimodal literacies, while others added materials to support the children’s ideas. Other educators were adding to children’s play to build on children’s ideas to help their meaning making.

Analytic Category 2: Understanding of Multiliteracies Pedagogy

In their multiliteracies pedagogy the New London Group (1996) described two key areas of multiliteracies: multimodality and multilingualism. I would argue that most aspects of multimodal literacy were discussed by the educators in my study and were part of my findings. One key notion of multimodality that only one educator spoke about was technology. As Yelland (2011) points out, the “use of the new technologies is an integral part of becoming multiliterate in the twenty-first century” (p. 10). The New London group also proposed the need for increasing use of technology. Other theorists also support the notion of increased use of technologies as a multimodal literacy (Flewitt, 2013; Wohlwend, 2008). Abby was the only

educator to speak about the use of technology to support multimodal literacies. Abby's awareness of the importance of digital literacies is evident, although she expressed reluctance to use these forms of multimodal literacies: "The one literacy I have not touched on with them is digital multimodal literacy. I know that under the age of two, three, we, we don't want them to have screen time. But how can we encourage them to use digital literacies?" Abby's concerns about children's screen time are shared by researchers (Kucirkova & Radesky, 2017; Palaologou, 2016) who advocate for digital literacies but also have concerns about the amount of screen time for young children.

Another key aspect of the multiliteracies pedagogy that none of the educators talked about is multilingualism (Jewitt, 2008; New London Group, 1996). Given the fact that all the educators were practicing in a large western Canadian city, one would assume that they had English language learners (ELL) in their playrooms. I question why these educators did not mention these ELL children, and I am also curious to know how they support the multimodal literacies of ELL children. If I had been able to observe the playrooms directly, I may have been able to observe how educators supported diverse language learners. In hindsight, I also could have asked the educators directly in the interviews how they supported the multimodal literacies of ELL children. Lastly, I wonder if using a strength-based model, the educators focused on the strengths of each child rather than the possible needs of diverse language learners. Using a strengths-based perspective may mean the educators spoke about the child first and did not mention specific needs of the child.

Analytic Category 3: Co-inquiry Model in Supporting Multimodal Literacies

A strategy for supporting children's multimodal literacies suggested by the educators in my study was using the co-inquiry model. The co-inquiry model is a critical strategy that every

educator used. The co-inquiry model or cycle of inquiry to support multimodal literacies is reflected in the literature as a strategy to support play and ideas (Hill et al., 2005; Rinaldi, 2006; Stacey, 2015;). I also determined in my research that the co-inquiry model can support multimodal literacies and meaning making.

Reflection was a critical piece of the co-inquiry model, especially in helping educators interpret the children's meaning making and finding a deeper understanding of what was happening in their play. Reflection is supported by Stacey (2018), who uses the term "reflective practice" (p. 77) to describe the deep-thinking moments educators engage in to make meaning of what children have done. Educators were often able to turn simple everyday moments into meaning-making moments. For example, Debbie said:

I also noticed this by asking questions to learn more myself. And I think about the whole idea of being a co-learner, co-researcher, and co-imaginer with children, and when you're a part of that kind of co-play with them. I think that's when I really noticed that children are having this meaning making moment because we're kind of working together.

By engaging in play with the children, Debbie reflected on these moments and thought more deeply about the children and their ideas. Debbie's example shows how she used the co-inquiry model and reflection to think more deeply about children's play.

Debbie described the importance of reflection, saying, "By reflecting, I think we think about the ways that those experiences could hold meaning for children. So, I think essentially, educators come out with more understanding of children's play and experiences." Morgan also described reflection and how this helps to move the children's thinking forward:

I think observation and reflection after that is a way for us to, for us as educators to do meaning making in what they're doing, and to create a bigger understanding and to connect words to what they're doing.

Morgan used reflection to come to a deeper understanding of what the children were doing. He further described reflection as allowing “educators to understand the bigger context.” In discussing her research, Stacey stated that reflection “involves taking the time to slow down and think deeply” (p. 78). By taking the time to think of the bigger picture, Morgan was thinking deeply and reflecting on the children’s play. Stacey (2018) described how, without reflection, “we may only see the surface, rather than the child’s underlying intent” (p. 77). I noticed the educators in my research were repeatedly looking for the more profound meaning and trying to understand the children’s underlying intent or purpose.

Brooke was the only educator who mentioned Stacey’s (2018) idea of the missing middle, which she describes as when “teachers plan without taking time to reflect” (p. 78). According to Stacey, reflection gives educators time to “make informed choices” (p. 78). Throughout my interview with Brooke, she mentioned that she continually reflected on what she saw the children doing and her interpretation. She said, “Observation, for me, is really the first step and interpreting it and not skipping that missing middle, like having some time to reflect on what it is and what the meaning of it is.” Even though the other educators did not mention the missing middle, reflection was a daily part of their practice as they enacted the co-inquiry process. This reflection was so integral to their practice that they did not mention the missing middle.

The educators made the analogy that their reflection was their own meaning making. Educators continually determined the children’s meaning making themselves to understand what

the children were doing and the ideas they were conveying. Abramson (2008) describes the value of reflection with documentation, writing, “Through this documentation process, educators can explore questions, examine children’s thinking, and plan” (p. 5). Debbie explained how she used pedagogical documentation to help her reflect and make her own meaning of children’s play.

I think documentation provides meaning making more for educators, not that it doesn’t for children. But I think at the end of the day, we don’t know 100% what experiences children find meaningful. Still, through our observations and by reflecting, I think we think about the ways that those experiences could hold meaning for children.

Abby described how, as a co-learner, she has meaning making moments to figure out what the children’s play means: “We realize that we are co-learners in this step. And then through observations, we enter and engage with the children in their play. I will, or maybe notice that interest and have a meaning making for myself about it.” In the example I shared above, Morgan described how his own meaning making helped him to have a deeper understanding of the children’s meaning making. The idea of educator meaning making is supported in the literature. As Wien (2013) describes, “pedagogical documentation invites us to be curious and to wonder with others about the meaning of events to children” (p. 2).

In my research, the educators also used pedagogical documentation to make meaning of events. The educators’ meaning-making process often involved cross-checking or naming the goals and dispositions they noticed in *Flight* (Makovichuk et al., 2014). Abby explained how she used pedagogical documentation to make her own meaning of the children’s play: “Meaning making for me, it’s kind of like, the child wants to share something, tell something in different ways.” Rebecca also described her own meaning making that resulted from examining the

pedagogical documentation, saying, “I think that helped me to make meaning of what his process was, and what was happening.” The idea of using pedagogical documentation to support educator meaning making is emphasized in the literature. For example, Wien (2013) asserts, “Documentation offers insight into children’s thinking, feeling, and worldview” (p. 3). All the educators connected to *Flight* and the goals and dispositions from *Flight* to assist them in their meaning making. *Flight* gives educators tools to make their own meaning of play and children’s multimodal literacies. As described in *Flight*, “As a co-researcher, you gather insights and information and use the curriculum framework goals to reflect on and interpret what you understand about what children are experiencing” (Makovichuk et al., 2014, p. 86). Connecting to the *Flight* goals and dispositions helped the educators in my study to describe the children’s play.

After they reflected on children’s meaning making, educators co-imagined or nurtured play to keep the children’s ideas going. This helped the educators to plan and support multimodal literacies and literacies. As Morgan reflected, “we can support them and continue to engage them in pursuing what they want, and to actually work it out for them and to explain to them what they’re doing and to validate what they’re doing.” Morgan described this as a goal for educators: “And I think for us educators, that’s our goal, right, for children to pursue their interests.” Abby echoed this notion: “That’s for supporting the meaning making of the children. It does not stop in one spot. Their learning keeps growing, keeps moving. So, we need to keep moving too; we need to follow them.” The educators were finding ways to nurture the children’s meaning making and continue to grow their ideas, a process that is supported in the literature. For example, Stacey (2018) explains how educators plan next steps based on children’s interests and ideas. For Makovichuk et al. (2014), “planning and taking action” (p. 88) helps educators to plan “further

experiences that invite children to pursue their ideas and theories, challenge ideas, explore, invent, create, and play in active ways” (p. 88). The educators in my research were continually planning next steps for children to nurture their ideas and meaning making based on their observations and reflections. All the participants in my research seemed to follow a sociocultural perspective; therefore, their support of literacies was more in line with a social perspective of literacy (Cook-Gumperz, 2006; Gee, 2015) rather than a balance of a cognitive and social literacy perspective as proposed by Raban and Scull (2013).

Analytic Category 4: Play-based, Child-directed Curriculum in Supporting Multimodal Literacies

The importance of play and play-based, child-directed curriculum was also mentioned by many of the educators in response to research question two. They expressed that play allowed the children to test out their ideas and use multimodal literacies to convey ideas. The importance of play is outlined by Stacey (2009): “Play provides an opportunity for children’s exploration, problem-solving, incubation and development of big ideas, and therefore, learning” (p. 49). Debbie clearly described the value of play in children’s learning and multimodal literacies as she described how children learn through play and take what they see in the environment and enact it in their play. She also clarified that children could try out and negotiate ideas in a safe space during play.

And I feel like when they’re in play, they’re able to negotiate with those ideas and with people and bounce ideas off each other and explore those ideas that are really valuable to them. And something that provides meaning for them. Essentially, making it a meaning making moment. I think play provides a safe place where they can really explore something, an idea that they have and think.

Abby also described the value of play that provides children choices and agency to make their meanings and test their theories.

I think if the children have free play, this is meaning making play. So, when children have their own choice and follow their interest and create their own imagination work where they test their theory that where they do the meaning making for them.

The educators supported the ideas from research and outlined the importance of play in supporting multimodal literacies as play provided children with a safe place to test ideas, build theories and bounce ideas off each other. As outlined by Hewes (2006), “Pretend play with peers engages children in the same kind of representational thinking needed in early literacy activities” (p. 2). Multiple other researchers have echoed the value of play (Stacey, 2009; Roessingh & Bence, 2018, Makovichuk, 2014; Vygotsky, 1978; Friedman, 2011; Fromberg, 2002). Children are learning multiple skills through play which is highlighted in the research and supported in my findings from the educators.

Abby and Brooke differentiated that free play provided children with more significant opportunities to explore their ideas. Brook clarified this as, “So I think children need time for free play where they’re not necessarily as structured. They may not be as influenced by educator’s ideas.” Abby stated: “If we give them free play, they will tell us, they will show us, they will bring to us what is meaning making for them.” During play, children are free to explore their ideas and use and explore the multimodal literacy they desire. Roessingh and Bence (2018) highlight the value of free play as they propose that programs “will benefit from a certain amount of free play (child-initiated and unstructured), imaginative and creative play” (p. 33).

None of the educators in my researched talked about direct play or adult led play that both Roessingh and Bence (2018) and Pyle and Danniels (2017) report as being critical for supporting children and their literacies. The educators did mention their own intention in how they chose materials and activities to support children and their ideas. However, they did not consider these intentional choices to be teacher directed. They were following a Reggio Emilia philosophy whereby children explore and learn from the environment in a less teacher-directed way (Gandini, 2011). The focus of my study was multimodal literacies which the educators identified as best supported through open ended play. I asked the educators multiple questions about how they support play and multimodal literacies, however additional questions about how the educators support literacy in general could have been asked. These questions about the role of adult led play to support literacy would have enhanced my understanding of the intentional strategies educators used to support other forms of literacy. As I was not able to observe the educators interact with children, I was unable to determine if the educator's used teacher directed or adult lead play to build literacy skills.

Analytic Category 5: Time, Space, Materials, and Educator Participation

The use of the elements of responsive environments including, time, space, materials, and educator participation, was reported by all the educators and answered research question two as an additional strategy. The educators were intentional in the environments they created and ensured the spaces met the criteria for responsive environments. Within *Flight*, the authors explain that responsive “environments that encourage **multimodal literacies** acknowledge that there are many ways to explore and demonstrate knowledge of children, [and] this is often through play” (Makovichuk et al., 2014, p. 64, emphasis in original). The authors express how responsive environments “respond to children’s interest and exploration through the design

elements of time, space, materials, and participation” (p. 64). Within my research, the educators reflected on each of these design elements, as I discuss below.

Time

For the participating educators, time was an essential element of responsive environments. Time provided children with the chance to “revisit ideas and revisit their work” (Brooke) and think about their ideas. Brooke explained: “It’s just that time to think, and be, and sit with ideas, and forget ideas, and revisit them, and to share with others.” Debbie also discussed the importance of time to explore ideas, saying: “I think time is so important. If they don’t have that time, how do you really have these embodiment moments in meaning making if you don’t have enough time?” The educators expressed the importance of having time to explore fully. If children do not have this time, they may not fully realize their ideas. Time and the importance of time are supported in the literature by Stacey (2009) and Wien and Kirby-Smith (1998), who describe the significance of time to explore ideas and multimodal literacies. The educators in my research put the element of time into practice to support multimodal literacies.

Space

Space is another critical component of responsive environments both described by the educators in my research and supported in the literature. Brooke explained the importance of spaces and the environment and the need for children to “see themselves in the environment.” She suggested that children could see themselves “in so many ways, seeing their photos, family photos. Seeing that part of seeing themselves in the environment, that their contributions matter because they’re not constantly being stopped.” Discussing her research, Carter (2007) illustrates the importance of environments:

When teachers and parents find themselves in environments that are beautiful, soothing, full of wonder and discovery, they feel intrigued, respected, and eager to spend their days living and learning in this place. Aren't these the very feelings we want the children to have? (p. 25)

Brooke elaborated on the importance of children seeing themselves in the space and feeling that they had choices and contributed to the environment and the space. The environment Brooke provided for the children enacted Carter's (2007) and Gandini's (2011) proposals for environments where children feel part of the space, where their interests are represented, and where children have many opportunities and materials to explore.

Materials

Brooke spoke a great deal about the importance of materials and the significance of letting children have control over materials, another element of responsive environments that is reflected in the literature. She asserted that children should "be masters in manipulating those materials to convey their thinking." By doing so, she explained, children are "stretching their thinking with it by providing novel materials alongside those familiar ones so that they can take what they know about one material and bring it into another one." Some key ideas from the educators supported in the literature are finding out the materials children are interested in and drawn to and then providing both those materials and novel materials. Hill et al. (2005) theorize the importance of offering "creative materials and tools with multiple perspectives" (p. 99). Stacey (2009) concurs, asserting that educators need to "provision the environment with inviting materials (for example, found object, loose parts, and reference materials) in response to children's ideas" (p. 89). Debbie echoed this idea and described how she supported multimodal literacies through the importance of materials and how materials can support meaning making:

“So, I think I can support meaning making that way by offering materials that kind of spark new thinking within something that they’re thinking about already.” Debbie was enacting the findings from the literature by continually considering what material would support children and their “meaning making moments.”

I also noticed through my video walk-throughs and during the interviews how the educators were providing many of the materials proposed by Roessingh and Bence (2018). The educators mentioned or showed evidence in the video walk-throughs of “shared storybooks, loose parts, clay (plasticine), art projects, dramatic play materials, and outdoor play equipment” (pp. 32–33). These materials are proposed by Roessingh and Bence to be used during guided play to support children’s fine motor skills, which the authors propose will lead to embodied cognition (p. 32) and later literacy gains. The educators I researched seem to be using these materials more to support the children’s ideas and meaning making. They also used these materials in some guided play but more so in the children’s free play. Without observation, I was unable to fully glean how the educators used these materials to support the children’s literacy.

Many educators also spoke about how children often used materials in novel and unexpected ways. In discussing their research, Curtis and Carter (2015) point out, “Children often come up with thoughts about how they want to use materials or space, and in many cases, this is different than what the teachers originally envisioned” (p. 55). Stacey (2018) points out that when children surprise us, we need to observe more. She adds that “children are often more creative than we are, and we can learn from them if we remain open-minded” (p. 110). The educators in my study also talked about moments when they were surprised by children and how they used materials (Abby, Hannah, Debbie, and Rebecca). These moments provided learning opportunities for the educators.

Brooke was the only educator to specifically label materiality and the idea that “you are new each time” you encounter a material. Brooke further explained materiality by saying, “I’m like clay, what is clay saying to us and, what is clay speaking to me, what is paint speaking to me, how is this responding to me, so it has really just changed my thinking so much.” Materiality is theorized by Pacini-Ketchabaw, Nxumalo, et al. (2015) as they explain how materials have “an active part in shaping learning” (p. 35). Kind (2010), referring to art materials, theorizes that “meaning is not fixed in specific material, images, processes, or artwork; rather meanings are generated in their use and interaction” (p. 124). Lenz Taguchi (2014) describes materiality as “agency of matter” (p. 81), “the intra-actions” and “interdependence” (p. 82) between people and materials. I wonder if Brooke mentioned materiality because this was part of her postsecondary education. The other educators in my research were not familiar with the theory of materiality. I also question if the concept of materiality influenced the ways Brooke presented materials to children and engaged in play with children and materials. Being familiar with materiality, Brooke understood that materials affect children and the “interdependence” (Lenz Taguchi, 2014, p. 82) between the user and the materials.

Educator Participation

Educator participation was the final element of a responsive environment that the educators discussed as supporting meaning making and multimodal literacies. The educators provided many examples of how they were active participants in the children’s play. Beth described how, by actively participating in the children’s play, she learned more about the children. Morgan also provided an example of a time when he was digging holes in the melting snow with children and as they were digging together, they were “learning about the properties of water.” The educators’ comments demonstrate the importance of educator participation

theorized in the literature by Stacey (2009), who describes the educator's role as a "facilitator" (p. 19) who invites children to "discover more, dig deeper, and construct further knowledge" (p. 19). Pacini-Ketchabaw, Kind, and Kocher (2017) reflect that educators need to "provoke and facilitate experimentation" and "invent together" (p. 6) with children.

Finding balance was vital in terms of educator participation. The educators expressed that they needed to support children and their multimodal literacies and ensure they did not "take over the play." Brooke gave credence to this idea when she spoke about the importance of not "hijacking children's play." Brooke explained that as a "co-researcher," she might "push an idea" or "jump" to a new topic or meaning making; however, this might not be what the children had intended. The balance of supporting and facilitating children's ideas but still ensuring it was the children's ideas was not something that came up in my review of the literature; however, the educators in my research mentioned this. Debbie described how she supports but does not take over the play or "change the trajectory of where [the children are] going." She elaborated on the challenge of balance as "moving them forward, that gets them to the right place that they want to go. It's almost like not taking over but being there to support them in that journey." Brooke explained the complexities of educator participation and the educator role. She described how educators need to find a balance and said she aims to ensure she supports play rather than "hindering it." Brooke clearly illustrated the complexities of educator participation.

But that's the part that I have been struggling with is like, do I know I have a role here? What is it? When do I offer that next idea? When do I offer that new idea? Is this still honouring children's original idea? My interpretation of what children's original idea is, is it okay for me to sidestep it and when it, like when is it? It's very complex.

The concept of balance in educator participation was a significant concept that emerged from my research. The importance of children having choices and agency also came up repeatedly in terms of educator participation. Brooke explained the importance of children's agency and choices as educators engage with children, saying: "I think they need agency and choice in being able to have the materials and mediums that work best for them to convey their ideas." Brooke elaborated on the notion of agency as she stated that "children don't actually have any choice because I have set the environment for them." She described how the educators have "chosen every material in the playroom." She questioned the children's lack of agency as she gave the example of how much paint she provides children and the example of if a child wanted to "cover their entire body in paint." It was her decision whether she would allow this type of play or not and she questioned "do children really have a choice in there?" Brooke's comments relate to the idea from the literature about control and children's agency in early childhood settings. In *Flight*, the authors mention that although many choices are made by educators, children should have "active engagement and participation" (Makovichuk et al., 2014, p. 30). Pacini-Ketchabaw, Kind, and Kocher (2017, p. 6) echo the idea that educators should provide an environment to further children's ideas and thinking. Although educators create the environments, room for children's ideas and agency can be part of the environment.

Agency was also discussed by Debbie as she described materials and agency. In contrast to Brooke, Debbie felt that children had agency, "especially with materials," because they were free to use materials however they wanted. She elaborated on this idea to show how she was often surprised by how children used materials in a vastly unusual way than she was expecting. This agency provided the children the opportunity to make meaning and express ideas however they wished. Agency is also echoed in the research of Kress and van Leeuwen (2006), who state

that the child decides the purposeful, “most plausible, most apt form” (p 8) to communicate their ideas. Bezaire (2009) and Wohlwend (2008) have similar theories regarding children’s freedom to represent and express the ideas that are most meaningful to them.

Research demonstrates that another key component of educator participation in early learning settings is the use of educator talk and oral language to support multimodal literacies. As children are learning language, educators need to use their own speech and talk to notice children’s ideas and build on them. As Cohen and Emmons (2017) point out:

We do not want adults to take over children’s play and turn it into educational lessons that destroy children’s freedom, joy, and passions. Children need to be able to initiate their own learning and adults need to know when to intervene and pose questions and problems to support new skills. (p. 969)

Educators can ask questions to provoke thinking and the building of language skills. The educators in my inquiry continually mentioned how they support children’s ideas by asking questions and talking with children. For example, Hannah described a moment when the children were asking about spiders. Not only did she use this as a moment to build on the children’s ideas, but she also used this as an opportunity to introduce new vocabulary. Other educators also mentioned how they asked questions and followed children’s ideas to provoke their thinking (Debbie, Morgan, Rebecca, Brooke). I wonder whether the educators would have discussed oral language further had I asked them more about it. Observations would have provided the opportunity to see how educators used questions and adult speech to scaffold children’s literacy learning.

Educator participation is an important strategy to support children’s multimodal literacies, but finding a balance is important. Educators need to find the right level of

participation and support to ensure that children's ideas are heard, that children have agency, and yet at the same time ensure they support children in extending and building their ideas.

Summary

It is evident that there are multiple ways to define and conceptualize multimodal literacies, but all definitions relate to the idea of children expressing meaning or ideas. How educators conceptualize multimodal literacies affects how they support multimodal literacies. It is also evident that there are multiple ways educators can support multimodal literacies. In my view, having a complete understanding of the meaning behind multimodal literacies and the original concept in the multiliteracies pedagogy (New London Group, 1996) would position educators to consider multilingualism and the use of technology. A key to supporting multimodal literacies is using the co-inquiry model, which involves first recognizing that the child is using a form of multimodal literacy and then finding a strategy to support it. Another key in supporting multimodal literacies is creating responsive, play-based environments and ensuring that educators find a balance in their own participation with children.

In the next and concluding chapter, I address how my findings and analysis can be applied in practice and the implications for policy makers, for postsecondary institutions that train early learning educators, and for early learning educators and the centres they work at.

Chapter 7: Conclusions and Recommendations

The purpose of this case study was to come to a deeper understanding of how early learning and childcare educators in Alberta support multimodal literacies in young children. I also wanted to determine how educators define multimodal literacies and whether their conceptualizations impact how they support them. Lastly, I sought to come to a greater sense of the specific pedagogies and strategies educators use to aid multimodal literacies. Within my study, I determined that the participating educators used multiple strategies and pedagogies to support multimodal literacies, such as using the co-inquiry model and creating responsive environments. The educators used the co-inquiry cycle of noticing, naming, and nurturing to support children's multimodal literacies. In creating responsive environments, providing children time to build and explore ideas was critical. The educator's participation was also important. It was essential that the educators found a balance between supporting children's ideas and not taking over or imposing their own ideas on the children. The participants also used pedagogical documentation and a play-based curriculum to support the children's multimodal literacies. A summary of these and other strategies determined in my inquiry is outlined below.

In the following sections, I present a conclusion of my key findings. I also make recommendations for postsecondary institutions that offer ELCC programs, government policymakers, early childhood programs, and future research. In conclusion, I offer my final reflections on the study.

Conclusions

At the outset of my research study, I sought to understand how educators support multimodal literacies. Specifically, I was interested in gaining insights into early learning and

childcare educators' strategies and pedagogies to support multimodal literacies. I also aspired to determine the educators' conceptualizations of multimodal literacy.

Using a multiple case study, I recognize that my findings cannot be generalized. My findings apply to the Alberta context and to the particular settings of my cases. By providing rich descriptions about the settings in my case study, one can determine if the findings are transferable to similar settings. My findings regarding strategies to support multimodal literacies may not apply to other contexts outside of Alberta.

After completing my research, and reflecting on my conceptual framework, some modifications to my original conceptual framework are noted. Originally the centre of my conceptual framework was the intersection of multimodal literacies, educator pedagogies, and play. As the findings of my study demonstrate, the centre of my conceptual framework should be the educator. By placing the educator at the centre of the conceptual framework, the key role of the educator is highlighted. As stated by Brooke, one of the educators in my research, "as an educator, you're not out of the equation. You have a large role in this as well." Educators act with intentionality and carefully plan out what will happen in playrooms daily. Educators play a key role in carefully selecting, organizing, and orchestrating a responsive learning environment through time, space, materials and their own participation. They use their own observation and reflection to determine the strategies they will use to nurture play and support multimodal literacies and language. Therefore, educators are now placed at the centre of my conceptual framework to recognize the fundamental role of the educator in supporting multimodal literacies.

In answer to my first sub-question, "How do educators conceptualize and define multimodal literacies?" I determined there are numerous ways that educators conceptualize and define multimodal literacies. Some of the critical conceptualizations of multimodal literacies

from the educators in my inquiry were communication, modes of expression, and tools to make meaning. Many of the educators noted parallels between multimodal literacies and meaning making. In the beginning, I used these terms synonymously, although it was apparent some of the educators did not interpret these terms as completely the same. It also became clear that how educators defined multimodal literacies impacted how they supported the same literacies. I also realized through these descriptions of multimodal literacies that the educators did not have a complete understanding of the multiliteracies pedagogy and where the term multimodal literacies originated.

I observed repeatedly that the way educators described multimodal literacies affected how they assisted children with multimodal literacies. Educators must recognize that children are using multimodal literacies. Without this recognition, educators may not fully support the multimodal literacies a child uses. If educators view multimodal literacies as modes of expression, they tend to offer materials to help the children express ideas. The educators were also inclined to provide further thinking to support the children's expression of ideas. Having a deeper understanding of multiliteracies pedagogy might assist educators in considering both the technologies they use with children to support multimodal literacies and how they support English language learners.

Many significant findings were evident in answer to the research sub-question two: What strategies and pedagogies are used to support children's multimodal literacies? Crucial strategies to support multimodal literacies included creating responsive environments, using the co-inquiry model, and offering a play-based curriculum.

A fundamental pedagogy was the creation of responsive environments that considered the elements of time, space, materials, and participation and how each component can be used in a

way that supports multimodal literacies. The educators all considered whether they presented ample time for exploration and to revisit ideas so that children could continue to explore ideas in their meaning making. The educators also created beautiful spaces that reflected the children's interests. By considering the children's interests, they could further explore their ideas. The educators carefully chose and presented materials to build on the children's ideas and multimodal literacies. Lastly, the educators were mindful and aware of how they engaged in the children's play carefully in ways to support the children's ideas but not take over their thinking or ideas.

My study showed that the co-inquiry model was a valuable strategy educators could use to support multimodal literacies. The educators used the noticing, naming, and nurturing cycle to help build multimodal literacies. By first noticing children's use of multimodal literacies, the educators were then able to support the children's play. Once multimodal literacies were noticed, the educators named goals and dispositions from *Flight* (Makovichuk et al., 2014) and then they had a deeper understanding of the children's multimodal literacies. Educators were doing their own meaning making of the play. The naming process also involved educator reflection. Reflection required time and deeper thinking and often added to the educator's own meaning making of the multimodal literacies children were using. Finally, by using the co-inquiry model, the educators were able to nurture the children's play and build on the children's ideas and multimodal literacies.

As part of the co-inquiry model, the educators used pedagogical documentation to strengthen multimodal literacies. Using this documentation, educators made their own meaning of the children's multimodal literacies, bring them to a richer sense of the children's ideas and their multimodal literacies. By documenting these moments and sharing this with the children,

the educators provided children with the chance to revisit ideas and play. The educators also shared their documentation with other educators and families, thereby further reflecting and growing their understanding and perspectives of these documented moments.

The educators used a play-based, emergent curriculum to support multimodal literacies. The participants in my study believed that free play and time for uninterrupted play were vital in assisting with multimodal literacies. Ample time for play allowed children to build on ideas and use various materials and multimodal literacies. Play also provided children with agency to explore their thoughts and meaning making. At the same time, although the educators mentioned the term free play repeatedly, they were also using guided play as they made intentional decisions about how they would support children's play and, in turn, children's literacies.

Overall, the educators used multiple strategies and pedagogies to support multimodal literacies. Many of these are mentioned in the literature; however, as I previously noted, there is little research on how these strategies are used to support multimodal literacies. I hope my research has shed some light on how these strategies support multimodal literacies. I also hope my study provides others with a deeper understanding of how Alberta educators conceptualize and support multimodal literacies. This information will inform stakeholders in early childhood education and offer suggestions on how multimodal literacies can be supported, which is explored in the next section.

Recommendations for Postsecondary Institutions Offering ELCC Training

The following recommendations are based on my case study findings. I am cognizant that my case study findings cannot be generalized, however my findings may apply to other childcare contexts similar to my Alberta based study. Multimodal literacies need to be a component of instruction at the postsecondary level. Some participants from my research were unsure how to

define multimodal literacies. Others knew what multimodal literacies were but did not entirely know how to support these. Examples of multimodal literacies and recognizing children's various modes of expression provide critical training for early childhood educators. Without such training, it is particularly challenging to support multimodal literacies. I recommend that, as well as instruction on multimodal literacies, background on multiliteracies pedagogy needs to be included in all postsecondary early learning programs. The training on multiliteracies should include specific teaching about supporting multilingualism and language diversity and including multiple modes of expression including the use of technology as a multimodal literacy. Without this background knowledge, educators are missing key ideas about supporting multilingualism and English language learners and the potential benefits of using technology as a multimodal literacy.

I would also recommend that postsecondary institutions include aspects of emergent curriculum and co-inquiry in their curricula. The co-inquiry model helps educators notice when children use multimodal literacies and then positions educators to nurture these same multimodal literacies. The co-inquiry model also affords educators the opportunity to be intentional in their planning for play to nurture the children's interest and ideas and support the children's multimodal literacies. Through the co-inquiry model, educators can also notice potential literacy needs and nurture literacy through more intentional teacher directed play.

Another recommendation for postsecondary institutions offering training in early childhood education would be to offer courses on pedagogical documentation. Through pedagogical documentation children's thinking and ideas are made visible. As educators document and reflect on children's play, they can capture the children's multimodal literacies and, in turn, make their own meaning of these moments.

Recommendations for Government Policy Makers

There are many benefits to early childhood centres across Alberta adopting emergent curriculum models that would support educators in supporting children's meaning making and multimodal literacies. Emergent curriculum models would include using the co-inquiry model and the use of responsive environments to support meaning making. I also see that an emergent curriculum based on the children's interests is vital in supporting children's meaning making. Play needs to be central to all early childhood programs as play supports meaning making and multimodal literacies in endless ways.

I also recommend that the creation of responsive environments, including considerations of time, space, materials, and educator participation, becomes part of provincial childcare regulations. Responsive environments were another central theme that emerged from my research and from the literature. The educator participants continually mentioned the importance of time, space, materials, and participation in supporting children's ideas and multimodal literacies. Responsive environments were also evident in the video walk-throughs of each playroom. Provincially, in the best interest of children and families, spaces and responsive environments that meet the needs of children should be considered.

Recommendations for Early Childhood Programs

An essential component of all early childhood programs is play. And not just play but large, uninterrupted blocks of time for free play. During these moments of free play, children are most able to have meaning making moments where they are free to use multimodal literacies in whichever way they wish. I would recommend that all early childhood programs in Alberta integrate a play-based curriculum. In terms of play, while free play may support multimodal literacies, a balanced approach is also needed to include educator-directed more structured play

to support other forms of literacy. As the research suggests, educator-directed, structured play would support the linguistic and literacy needs of children of diverse backgrounds. Particularly this more structured play, would assist English language learners develop early literacy skills such as concepts of print.

An emergent curriculum using the co-inquiry model is the best way to support children's ideas and multimodal literacies. Within an emergent curriculum, children are free to pursue their ideas and passions and their multimodal literacies. As part of the co-inquiry model, educators also need time to reflect on their observations of children's play. Giving educators time for reflection, places educators in a better position to nurture the children's multimodal literacies. As well, the co-inquiry model can improve educator intentionality. Educators can notice and then nurture all forms of literacy.

Lastly, all programs need to consider having responsive environments to support children and their multimodal literacies. Considering elements of time, space, materials, and participation would ensure that each program continues to support the literacy development of all children.

Recommendations for Future Research

During my research, many topics for potential future research emerged. Further research could be conducted on ways to support multimodal literacies. It would be interesting to see whether future researchers noted similar strategies to support multimodal literacies in early childhood settings and if others noted comparable research findings. As I could not observe educators in their playrooms, future research could also be conducted to see what educator support looks like in practice with children and to further capture children's voices. Additional research needs to be done on educator intentionality and decision making to determine the strategies educators use support multimodal literacies and literacy in general. Along with this,

additional studies are needed to determine how educator communication supports multimodal literacies. Lastly further research could be conducted to determine how educators support multiliteracies including diverse language learners.

Researcher Reflections

As I close my research and reflect on my research, some closing ideas come to mind. My research was shaped by the educators who participated in my study. None of this research would have been possible if the educators had been unwilling to share their playrooms virtually and share their thoughts, ideas, reflections, and wonderings with me. With the participants' generous sharing of knowledge, I captured some of the strategies used within early childhood classrooms to support young children's multimodal literacies. At the outset of my inquiry, my goal was to address the research gap and come to a deeper understanding of the strategies and pedagogies educators use to support multimodal literacies. I have determined many strategies educators are currently using to support multimodal literacies.

In closing, I hope this study helps others, including early childhood stakeholders, understand multimodal literacies and how these literacies can be supported in early childhood settings. I also hope this study spurs policymakers, postsecondary institutions, and early childhood programs to continue to support the everyday multimodal literacies young children are using.

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Appendix A: Semistructured Interview Questions

1. How long have you been an early childhood educator?
2. What level of early childhood certification do you hold?
3. What does the term meaning making mean to you?
4. What are some examples you can provide of children's meaning making?
5. What are some ways you notice children's meaning making?
6. What are some strategies you use to support meaning making?
7. How has your postsecondary education and training developed your capacity to support meaning making?
8. Do you think observations can support meaning making – and if so, how?
9. Do you think pedagogical documentation can support meaning making – and if so, how?
10. Can you provide some examples of ways you have supported meaning making?
11. How do you define multimodal literacies? Do you think that multimodal literacies and meaning making are the same? Or how do you define multimodal literacies?
12. Is there anything I have missed or any other information you would like to add about supporting meaning making?

Appendix B: Pedagogical Documentation Interview Questions

1. Why did you decide to capture this moment?
2. Why did you select this documentation to share with me?
3. How do you feel that this represents ____'s meaning making then or multimodal literacies?
4. Is this a common interest or play of ____?
5. What theories is _____ building
6. What can you tell me tell me about your own meaning making or Pedagogical documentation?
7. How do you share Pedagogical documentation with families or including family voice?
8. Is there anything else you want to tell me about the child or the Pedagogical documentation you collected?

Appendix C: Sample Data Collection Matrices

Pedagogical Documentation

	E 1	E2	S	M	D
Pseudonym	Zach	Penelope	Pam	Dylan	
Multimodal literacy captured	Drawing and representing ideas	Using gestures	Clay, natural materials, various materials	DUPLO blocks and carabiner	Painting, adding loose parts
Flight tools/ co - inquiry	Goals and dispositions, wonderings, nurturing	Goals and dispositions, wonderings, nurturing	Goals and dispositions	Goals and dispositions, nurturing	Wonderings connected to goals, group collaboration
In vivo codes	<p>I wondered why you chose to make your marks with a gyration motion this time instead of with a swaying motion. I wondered if it was due to something you noticed on the cow puzzle.</p> <p>You were <i>exploring and representing what you knew</i> about a cow by way of using language,</p>	<p>You were <i>using multiple ways of communication</i>, including gestures, body movement and word to express your thoughts and needs.</p>	<p>You choose from a range of materials, tools, and languages to investigate, experiment, and make your thinking visible. You have used natural materials to make a house for bugs, paper hearts to make a road, and many materials from different spaces in the room to create a store. When you decided</p>	<p>as I reflect on this moment, I think about how you're understanding of connecting and attachment has grown. It seems you have many ideas and theories about attaching. I am often surprised by</p>	<p>When I think about multimodal literacies, I think about all the ways in which children create meaning and the vessels they use to do this. While one child playfully stacks blocks, another is seen molding clay</p>

	<p>sound, movement, mark making, and image. You were <i>constructing meaning</i> through multiple modes of speech, language, image, and art.</p>		<p>that you wanted to replicate the cupcake in the cookbook, you brainstormed different materials that you could use and decided on modelling clay.</p>	<p>the materials you select to test your ideas. As I see you revisit your ideas, I am reminded of your disposition to persist. You continually test your theories and ideas and try again and again to see how things work and how to achieve your idea.</p>	<p>- yet they could each be thinking about the same inventive idea. Each child constructs understanding in ways that are meaningful to them, and in different literacies that are valuable to them. I notice the differences in their thinking and how they transfer that thinking to their mark making with the paint. Multimodal literacies allow us to see children's understanding and ideas throughout different forms of representation</p>
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					(Makovichuk et al., 2014).
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Walk-Through Themes

- Access to materials – open access
 - Art materials with open access – paper, string, scissors, tape, markers, paint
 - Natural materials, wood chips, rocks, pinecones, twigs, driftwood, shells, gemstones
- Areas
 - Reading nook - comfortable spot to read
 - Kitchenette – cooking utensils, pots, pans, etc. wooden appliances (fridge, stove, sink)
 - Physical area
 - Building – DUPLO, LEGO, large wooden blocks, magnetic tiles – pictures to provoke
 - Housekeeping area – babies to care for
 - Music and speaker
 - Mat for yoga or physical play
 - Puzzles
 - Puppets, dramatic play
 - Construction dramatic play in one room – vests, signs, screws, bolts, hammers, nails, etc.
- Materials
 - Unifex cubes in most rooms
 - Tuff tray
 - Miniature worlds
 - Easel and paint
 - Materials organized in bins, glass jars,
 - One room has alphabet out of loose parts – ie. Letter A out of twigs, rocks etc.
- Visuals
 - Daily schedules posted

- Children's art – 2 rooms had large group collages and projects – revisit for multiple days
- Aesthetics
 - Natural light and lamps – all rooms do not use all the florescent lights
 - Documentation in hallway at one centre – in room in other – binders for doc in all rooms
 - Light table
 - Family images – pictures of family children can hold move around etc.
 - Fake and real plants in the room
 - Beautiful aesthetic spaces – things hanging from ceiling, mobile, branches, fabric, plants, lights, placemats on table, mirror ball, children's artwork frame
 - Educator pictures at one centre
- Curriculum
 - Topic of exploration in all rooms – material or idea they are exploring with living wall of sticky notes and ideas
 - One room – Spicy Work Teams – intentional grouping of children
 - Planning is displayed in the rooms – based on big idea of exploration
 - One centre uses ASAP tools for feelings and emotional regulation
 - Saved structures – children's work
 - Individual cubbies
- Quiet area – calming area
- Kinder room – smart board, some smaller manipulatives (beads, LEGO, computer), some structured time
- COVID – challenges to room, more sanitation, less natural materials and sensory materials, more plastic
 - Individual art bins for COVID
 - Shelf to dry art projects
 - Change room often
 - Individual sensory bins – COVID