Intercultural Communication Between Two Infants in a Multicultural Early Childhood Education Context in Aotearoa New Zealand

A thesis

submitted in partial fulfilment

of the requirements for the degree

of

Master of Education

at

The University of Waikato

by

Yasmine Serhan

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

2019

Abstract

This study explores what intercultural communication could look like in an early childhood education setting in Aotearoa, New Zealand. In particular, it investigates the interactions between two infants that are under 18-months and have different home languages to one another. The research data was gathered using qualitative research methods. The infants' interactions were observed and video-recorded over a period of 2 weeks. Additional data was gathered through semi-structured interviews with the parents of the infants. This study gathered the experiences of infants and the voices of their families to create an in-depth description of infants' multimodal experiences of intercultural communication. A Bakhtinian dialogic approach was used to address the subtleties that occurred within the communication between the infants, such as words, gestures, and feelings. The findings of this study indicate that infants are agentic subjects that utilise a number of strategies to initiate, maintain, and end intercultural interactions. Firstly, it was found that infants used joint attention and shared intentionality to understand each other's intentions and respond appropriately. Secondly, the infants synchronised with each other during playful interactions and communicated through laughter, babble, vocalisations, and imitation. Thirdly, disagreement and uncertainty characterised an unexpected element of intercultural communication-which occurred a as result of having different cultural understandings around different phenomena. Finally, it was found that infants used their cultural experiences at home as a reference in their interactions with each other at the centre. This study implies that educators must critically consider the affordances of early childhood education environments for supporting infant-peer interculturalism. In addition, working with infants in a multicultural ECE setting calls for teachers to recognise, respond to, and validate infants' various multicultural forms of communication.

Acknowledgements

I cannot express in words alone the appreciation I have for all those that have supported me in this journey. Reaching this far would not have been possible without the many individuals that encouraged me, guided me, and cheered me through the way.

I would like to give my sincerest thank you to the participants of this study. Thank you for your time, your support to carry out the study, and most importantly, the valuable insights that you offered which have shaped this research.

I am deeply appreciative for my supervisor, Linda Mitchell who has been so patient, resourceful, and continuously lifted my spirits whenever I got stuck. Thank you for always having a place for me in your tranquil office space and for widening my research network.

Kerry Earl-Rhinehart, thank you for pushing me to enrol in this Masters thesis and recognising the passion firing in me when I was too scared to take this step. I would have never

My sincerest expression of thanks goes to Alistair Lamb, my academic library liaison. Thank you for your academic insight, technical help, and formatting skills throughout the entire time. Without you, the letters on this very page would have been flying everywhere.

Bridgette Redder, thank you for inspiring me during my undergraduate studies. It is teachers like you that make the biggest difference in the world.

Mama Rana, thank you for flying across continents to support me with this journey. I hope you are proud of what I have achieved, with thanks to you.

Thank you to the team at my workplace for generously giving me time off work to complete this thesis. Thank you to the parents at work who always checked on me and reminded me that it will be worth it in the end.

Andrea Haynes from Student Learning, thank you for helping me transition from undergraduate writing to postgraduate writing. I have been so privileged to be mentored by you during this time.

To my other postgraduate student friends who have supported me through this journey, without you this mission would have been impossible.

Table of Contents

List of Figures

List of Tables

Chapter One: Introduction to the Study

The rise in the number of infants attending group settings globally, such as early childhood education and care (ECEC) centres, has motivated international researchers to recognise broader relationships formed in these group settings (Carroll-Lind & Angus, 2011). However, there is a lack of studies to date that explore the intercultural communication of infants when they have different home languages to one another in group settings, particularly within a New Zealand context. As a teacher researcher, I want to understand what intercultural communication may look like in group settings between two infants who have different home languages. Thus, the purpose of my study is to describe and analyse the interactions of two infants in an ECEC centre. For this purpose, I will use a participatory observational approach.

This chapter introduces four foundations of the study. The first part of the chapter demonstrates the rationale for conducting a study with infants. The second part illustrates the context of ECEC settings and the early childhood education (ECE) curriculum within Aotearoa New Zealand. The third part gives an outline of who I am as a teacher-researcher. Finally, the chapter concludes with a statement of the questions that guide this study and the overall significance of the study.

Rationale for conducting the study

In the following section, I will introduce the contextual background to establish the basis for my rationale.

What is the definition of an infant?

According to the New Zealand Early Childhood Curriculum, *Te Whāriki*, infants are defined as children who range in age from new-born to 18 months of age. This range overlaps with toddlers who are recognised to be between 16 and 24 months of age (Ministry of Education, 2017b). There is consensus amongst international researchers that infancy is the period from birth to about 18 months (Carroll-Lind & Angus, 2011; Sumsion & Goodfellow, 2012). Neurobiological research describes infancy as a period of profound development. During this time, the brain is highly responsive and sensitive to the surrounding environment, forming the foundation and trajectories for later cognition and development (Belsky, 2006; Center on the Developing Child, 2016).

What are ECE services in Aotearoa New Zealand?

ECE services in New Zealand vary in their structural organisation, ownership, environments, and philosophies (Education Review Office, 2016). ECE services are described by the Ministry of Education (2017a) as teacher-led services and include kindergartens, homebased services, and ECEC centres. Other services are described by the Ministry of Education as parent/*whānau*-led services and include playcentres and *kōhanga reo* (Māori language nests).

There are currently 3442 ECE services for children under two years olds in Aotearoa New Zealand (Education Counts, 2019a). Out of the total number of services that cater for this age demographic, there are 2104 licensed ECEC centres across the country(Education Counts, 2019a). Therefore, centre-based ECEC services are the dominant type of education for infants in New Zealand (Education Counts, 2019a). This study investigates two infants participating at an urban early childhood education centre that is run by a Trust.

What are the current participation trends for infants in ECE services in Aotearoa New Zealand?

Over the past two decades, the number of infants attending ECE services in New Zealand has more than doubled since 2000 (Carroll-Lind & Angus, 2011; Education Counts, 2019b). These statistics are reported in two category sets: 0–12-month-olds and 12–24-month-olds. The percentage increase in enrolments of 0–11-month-olds is 67% from the years 2000 to 2018. The 12–24-month-old group increased 79% for the same period. This data is adapted into Figure **1** and illustrates these growing numbers.
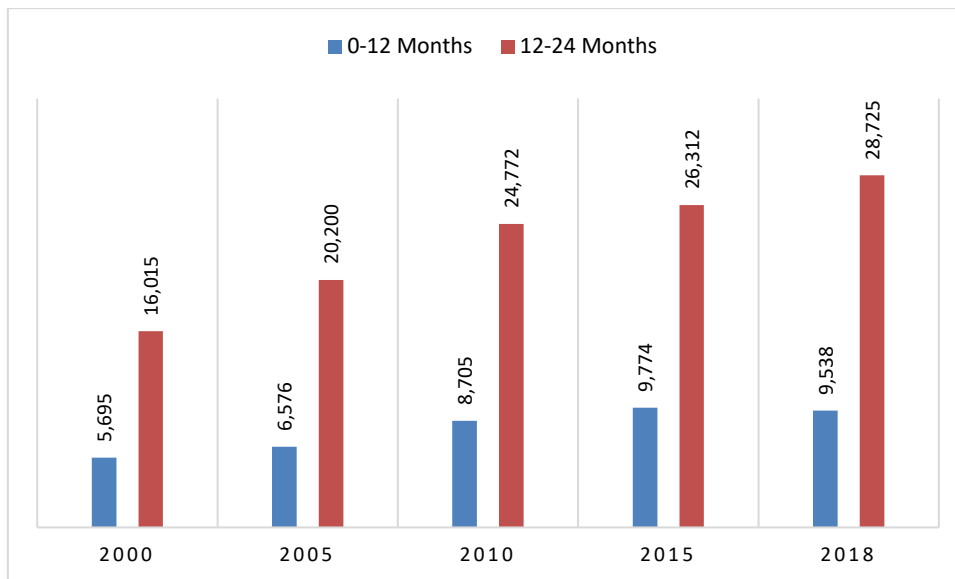
Figure 1:*The number of infants participating in ECE in Aotearoa New Zealand.*

Why do infants attend ECE services in Aotearoa New Zealand?

Caroll-Lind and Angus (2011) undertook a critical inquiry into the reasons why parents choose (or not) to enrol their infants in early childhood education in New Zealand. Below is an outline of their findings:

- Employment trends indicate that there is an increasing number of parents returning to work shortly after their child is born.
- The high costs of living in New Zealand push both parents into employment.
- Single-parent families, who are in paid employment, often use ECE services in combination with other informal arrangements.
- Short-term-paid parental leave pressures parents to return to paid work soon after their child is born.

Currently the maximum length of paid parental leave for eligible individuals is 22 weeks (Inland Revenue, 2019).

Where are infants placed in the New Zealand early childhood curriculum?

Te Whāriki was firstly published in 1996 (Ministry of Education, 1996). This was the first time infants were purposefully included in an official pedagogical and developmental framework on both a national and international scale (W. Lee, Carr, Soutar, & Mitchell, 2013; May, 2009). Te Whāriki has recently been reviewed and updated, but it still places high importance on the very early years of life (Ministry of Education, 2017b). The curriculum identifies that infants are developing and growing

more rapidly during infancy than any other period, and they have a basic right to love and specialised care (Ministry of Education, 2017b). The curriculum outlines a holistic approach for teachers working with infants, emphasising the specialisation of these approaches in comparison to what would be typically adopted with toddlers or young children (Ministry of Education, 2017b). This suggests that infants are unique in their overall needs and teachers have a responsibility to respond accordingly.

What are the current immigration trends in New Zealand?

The population census shows fluctuating rates of net international immigration into New Zealand over the previous 20 years. In the year 2000, there was a net population loss of 11,312 (Stats NZ Tatauranga Aotearoa, 2019b). In the year 2005, there was a net gain of 6971 people (Stats NZ Tatauranga Aotearoa, 2019b). Figure 2 shows the variations and trends during the last two decades (Stats NZ Tatauranga Aotearoa, 2019b). Based on this data, the latest net migration total is 50,631 individuals.
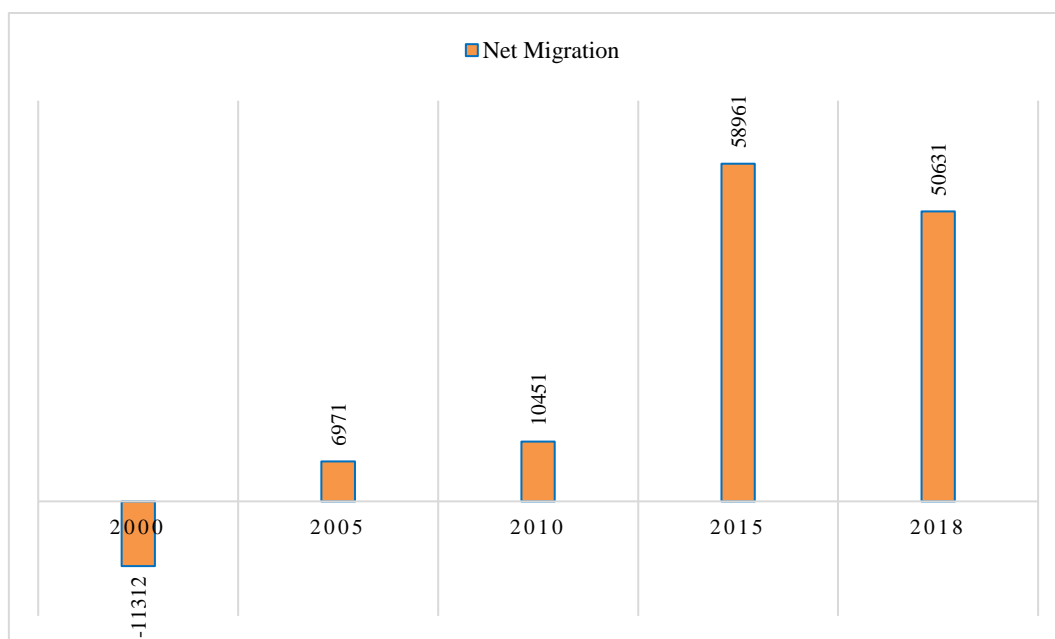
Figure 2: *Net migration into Aotearoa New Zealand*

Interestingly, with the growing number of international migrants, there has been a clear increase in the number of international languages spoken in New Zealand (Stats NZ Tatauranga Aotearoa, 2014; The Office of Ethnic Communities: Te Tari Matawaka, 2014a) An international language refers to a language that does not originate from New Zealand and is not recognised as an official language in New Zealand (The Office of Ethnic Communities: Te Tari Matawaka, 2014a). The three official languages in New

Zealand are: English, Te Reo Māori, and New Zealand Sign Language (The Office of Ethnic Communities: Te Tari Matawaka, 2014b).

In summary, the main findings of the 2018 census report the following on languages spoken in New Zealand (Stats NZ Tatauranga Aotearoa, 2019a):

- English is the most common language in New Zealand: it is spoken by 4,482,135 people.
- Te Reo Māori is the second most popular language: it is spoken by 185,955 people (up 25.3% from the previous census in 2013).
- The next most common languages are Samoan (101,937 speakers, up 17.9%); Northern Chinese (95,253 speakers, up 82.2%); and Hindi (69,471 speakers, up 4.7%).
- The number of multilingual people has increased significantly, with 917,796 people identifying as multilingual, making up 19.5% of the population.
- (Stats NZ Tatauranga Aotearoa, 2019a)

These statistics bring forth an important motive for my study: the need to implement pedagogical practices that promote and support children's developing bicultural and multicultural identities. Language is a huge part of one's identity (New Zealand Ministry of Education, 2013) and preserving it, particularly when the language is not dominant, presents challenges (Forsyth & Leaf, 2010). With the evident increase in the number of infants attending ECE services, and a growing number of people speaking international languages, it can be suggested that infants who go through early childhood education may experience a relationship with another child who has a different home language. Thus, my study aims to understand how these relationships unfold through communication from the very beginnings of one's life.

About the Teacher-Researcher

When I commenced this study, I had been teaching infants (under 18 months) at an early childhood centre for a year. I was still a provisionally registered teacher, working towards achieving my full teacher registration. I had completed my Bachelor of Teaching (Early Childhood Education) at the University of Waikato a year before commencing this study. Although I am a relatively new qualified teacher in the teaching

profession, I have worked in long-term relieving positions at multiple early childhood centres while completing my teaching degree.

As a teacher I documented infants' cultural dialogue and body language against the backdrop of their emerging identity in the form of learning stories, inspired by the sociocultural philosophies highlighted in *Kei Tua o te Pae: Assessment for learning: Early Childhood Exemplars* (Ministry of Education, 2005). When writing these stories, or assessments, I engaged in meaningful conversations with families that have enriched my craving for understanding intercultural communication between infants and where it originates from. Being bilingual myself, I was extremely interested in how bilingual children navigated the world around them, particularly if there was a language barrier in place. There was a question that always flew in my mind: if we as adults struggle to communicate with a language barrier, how do infants build relationships with other children that have different languages? Could it be that love is a universal language?

Current study

This study investigates the intercultural interactions between two infants who have different home languages to one another. It explores the dynamics of intersubjectivity, or shared meaning, between the infants, and uses their communicative gestures and responses to create an elaborate description of what these reciprocal interactions look like for this specific age-group. I approached this study through my bimodal identity as a researcher and teacher, focusing on answering the following question and sub-questions:

What does intercultural communication look like between two migrant infants (under 18 months) who have different home languages in a multicultural New Zealand early childhood context?

i. What are the non-verbal communicative cues that take place during an interaction between the two infants?

ii. What are the verbal communicative cues that take place during an interaction between the two infants?

In this study, I draw on understandings from dialogic theory (Bakhtin & Holquist, 1981; Bakhtin, Holquist, & Emerson, 1987) and an interpretivist paradigm (Denzin &

Lincoln, 2000; Taylor & Medina, 2013) to describe and analyse the infants' interactions from the perspective of the infants, rather than the prevalent view of focusing on learning and development from the researcher's perspective. As similarly outlined in Marjanovic-Shane and White's (2014) study on young children's social opportunities provided through play children, I have adopted a contemporary approach and view intercultural interactions as a "developmental catalyst for universal human psychological functions such as symbolism, imagination, creativity, interests, emotions, knowledge, and social and communicative skills" (Marjanovic-Shane & White, 2014, p. 119). This dialogic approach also moves away from objectifying children and viewing them as "solitary individuals developing in a social vacuum, independently and separately from other people and community practices" (Stetsenko & Pi-Chun, 2015, p. 229). My interpretation of the infants' lived experiences is drawn from video-recordings, participatory observations, and interviews with the parents of the infants.

Significance of study

This study is timely with the increase in New Zealand's migrants (Stats NZ Tatauranga Aotearoa, 2019b) as well as the recent increase in the refugee quota in 2018 (New Zealand Immigration, 2018). It is well established in the curriculum that positive and responsive teaching practices empower children's learning, particularly when the child's culture and identity are affirmed through these teaching practices (Ministry of Education, 2017b). This study analyses what intercultural communication can look like between two infants that have different home languages; a phenomenon that many early childhood teachers will have encountered but not necessarily have the literature to support a deeper understanding for this specific age-group.

This study serves to create a framework for early childhood teachers to identify 'intercultural communication between infants in the early childhood education context. By analysing critical episodes in the infants' interactions, this study is a preliminary step towards developing an enriched pedagogical framework for teachers and parents to identify, engage, and respond to infants' intercultural competencies. It aims to contribute to the small pool of literature that investigates infant-peer interactions.

I am interested in exploring infants' "experiences as ways of being within the social, cultural and physical spaces" (Sumsion et al., 2011, p. 114) of their increasingly diverse ECEC setting. Intercultural communication is important for the creation of a

shared understanding between people and is the essence of empathy (Barladi, 2012; Besley & Peters, 2011). It is believed that interculturalism can only be achieved through negotiation and interaction (Casoni & Gindro, 2003). In relation to infants, I believe that simply observing adults modelling intercultural relationships in the ECE setting is important, but observing the infants experiencing these intercultural relationships is also a powerful learning tool that can mediate new ways of being and belonging within a linguistically and ethnically diverse nation.

Overview of the thesis

The subsequent four chapters narrate the detail of this study. Chapter Two reviews literature on language development in infancy, with special attention paid to explaining dialogism and communication. And it considers the potential role of Te Whāriki in supporting dialogue interculturalism, and infant peer relations. Chapter Three outlines the methodology employed in this study, including the research paradigm, the methods used in the research, the approach to analysis, and the consideration of ethical and validity issues. Chapter Four describes the findings of the research by looking at individual critical episodes and analysing them chronologically. Finally, the thesis concludes with a discussion of these findings, and provides conclusions and ideas for further study.

Chapter Two: Literature Review

This study is about intercultural communication between infants in an early childhood education and care (ECEC) centre in Aotearoa New Zealand. My premise is that Bakhtinian dialogism offers a useful framework for understanding the multimodal ways in which infants communicate because it acknowledges the mutual reciprocation and understanding that unfold between infants prior to their development of verbal communication (Bakhtin & Holquist, 1981; Bakhtin et al., 1987; White, 2017). This literature review analyses a range of peer-reviewed literature to investigate peer interactions, communication, and methodologies used to study these phenomena in early childhood education contexts.

The literature review starts with an introduction of the method and inclusion criteria for selecting relevant literature. Subsequently, I present a summary of the changing theoretical conceptualisations of infancy and development in the early years of childhood. For the purpose of my study, it is useful to review the methodologies used by researchers in exploring infants' peer interactions. These studies are synthesised and critiqued for their relevance and appropriateness to the age-group involved. Then, a synthesis of studies that investigate communication and infant peer engagement is presented. Finally, a review of Te Whāriki is discussed in relation to infant-peer relationships, language and interculturalism.

Key findings of this literature review suggest that infants interact with one another using verbal and non-verbal forms of language. The latter form of communication tends to be dominant. This includes hand gestures, eye-contact, gaze, touch. A large number of studies undertaken before 2010 describe infants' interactions with their peers as primitive, limited and rudimentary and were based on comparative observations between infants and toddlers. Although a wide range of literature explore the dyadic attachments between infants and their mothers, caregivers, or teachers, there seems to be a significant gap on literature investigating infant-peer interactions in general, with most studies focusing on toddlers and preschool children. Te Whāriki includes infants in the curriculum as competent communicators but does not offer much exploration of infant-peer relationships (although it explores this area for toddlers and young children). Overall, sparse literature addressing infant-peer interactions implies the need for more studies to investigate the nature of infant-peer relationships, particularly in growingly

diverse group settings such as ECEC centres where infants engage and interact with infants and teachers from various cultural and linguistic backgrounds.

Questions guiding this review

In order to address the questions that guide my study, I was required to define the purpose of my literature review to ensure that the scope of the reviewed literature is relevant.

Through my experience as a teacher of infants, I have witnessed many friendships and interactions that occur between infants who come from various cultural backgrounds. I wanted to explore other researchers' thick descriptions of infants' peer interactions, in relation to notions of interculturalism. This literature review is guided by the following underlying purposes:

- To review methods used to investigate infant-peer communication and interactions.
- To review findings on infant-peer communication and interactions, with particular attention to interculturalism where relevant.
- To review Te Whāriki and synthesise the material it provides on infant-peer relationships, dialogue and interactions, and interculturalism for this age-group.

Method

A comprehensive review was undertaken to collate the literature used in this review. Material from education and psychology studies form the basis of this literature review. A search was undertaken on three databases: Education Research Complete, New Zealand Council for Educational Research (NZCER), and ScienceDirect (Elsevier). Additional literature was sourced from the University of Waikato Library Database and Google Scholar. Other literature was sourced from the reference lists in the material sourced or was recommended by my supervisor. Furthermore, other literature reviews and theses have provided insight into various research trends.

Criteria for inclusion

Studies chosen in this review have met the criteria highlighted in Table 1. These criteria ensure sufficient detail regarding of methods, analyses and findings was

provided in the studies to ensure relevance to my study as well as a robust methodology and discussion to synthesise and critique the work of others.

Out of my search, six studies were directly relevant to the research questions, review purpose, and inclusion criteria. However, the shortage of literature means that additional studies which do not exclusively follow the inclusion criteria (e.g: studies that include toddlers) have been reviewed and analysed to provide insight. My selection criteria established that sourced articles were published from the year 2000 onwards or were key works and material that summarised general trends in the past. Abstracts were analysed to identify the relevance of studies in relation to the research questions and purpose outlined above. Further in-depth reading was required to assess the quality of relevant studies for robustness of the sample(s) and relevance of investigation. The studies sourced are peer-reviewed qualitative studies.

Table 1: *Criteria for inclusion*

Inclusion Criteria	Exclusion Criteria	Reason
Infants, new-borns, toddlers, young children	School-aged children, adolescents	This study focuses on children under 18 months. The large gap in literature on infants means that studies on toddlers and pre-schoolers must be included to analyse what current research has found with older children.
Studies from New Zealand, Australia, and OECD Countries	Other countries	To narrow the scope of research to countries that are somewhat similar to New Zealand
Studies that look at interculturalism for infants	Interculturalism in school, tertiary, and work settings.	Relevance to research question.
Relationships between infants or infant-peer relationships	Relationships between teachers and infants	Relevance to research question.
Peer reviewed articles	Newsletter articles	Peer review offers some guarantee of quality and validity. Literature reviews and theses were used for their insights into literature and other studies which are relevant
Applying subject filters: Education, languages and literature, psychology, culture, sociology, anthropology, children, culture, philosophy, dialogue, Bakhtin Mikhail Mikhailovich, Bakhtin, Dialogism, dialogue analysis, language and education		To narrow the scope of material in relevance to the research question.
Language: English		Publications in other languages cannot be read.
Years: 2000–2019		Many advances in neurological science around brain development took place during the past two decades. Only key works prior to 2000 have been used to summarise the general trends that existed in the past to show the shift in research.
ECEC centres, mainstream ECE Kōhanga Reo, kindergarten, preschool, home-based ECE		My study is in a centre-based ECE setting. Preschool and kindergarten were included due to the gap in literature
Qualitative methods: Interview, observation, video-recording.	Quantitative methods	Sufficient detail to enable an informed judgement about the robustness of the study.

Changing conceptions of infants and infancy: Communication, dialogue

In the following section, I will discuss the dominant discourses and theories on infancy, with particular focus on infants' development of communication and relationships with others.

History of infancy: Theories and philosophies

Behaviorist Theory

According to the American theorist Burrhus Frederic Skinner (1957), behaviorist theory argues that social behaviour is learnt through the support and encouragement of others. In this light, he portrays that infants are born as 'empty vessels' and lack the ability to socialise or interact with adults, but they soon learn to interact through a concept known as operant conditioning, which is the association of a behaviour with a desired outcome such as loving attention from a parent (Meltzoff, 2009; Papalia, Olds, & Feldman, 2009; Skinner, 1957). Although his ideas originally extended from his studies on rats and pigeons, Skinner maintained that his theory could be used to illustrate human development.

Cognitive Theory

Jean Piaget, a Swiss psychologist, offers a different stance on language development. Based on his clinical trials on children (Piaget, 1952, 1954), he claims that cognitive development occurs through distinctive stages which can take place through "biological maturation and interaction with the environment" (McLeod, 2018, para. 1). Piaget's observations led him to the conclusion that infants are asocial beings without any inherited mental abilities (Beard, 2006; Meltzoff, 2009). In this light, he characterises infancy as an egocentric period where infants' thoughts only refer to themselves and they are unable to relate to others or think from the perspective of others (McLeod, 2018; Piaget, 1970).

Attachment Theory

One of the first theories to specifically investigate infants' early social development is John Bowlby's attachment theory. According to this theory, attachment can be understood as a "lasting psychological connectedness between human beings" (Bowlby, 1969, p. 194).

The connectedness he refers to is supported by behaviours such as crying when left alone and seeking proximity with the mother (Bowlby, 1969; Degotardi & Pearson, 2009). Through his work as a psychiatrist, Bowlby (1969) claims that connections, or attachment, are a pre-requisite for the social development that follows later in life. He insists that the dyadic attachment between the child and his/her mother is the most important element for emotional, cognitive, and social development (Bowlby, 1969, 1988). A suggestion made by Bowlby is that infants form relationships with only one figure, the mother, and this becomes the secure base for forming any following relationships (Bowlby, 1988; Degotardi & Pearson, 2009).

Sociocognitive Theory

Russian psychologist -Lev Vygotsky, is known for his contributions to the socio-cognitive theory (Vygotsky, 1978). His theory stresses the empirical role that social experiences have on cognitive development and learning language (Smidt, 2009; Vygotsky, 1978). Through social experiences children use words with a more experienced individual, who respond socially to the child, driving the child's cognitive development (Duncan & Tarulli, 2003; Vygotsky, 1978). Although Vygotsky's work has primarily focused on young children, pedagogical practices and research with toddlers have used socio-cognitive frameworks to investigate the ways in which children learn and engage with peers (Ministry of Education, 2017b; Ritchie, 2010; Smidt, 2009).

Bioecological Theory

Influenced by Vygotsky's socio-cognitive theory, Urie Bronfenbrenner's theory emphasises the interlinked nature of development and the contextual environment of the child (Bronfenbrenner, 1979). The American psychologist's theory is referred to as the bioecological theory, and it can be understood as the reciprocal link between the biological development of an individual that reflects ecological contexts that surround them (Swick & Williams, 2006).

Bronfenbrenner describes the life of the child as being shaped and reshaped everyday as a result of their surrounding contexts (Swick & Williams, 2006). In these contexts, children, as part of their growth, engage in a variety of experiences, develop different relationships with individuals and reflect on these experiences and relationships (Arthur, Beecher, Death, Dockett, & Farmer, 2012; Bronfenbrenner, 1979;

Swick & Williams, 2006). These contexts influence the child's development on different levels, directly and indirectly (Papalia et al., 2009). Although his studies never directly focused on infants, Bronfenbrenner's theory has been celebrated for the holistic illustration it provides on children's development, with particular attention to the ever-changing influences on development (Arthur et al., 2012; Grey, 2010; Ministry of Education, 2017b)

Dialogic Theory

Mikhail Bakhtin, a Russian linguist and philosopher, is the founder of the dialogic theory. Dialogism is broadly defined as the reciprocal communicative acts between participants that are shaped by cultural and social contexts (Bakhtin, 1987; Wegerif, 2007). An underpinning philosophy of dialogue is that the reciprocal communication with other beings generates shared meanings (Bakhtin et al., 1987; White, 2014). From a Bakhtinian standpoint, the language that evolves during dialogue shapes the experiences of individuals in dialogue (White, Peter, & Redder, 2014).Therefore, development in this light is understood as the meaning-making processes of everyday ideas through dialogue with an other (Lobok, 2012, as cited in White et al., 2014).

Bakhtinian theory has never explicitly addressed infants. However, it has been argued as especially relevant for conceptualising infancy as it acknowledges various factors of communication as dialogic nuances and they include gesture, sounds, tone, and eye-contact (Bakhtin et al., 1987; White, 2015, 2016).

Contemporary understandings

A thorough review of the traditional theories on infant social development finds that, within the light of these traditional theories, infants are not predicted to form peer relationships or interactions (Hay, Caplan, & Nash, 2009). As a result, Hay and colleagues reveal that most of the infant-peer literature over the last 90 years has focused on the "perceived limitations of infants (egocentrism, cognitive deficits) and the primacy of the mother-infant relationship as a model for other future relationships" (Stratigos, Bradley, & Sumsion, 2014, p. 181). Thus, scholars nowadays call for a contemporary view of theories that can help broaden the narrow traditional conceptualisations of infants, particularly in relation to infants' social interactions (Carroll-Lind & Angus, 2011; Dalli, White, Rockel, & Duhn, 2011).

Several contemporary scholars challenge and disapprove cognitive developmental theory, emphasising that development is continuous and not a universal process (Bruner, 1966; Feldman, 2010; Vygotsky, 1978). Others directly challenge the asocial image of infants offered by this theoretical perspective (McMullen et al., 2009; Meltzoff, 2007, 2009). Although the findings of some studies have been consistent with these universal cognitive developmental ideals (i.e, by demonstrating the greater complexities in social interaction of older children (Berthelsen, 2009; Brownell, Ramani, & Zerwas, 2006; Greve, 2008; Legendre & Muchenbach, 2011; Tomasello, Carpenter, Call, Behne, & Moll, 2005; Williams, Ontai, & Mastergeorge, 2007), many studies reveal the undiscovered social nature of babies and urge for further studies to explore this relatively new area (Goodfellow, 2012, 2014; Murray, 2014; Reddy & Uithol, 2016; Shin, 2012; Wittmer, 2012).

Influenced by Vygotsky's ideas, Barbara Rogoff (2003) draws on socio-cognitive theories and adds her own contemporary contribution to them. She highlights not only the role of social experiences but also the role of culture on human development. She explains that development is shaped by socially and culturally constructed experiences (Rogoff, 2003). She mentions that the "cultural and biological heritage" of people enables them "to use language and other cultural tools…to learn from each other" (Rogoff, 2003, p. 3). This contemporary view suggests that infants are "equipped with ways of achieving proximity to and involvement with other members of society, such as imitating others and protesting being left alone" (Rogoff, 2003, p. 69).

Dialogic theory: A conceptual framework for infant-peer communication

The theories discussed above offer insights into different approaches to human development. In relation to my study, a dialogic theoretical perspective can offer a wide lens to consider infants' verbal and non-verbal communicative nuances (Bakhtin, 1987; Bakhtin & Holquist, 1981). According to this perspective, insights are offered to understand the unfolding of social events and the processes that create shared meaning between people (Stetsenko & Pi-Chun, 2015; White, 2016, 2017)

Dialogism does not privilege one form of language or communication over another, but instead, it considers the exchange of language and the delivery style to be a valuable asset in itself for dialogue (White, 2017). This aligns with the sub-questions that my study proposes: what are the verbal and non-verbal communicative cues that take place

during an interaction between two infants. This critical view of language exchange will allow me to view hidden messages which may not necessarily be viewed from other perspectives (White, 2016).

Methodologies used to study infants-peer relationships and communication

Methodologies that are being used to research infants as research participants have changed significantly throughout the years. Previously, studies have been in the field of psychology (Woodhead & Faulkner, 2008). They portray infants as showing minimal social interaction with their peers (Hay et al., 2009) and argued that infants' play is mostly solitary (Ross & Goldman, 1977). As a result, these conceptualisations have narrowed research methods to focus on the role of the adult or caregiver in providing social experiences and forming attachment relationships with infants (Degotardi & Pearson, 2009). Johansson (2011) outlines that "ontology, epistemology and methodology within these traditions have been criticized as neglecting the perspectives of young children and ignoring children as persons and participants in their own life and in a culture" (p. 3). Accordingly, research with infants has greatly shifted from being on infants to positioning infants and the researcher as "subjects intertwined in time, history and culture" (Barker & Weller, 2003; Johansson, 2011, p. 3). For example, Greene and Hogan (2006) recognise that epistemological understandings implied in traditional research phrases such as collecting data "have been replaced by notions of subjectivity and metaphors such as 'constructions of lived experiences'" (as cited in Johansson, 2011, p. 3, original emphasis).

Because infants do not use a lot of verbal language, research with this age-group is complex and requires researchers to adopt a specialised nature of inquiry (Greene & Hogan, 2006; White, 2011). Thus, researchers may have distinct research agendas when studying peer interactions between infants or young children. According to Sommer, Samuelsson, and Hundeide (2010), researchers are required to sensitively and empathetically decode infants' expressions in order to understand the feelings behind their non-verbal expressions. In doing so, some argue that it is possible for researchers to enter the world of the infant (Goodfellow, 2012; Tomasello et al., 2005).

Contemporary scholars use a wide range of methodological approaches to gather data and analyse the lived experiences of infants in their studies. In the following

section, I draw on six qualitative studies that investigate infant-peer interactions in ECE contexts. I will discuss their aims, methodologies and analytical frameworks and highlight the appropriateness (or not) of their investigation in relation the concerned age of infants.

Looking and listening in (Goodfellow, 2012)

This article is part of a wider study called the Infants' Lives in Childcare, which investigates the daily lives of infants in ECEC centres in Australia (Sumsion et al., 2011). The wider study has the following aims (Sumsion et al., 2011):

- Address the shortage in literature on infants' experiences through participatory and inclusive research.
- Communicate infants' everyday experiences in ECEC from the perspective of the infants themselves.

Through several case studies, Sumsion et al. (2011) have undertaken several case studies of infants and have collated a wide range of perspectives and analyses to create an in-depth description of infants' lived experiences with adults, teachers, and peers.

Joy Goodfellow (2012) writes about one of these case studies that involves a 14-month-old child named Charlie. She adopts an innovative observational approach called *looking and listening in* to describe and analyse Charlie's interactions with others. The name of the approach reflects a metaphor that includes several ontological and analytical methods, which widens the lens of possibilities for analysis (A. Clark & Moss, 2001; Rinaldi, 2005). Drawing from a phenomenological approach, a sociocultural approach, and a socio-cognitive approach, Goodfellow (2012) aims to honour the perspectives of researchers, parents, and teachers to portray the lived experiences of Charlie in a home-based early childhood Australian setting. The notion of "lived experiences" refers to the "ways in which infants make meaning of what is going on around and within them", a process that mixes "memory, desire, anticipation, relations with others, cultural patterns, bodily feelings, sights, smells and sounds" (Bradley, 2005, as cited in Sumsion and Goodfellow, 2012, p. 315).

The phenomenological approach suggests that close observation brings you as close as possible to the participants or research focus, thus entering the world of infants (Merleau-Ponty, 1962). Van Manen (1990) identifies that this is possible by being attuned and alert to the experiences of the infants and this allows researchers to be

"reflexive when interpreting" (as cited in Sumsion and Goodfellow, 2012, p. 316) the meaning of the infants.

The sociocultural approach centralises the intentional act of 'looking and listening' in order to learn (Rogoff, 2003). For instance, Rogoff highlights that children learn by observing the activities of other children and adults (Rogoff, 2003). In research, looking and listening in order to learn is a complex active process that is "mediated through…interactions with multiple agents, including people, objects and cultural tools such as language, artefacts and social practices" (Wertsch, 1998, as cited in Sumsion and Goodfellow, 2012, p. 317).

Socio-cognitive perspectives support making inferential interpretations about infants' experiences. From this premise, infants' social behaviours are observed as a reflection of their capacity to initiate and understand culturally relevant actions, as well as predict the behaviour of others (Barresi, 2007; Moll & Tomasello, 2007; Tomasello et al., 2005). Some researchers even argue that socio-cognitive theory, when used empathetically and sensitively, allows for the analysis of little details to not be missed, and it can be used assist in reconstructing infants' lived experiences (Sommer et al., 2010). Sumsion and Goodfellow (2012) convey that these three perspectives fit into a mosaic model, where the construction of understandings about infants is undertaken with a multitude of observational lenses.

In Goodfellow's study, observational methods, reflexive notes, video-recordings, interviews with parents and teachers and a diary were used to gather data. The following methodological steps were undertaken in this study:

- Collecting observational data, reflexive notes, and video-recordings of infant's experiences.
- Recording 10 hours of footage
- Selecting critical episodes against criteria.
- Editing and collating critical episodes into a 15-minute video
- Repeatedly watching and transcribing episodes using a transcription software (*InqScribe* © 2005–2009).
- Selecting a series of photographic stills from the episodes to convey the main sequence of events in the respective episodes.

- Interviewing the infants' mother and other members of the research team.and using the edited video as a discussion tool.

As outlined above, the researchers collaborated with several research team members as well as Charlie's mother. They adopted Ødegaard's (2006) co-narrative construction approach to blend the interpretations and elaborated on the sociocultural contexts in which the events took place. To analyse the photographic stills and video footage, the researchers were guided by Patterson's (2008) analytic method which includes answering the following questions:

- "Abstract–what is the story about?
- Orientation–who, when, where?
- Complicating action–then what happened?
- Result/resolution–what finally happened?
- Evaluation–so what? Why is it worth telling?
- Coda–how does what happen relate to the present?"
- (Sumsion & Goodfellow, 2012, p. 319)

This guideline is used to interpret, analyse, and construct the visual narratives portrayed in the photographic stills. Narratives in this case are defined as "people [intentionally] acting in a setting and happenings that befall them [those actions]"(Bruner, 1991, p. 7).

Limitations

Sumsion et al., (2011) identify that there is a lack of literature investigating the "theoretical, methodological, and ethical considerations in working in participatory ways with infants with infants in research contexts to better understand their perspectives" (p. 114). With a few notable exceptions (Dalli, 2000; Degotardi, 2008; Elfer, 2006; Thyssen, 2000), not a lot of literature could have guided the investigation in Goodfellow's study, thus a number of limitations came about from this study.

Firstly, it was noted that the experiences of infants cannot be fully represented from the perspective of the infants. This is because infants have not yet gained the ability to fully articulate their experiences. Barker and Weller (2003) explain that a universal truth in children's experiences cannot be uncovered. Therefore, "through child centred research methods….[research can] offer partial glimpses that reflect in one form the complexity and diversity of children's lives" (Barker & Weller, 2003, p. 8).

Accordingly, this issue is addressed through child-centred methods, such as close and repeated observations, and a looking and listening in approach to encompass the various communicative modes of infants.

Another concern was the researcher's frame of reference and expectations. As Rex and Wendy Stainton Rogers (1992) claim, observation is restricted in the insights it provides researchers. This is partially due to the researcher's conceptual understandings of infants' experiences, as well as the researcher's theoretical influence(s). The mosaic approach adopted in Goodfellow's study can allow researchers to adopt a multi-perspectival view, where the interpretations and perceptions of several teachers, parents, and researchers are honoured and blended. Some may argue, however, that the pre-existing power issues may bias the blending of perspectives, and certain views are valued over others (Christensen, 2004; Rutanen, Amorim, Marwick, & White, 2018).

And finally, another limitation is the privacy invasion that observational methods such as video-recording may cause. There are ethical concerns with observational methods with very young children such as how to obtain ethical consent and ongoing assent (Bissenden & Gunn, 2017; Flewitt, 2005). According to a review conducted on methodological approaches with young children, Clark and colleagues (2003) maintain that observational methods are a foundational way of listening to infants because they capture the infant's verbal and non-verbal communicative cues, as well as the surrounding context in which they occur. Moreover, scholars have argued that with the prevalence of technology in today's society, young children are familiar with adults using equipment, and have been noted as proficient users at a young age (Degotardi, 2011a; Marsh et al., 2005; Walsh, Bakir, Lee, Chung, & Chung, 2007). Accordingly, Degotardi (2011b) highlights that very young children "can be fascinated by the research camera and want to engage with it when it is brought in to their educational settings" (p. 25), thus, adding a whole new dimension to the research paradigm. If taken into consideration and carefully implemented, videography and observational methods can be ethically used to understand the lives of infants as sensitively as possible (Knoblauch, Tuma, Margolis, & Pauwels, 2011; Lynch & Stanley, 2017).

The role of joint attention in social communication and play among infants (Shin, 2012)

Minsun Shin (2012) conducted a qualitative study at a New York city university-affiliated ECEC setting to investigate social communication between infants during play. The primary aim of her study is to create thick descriptions of infants' social play with a focus on the role of joint attention in the unfolding of these play experiences (Shin, 2012). Out of the eight infants attending, Shin (2012) focused on five infants aged between 9- and 23 months old. Informed by socio-cognitive theory, the study holds the underlying assumption that infants develop an ability to engage in joint attention at 9 months (Dunham & Moore, 1995; Saxton, Colombo, Robinson, & Frick, 2000). Central to the study is the learning domain of communication, where it is highlighted that "learning is influenced and sustained by social interaction with others as well as communication and collaboration in relationships" (Berthlsen, 2009, as cited in Shin, 2012, p. 310).

The following methodological steps were followed to gather data in the childcare setting:

- Non-participatory observations using a running record over 13 weeks: the observation period was six hours each week.
- Video-recording infants for 15 minutes per week for six weeks.
- Writing of fieldnotes during this period.
- Using excerpts from the teacher-parent communication charts.

The analytical approach employed to understand the collected data follows the qualitative research guidelines provided in Marshall and Rossman's (1999) handbook and is identified as qualitative emergent. The field-notes, video-recordings and chart excerpts were revisited, reviewed, and transcribed in detail. The use of the excerpts from the communication charts allows for a wider scope of knowledge to be collected as both parents and caregivers provide information about incidents that may have occurred when the researcher was not present. The coding of all events enabled the researcher to identify themes that are relevant to the research question.

Limitations

In non-participatory observation, researchers aim to watch children as discreetly and unobtrusively as possible (Bell, 2005; Marcella & Howes, 2015). Accordingly, non-

participatory research does not consider of the role of the researcher sharing the social and spatial context with the infants. In this light, researchers may fall into the observant paradox, which is described by Hatch (1995) as the "dilemma of trying to capture naturally occurring behaviour in the unnatural context created by the presence of a researcher" (p. 218). This is stressed by Hatch (1995), that authentic representation of a social context requires the consideration of "the intentions, interactions, and ideas of those within that context, regardless of whether those people are participants or researchers." (as cited in Degotardi, 2009, p. 17).

Degotardi (2008) reflects on her initial approach during her observational study with infants, where she initially deemed the role of a discreet, non-participatory observant in the room, only to realise that the participating infants did not find her very discreet after all:

> I started the camera, sat on a low bench a few meters away and began to film. After a while, Tabatha [caregiver] left the area to assist another child and Bella [13-month-old] remained sitting. A few minutes later, she looked up, pointed at me, and smiled. Gaining my attention, she pointed at a mobile that was swaying in the breeze, looked back at me and said "ho!" with her head to one side, and her eyes and mouth open in a look of excitement. She held her gaze and expression until I smiled back and nodded in acknowledgement (p. 16).

Degotardi (2008) argues that non-participatory observation may cause conflict with the researcher's expectations when an underlying view of studying infants' is that they are social, agentic, and competent subjects. A motive of Shin's (2012) study is "bringing into focus infants' communicative capabilities and social engagement based on social understanding." (Shin, 2012, p. 315). Therefore, adopting a participant role can be appropriate for this context as it allows the researcher to "share in the lives and activities of other people; to learn their language and interpret their meanings;" (Bell, 2005, p. 187).

Using the selected methodological approach, Shin (2012) was able to explore the role of conflict in the social experiences of infants, without the intrusion of teachers or the researcher was the role of conflicts in infants' play and social understanding. Ethical issues may arise if the children get hurt etc. Hatch (1995) implies that the unethical stance of not intervening in scenarios where children or research participants get hurt is

the researcher's "own selfishness, being caught up in the moment, and their view of the 'superior' nature of the researcher role" (p. 218, original emphasis). A reflection by Degotardi (2008) offers an alternative view of not intervening. Coming from the perspective of an educator, she claims that her lack of intervention stems from her "teacher-based desire to allow the children opportunities to resolve the altercation themselves" (p. 18). In the end, these ethical choices are made based on the researcher's set of values, philosophical views, and theoretical underpinnings and agenda. Thus, given the role that researchers are in, Bone (2005) suggests that personal and context-specific values are revisited to make appropriate decisions during the observation process to ensure ethical practices are adhered to at all times during research.

Expressing, interpreting and exchanging perspectives during infant-toddler social interactions (Degotardi, 2014)

In this case study, Sheila Degotardi (2014) looks at the everyday interactions that infants and toddlers experience during their transitions into infant and toddler childcare classrooms in Australia. An underlying premise in this study is that experiences occur on physical and perspectival levels. Thus, intersubjectivity involves joint participation on an interpersonal and intrapersonal level (Degotardi, 2014). Intersubjectivity, in this light, is defined as "a contextual concept which involves the joint participation in experience of two or more people" (Zlatev et al., 2008, as cited in Degotardi, 2014, p. 187).

For the purpose of my study, I will discuss one study reported in this article due to the relevance of the age-group involved. This study refers to a case study on infants during their transition into nursery. The infants in are 8, 12, and 15 months old respectively. The purpose of this study is to explore the "dynamics of relationship formation between infants" (Degotardi, 2014, p. 14), with particular attention to concepts of intersubjectivity. Naturalistic observational methods were employed, in addition to adopting a multi-perspectival approach to gather data and interpretations from the research team, teachers, and parents of the infants. The following methodological steps were followed:

- Video-recording of each infant for approximately 4 hours each fortnight- for 3 months.

- Interviewing the lead teacher each fortnight and discussing the formation of relationships that the three focus infants did or did not develop.
- Interviewing the infants' parents three times during the data-gathering period and discussing their infants' family ideas, values, and priorities about their infants' relationships with others, and their infant's formation of relationships.

Drawing on a multi-perspectival approach based on Mead's (1934, 1938) theory, Degotardi views experience as an "internal, perspectival, as well as a practical, social process" (Reck, 1981, as cited in Degotardi, 2014, p. 190) that considers the other in mind. This has been recognised as a relevant way to understand and analyse social experiences from the perspective of the infant and moves away from a traditional, more common dyadic approach (Degotardi, 2014; Sommer et al., 2010).

Limitations

An identified limitation in this study is the conceptualisation of experience as an interpersonal social process. Considering this theoretical perspective, it is essential that an ongoing social collaboration takes place between the researchers and the participants involved to maintain an accurate representation and interpretation of the gathered data (Degotardi, 2014). This has been addressed by adopting a multi-perspectival approach that allows for the recognition of various perspectives. Overall, the study uses the term *interpret* to make meaning of the infants' experiences, which suggests that they can never fully represent the experiences from the infants' perspective.

Another limitation is the researcher's ability to gather data about the participants' experiences, which may occur unobtrusively or swiftly, as they commonly do with infants (Marcella & Howes, 2015). Video-recording methodology is seen as an appropriate tool to gather the experiences of participants within this age-group. It is highlighted that the "generation of the video data would permit also collaborative review and analysis, there contributing to the reliability of the analysis" (Walsh et al., 2007, as cited in Degotardi, 2008, p. 15).

Additionally, a naturalistic observational approach is considered to be a limitation in this study. This approach "seeks to portray how children's actions are influenced by and influence features of their social and cultural contexts" (Degotardi, 2011b, p. 15). According to Smith (2011), researchers using this method "aim to separate themselves from the context they observe, limiting any interactions with children or teachers being

observed" (as cited in REF, p. 29). Similarly addressed in the limitations of Shin's (2012) study, researchers adopting a naturalistic approach may disregard the influence they have on the social, spatial, and contextual environment by simply being present in the environment themselves (Hatch, 1995). Ultimately, this raises questions about the appropriateness of the observational approach employed to gather these experiences.

Doing friendship during the second year of life in a Swedish preschool (Engdahl, 2012)

Ingrid Engdahl (2012) undertook this ethnographic study at a municipal Swedish preschool. She investigated toddlers forming friendships at a Swedish preschool. For the purpose of her study, she recognises toddlers as children around 12–36-months in age. Following a phenomenological approach to analyse her gathered data (Merleau-Ponty, 1962; Willig, 2008), she strives for a close understanding of the "nature and quality of the emerging phenomena linked to doing friendship" (Engdahl, 2012, p. 88). Accordingly, the researcher attempts to get as close as possible to the toddlers by following them during their play and interacting them when the toddlers invited her in order to construct an understand of the the toddler's experiences through an insider lens (Engdahl, 2012; Willig, 2008).

Three girls and three boys aged between 12–36 months, were observed over a period of nine months. The following methodological steps were undertaken in the study:

- Participatory observations on the focus toddlers.
- Complimenting the observations with photos and field-notes.
- Familiarising the toddlers with the handheld camera.
- Commencing video-recording in the 2nd month of data-gathering.

The following analytical steps were undertaken to make meaning of the gathered data:

- Transcribing running records and photos, with special attention given to relational events and emerging friendship phenomena (resulting in 57 pages).
- Transcribing video-recordings (8 hours in total).
- Re-reading and reviewing the transcriptions multiple times.
- Reflecting on the researcher's presuppositions and assumptions.

- Interpreting a total of 36 episodes from the transcribed data.

Limitations

The researcher in this study provided an articulate and robust demonstration of the methodologies followed in gathering the experiences of the participant toddlers.

From a phenomenological perspective, careful interpretation is encouraged through close observation (Merleau-Ponty, 1962; Willig, 2008). Accordingly, Engdahl (2012) followed this theoretical framework by building relationships with the toddlers, and having a focus child each day whom she followed closely and noted their movement. She justifies this methodological adaptation in the following excerpt by explaining that moving with the toddler reveals the experiences from the perspective of the toddler himself/herself:

> By this methodological use of a focus child, the observations were always linked to how the events and phenomena appeared to one child, that is, to the child's meaning-making and phenomenological phenomena (Engdahl, 2012, p. 88).

Thus, it can be inferred that the methodological approach and theoretical framework are consistent with one another.

It is also suggested that power relations are addressed and recognised in this study. The researcher involved the participating toddlers in the study through her active role as an adult in the preschool. She followed their lead when they played as well as when they wanted to watch and follow the recordings. Not only does this share the power between the researcher and participants (Degotardi, 2008), but it can also be understood to be a commitment to ethical research. A number of scholars identify that it is an ethical responsibility to ensure that the participants are aware that they are being observed and video-recorded (L. Cohen, Manion, & Morrison, 2007; Derry et al., 2010). Accordingly, respecting children's choices in their involvement in research can be seen as sharing power with the researcher, instead of being "objects of research" (Flewitt, 2005, p. 555).

As illustrated earlier in this literature review, participatory observation offers a noteworthy entrance into the lives and activities of others (Marcella & Howes, 2015) in a way that other methods may not necessarily provide (Bell, 2005; Marcella & Howes, 2015). In this sense, researchers may be considered privileged to be considered as part of the group that is being studied (Bell, 2005).

From greetings to meetings: How infant peers welcome and accommodate a newcomer into their classroom (Degotardi, 2011a)

This article draws on a larger project called *Making Connections*, which employed multiple case-study design to investigate the relationships that unfold during three infants' transitions into a long-day-care nursery in Australia. According to Degotardi (2011b), an underlying premise of the project is that relationships play a critical function "in children's present and future learning, development, and well-being (p. 17).

The article that I will discuss draws on one of those case studies (Degotardi, 2011a). Accordingly, Sheila Degotardi (2011a) focused on one of those infants in this article, 8-month old Matthew. She captured his first three months of attendance at the nursery and focused on the relationships that unfolded during his transition (Degotardi, 2011a). The aim of the study is to explore the role that infants may play in the transition of their peers into nursery with a special focus on how infants provide social experiences to their peers. Essentially, the researcher aimed to demonstrate the social capabilities and efforts made by infants to include others in their world. In order to do so, she undertook the following methodological steps (2011a):

- Visits for half-day sessions to familiarise herself with the setting and children (two to three times a week for three months).
- Written observation notes
- Naturalistic observations and video-recordings on a small handheld camera with an LCD screen. This took place for approximately 3 to 4 hours every fortnight to capture play, routines, and interactions for a period of 3 months.

Once the data were gathered, the analytical procedures were guided by two overarching questions: "How did Matthew's infant peers acknowledge and include him into the social milieu of the nursery? How did the peers' social initiations and interactions change over time?" (Degotardi, 2011a, p. 30).The gathered data were then analysed by arranging and transcribing the video-recordings. Using a qualitative, thematic approach (Braun & Clarke, 2006), emerging patterns of interactions were identified and coded.

Limitations

One of the significant limitations in this study is that there was a set timeframe of 3 months to gather the experiences of Matthew's transition. The study is foregrounded in

the transitional notion of continuous and ongoing negotiations and adaptation (Degotardi & Pearson, 2014). Setting such a timeframe can be argued as a restriction set by the researcher, which may impact the data gathered (Walsh et al., 2007). Degotardi explains that the selected framework does not represent the end of transition. Rather it is merely a representation for "the starting point of ongoing change and adjustment" (Degotardi & Pearson, 2014, p. 60). Primarily, video-recording has been highlighted as an appropriate methodology for the recording of this development (Lynch & Stanley, 2017). This is because recordings can be revisited many times to view the fine details and subtleties, which can be missed when investigating a phenomenon over a period of time (Walsh et al., 2007).

Degotardi (2011b) reflects in her chapter *Two steps back: Exploring identity and presence while observing infants in the nursery* on the challenges faced when she faced when she planned for naturalistic observational methods. After spending time, she became well fitted into the "cosy, intimate nature of the surrounds [which] made it difficult to establish physical or social distance" (Degotardi, 2011b, p. 18) –a critical feature of this method (L. Cohen et al., 2007; Marcella & Howes, 2015). However, Erickson (1992) warns that a lack of social interaction with participants can lead to "a loss of contextual information" which is not easily recovered through video footage (as cited in Walsh et al., 2007).

Reformulating infant and toddler social competence with peers (Williams et al., 2007)

This study draws on a mixed methods approach conducted on 36 infants, between the ages of 12–17- months (Williams et al., 2007). The purpose of this study is to create new conceptualisations of infant and toddler social competence, that are age appropriate and can be used for future longitudinal studies to predict outcomes of sociability. The research team hypothesises that infants' social interactions are unsophisticated and evolve and increase in complexity as infants near the age of two. The participating infants have been selected from three early childhood classrooms in Northern California.

- Researcher visited each of the child-care centres for 1.5 hours for 3 consecutive hours.

- Videotaping of individual infants during free play sessions and utilising a time sampling procedure.

- Recording for three minutes, including caregivers and other participating infant in proximity to the focus infant, and then repeating the cycle for the next participant infant.

- Repeating the cycle for 3 days.

- Questionnaire for primary caregiver on the first day of researcher's visit.

- Questionnaire for parents asking about the demographics and temperaments of participant infants.

- 6 months later, following up with the questionnaire again with primary caregiver.

This study incorporates a statistical analytical approach, known as exploratory factor analysis, to facilitate the identification of patterns and correlations in new domains (Haig, 2010).

Limitations

Although video-recording methods are argued to be reliable for use in research with infants (Knoblauch et al., 2011), Walsh et al., (2007) argue that the method is always restricted by the guidelines set by the researcher.

> Video requires decisions about what to record and what not to record— when, where, whom, and so on. The researcher must decide where to point the camcorder and when to turn it on and off. The camcorder captures what is occurring within the frame (p. 48)

This suggests that gathered data may still be restricted to whatever parameters have been decided by the researcher. In other words, the footage may not be an actual representation of the experiences and events that take place all the time (National Research Council, 2001). In the case of this study by Williams et al., (2007), the study is restricted by the set hypothesis and expectations of the research team, which are based on previous findings from older studies (see for example Brownell & Brown, 1992; Eckerman et al., 1979; Rauh, 1987; Rubin et al., 1998).

At the beginning of the study, a questionnaire was handed out to the participating mothers, and contained questions about the demographics and temporal characteristics of each child. Primary caregivers were also given a question-pack and they filled these

out during the first week of data collection to rate peer-competence. The primary caregiver was followed up with after a period of six months and invited to complete a questionnaire on any remaining participants. A limitation of this study might be that the teachers and parents are not involved in the analysis or interpretation of the video footage. In addition, the parents were not followed up with, which may contribute to missing out on information relating to the development of temperamental characteristics and social competencies.

Conclusion

This literature review synthesises and analyses six studies that investigate infant-peer relationships and focuses on different aspects of the relationships that form. In conducting their studies, these researchers have used various observational methods to re-illustrate the accounts and phenomena that are being explored. In all of the studies, multiple data-gathering techniques are adopted, reflecting the intricacies of infants' contexts as well as the specialisation required by researchers when undertaking research with infants (White, 2011).

From this review, it can be seen that naturalistic observational methods are the most common methodological approach when exploring infant-peer relationships (L. Cohen et al., 2007; Johansson, 2011; Marcella & Howes, 2015). Some have used this observational method to explore infants' transition into early childhood education settings. (Datler, Datler, & Funder, 2010; Degotardi, 2008, 2011a; Thyssen, 2000). Others have used this method to inquire on infants' emotional lives and communication through their interactions with adults (Elfer, 2006; Salamon, Sumsion, & Harrison, 2017). In this methodological light, children are observed in their natural environment where the studied phenomenon occurs naturally. Thus, the actions that occur in this field are located within the wider social and cultural contexts. This allows for a holistic lens and supports the researcher looking at a wider scope of what may influence the investigated phenomenon (Christensen, 2004; Degotardi, 2011b).

The studies discussed above highlight the richness of interpretation when multiple perspectives are blended. For the purpose of my study, I aimed to explore two infants' intercultural interactions within the natural context of the ECEC centre. I initially planned to undertake a naturalistic observational approach, but I identified with Degotardi's (2011a, 2011b) reflection on the presence of a researcher recording the

31

interactions through a handheld video camera and creating an unnatural situation within a natural context. Although the participant infants in my study are familiar with teachers using cameras to photograph their learning experiences during the day, these camera sessions do not extend beyond 2 to 5 minutes.

Findings on infant-peer communication

As revealed earlier in this review, many understandings of infants' social orientation and competencies are developed from the nuances of infant-caregiver dyadic relationships (Hay et al., 2009; Meltzoff, 2009). However, there is also a number of emerging studies that investigate various aspects of infant-peer interactions and emphasise the communicative gestures in these interactions. The reported findings of these studies are discussed in the following section.

Infant receptivity to language

Language is defined as a system of symbols, gestures, sounds, and words used to communicate shared ideas between people (Gross, 2018). Perszyk and Waxman (2016) state that human language is a powerful tool because it "derives from its links to cognition" (p. 176). This means that the ability to understand and use language is embedded in cognitive functioning, such as vision (for facial recognition) and memory (limbic system).

Non-verbal communication

It is well established that infants utilise non-verbal language to articulate their feelings, intentions, and expressions. Numerous studies find that infants use their bodies in creative ways to share their feelings, perceptions, and intentions with others (Degotardi, 2011a; Shin, 2012; White & Redder, 2015). Some of these creative ways include hand gestures, eye-contact, gaze, and body language to name a few.

Eye-contact and gaze

Many scholars have established that eye-contact and gaze between infants, toddlers, and their peers during interactions is an appreciable communicative gesture (Degotardi, 2011a; Engdahl, 2012; Goodfellow, 2012; Løkken, 2004; Meltzoff, 2009; Shin, 2012; Wittmer, 2012). Carpenter and colleagues (1998), who refer to gaze as social looking identify five social-cognitive purposes associated with gaze:

joint engagement (looking at the face of the other person); communicative

gestures (bringing an object into a space between themselves and the other

person); attention following (attempting to determine what the other is actually

focussing on); imitative learning (following the behaviour or intention of the

other); and referential language (using linguistic symbols) (as cited in Sumsion &

Goodfellow, 2012, p. 317).

An example of gaze and eye-contact is demonstrated in a case study on an infant's daily experiences at an Australian nursery (Goodfellow, 2014). Accordingly, the study reports 14- month-old Charlie was approached by a peer named Angus. Charlie exchanged eye-contact with Angus before being verbally greeting him "hi". Charlie was initially playing with leaves in a tray when Angus approached him. Charlie turned himself to directly face Angus and in turn, was offered a toy by Angus. Gaze is explained by Greve (2008) as a gateway to socially participate in an activity.

Similar findings are represented in a study at a Swedish preschool where toddlers formed friendships with their peers (Engdahl, 2012). The toddlers are described as "looking intently at other children, studying facial expressions" (p. 95). On the other hand, older studies identify that observing as "onlooker behaviour" (Corsaro, 1997, p. 125) and explain that the act of observing represents timid nature and immature social skills. These contrasting views of gaze and eye-contact reflect the ontological and philosophical frameworks adopted by the researchers observing infants.

Some studies suggest that eye-contact can provide infants with emotional security. In several studies where infants or toddlers were hesitant about a situation, video-recording analysis shows that eye-contact is established with a familiar adult or caregiver before any further action is taken with other peers (Degotardi, 2011a; Goodfellow, 2012; Recchia & Dvorakova, 2012; Stratigos, 2015; Sumsion & Goodfellow, 2012; White & Redder, 2015). This suggests that eye-contact with an adult or caregiver who is attuned to the child may support or enhance the infant's interactions with their peers.

Although gaze is a frequently discussed topic in educational research, some have criticised the importance placed on it. According to Akhtar and Gernsbacher (2008), gaze and eye-contact are significant social tools used in many typically developing, sighted, middleclass, Western communities. Alternatively, they illuminate that other

social tools may represent similar purposes in other cultures, e.g: touch, blinking, and so on(Akhtar & Gernsbacher, 2008).

Gestural communication: Pointing

Pointing is an interesting phenomenon that has been explored by linguists, psychologists, and educators alike. Although more commonly explored with toddler- and infant-adult dyads (Camaioni, Perucchini, Bellagamba, & Colonnesi, 2004; Liszkowski, Carpenter, Henning, Striano, & Tomasello, 2004; Mundy & Newell, 2007), a number of studies have explored the significance of this communicative gesture in naturalistic environments during infant-peer interactions.

Shin (2012) highlights how an infant points to an object to direct her peer to pass the object over. In this interaction, the infant uses intentional pointing to convey her desire for a particular object. It can also be postulated that pointing is used to socialise and interact with others rather than obtaining objects (Tomasello, Carpenter, & Liszkowski, 2007).

This powerful gesture has caught the attention of linguists who claim a link between language development and gestural pointing (Goldin-Meadow, 2009; Tomasello et al., 2007). Gross (2018) explains that between 10–24 months, infants have been shown to use symbolic gestures to communicate and fill in places where words cannot be used, "alleviating the frustration that may arise before children have the ability to produce many words" (p. 263). This extends to deaf babies, who have shown to babble with their hands and fingers (Petitto, Holowka, Sergio, Levy, & Ostry, 2004; Petitto et al., 2001). Understanding infants' gestural communication is rather complex but it is also an inclusive way to look at and understand infant communication (White, 2016).

Verbal communication

According to Gross (2018), verbal language or oral language is described as the use of sounds or words to communicate with others. For infants, verbal language compromises of vocalisations, babble, and words (The Sutton Trust, 2014). During this period, it is recognised that infants build on their verbal language by vocalising their needs to adults, experimenting with an extended range of words and learning about the rules of conversation, "which include turn taking, sensitive timing, responsiveness to

others' behaviour and facial expressions, and an ability to listen and respond" (The Sutton Trust, 2014, p. 10).

There is consensus amongst scholars that infants can comprehend verbal language well ahead of producing words (Cameron-Faulkner, 2014; Gervain & Mehler, 2010; Golinkoff, Ma, Song, & Hirsh-Pasek, 2013; Gross, 2018). Earlier studies have focused on infants' production of verbal language (Parish-Morris, Golinkoff, & Hirsh-Pasek, 2013) as well as their comprehension of verbal language in experimental settings (Buttlemann, Zmyj, Daum, & Carpenter, 2013; Gervain & Mehler, 2010; Parish-Morris et al., 2013). These studies shed light on what may be understood as typically developing children in Western contexts. Thus, studies that focus on the production of communicative cues may not necessarily capture the social and linguistic competence of very young children (Gross, 2018).

Some studies have shown toddlers verbally greeting their peers (Bradley, Sumsion, Stratigos, & Elwick, 2012; Gunnarsdottir & Bateman, 2017; Løkken, 2004). In an observation of infants in highchairs, for instance, Bradley et al., (2012) found a 2-year-old girl Kaia verbally greeting her younger friend, 14–month-old Charlie, when the pair were seated next to each other in their high-chairs. The following excerpt highlights the unfolding of the interaction:

> "…the two would reach over to look at and touch each other. Kaia would sometimes greet Charlie verbally once the highchairs had fixed them in altitude and proximity: 'Hello Charlie? Hello?' with a pronounced rising intonation." (Bradley et al., 2012, p. 147, original emphasis)

This is what is referred to as pro-social behaviour (McMullen et al., 2009), which is the creation of a positive environment by "outward social expression" (p. 21). Accordingly, McMullen describes infants as highly pro-social, even when words are not used in their interactions with others. On the other hand, Brownell et al., (2006) explain that infants' peer interactions are primitive and lack social attributes such as shared intentions and goals in comparison with toddler-peer interactions. They claim that this is due to the speech oriented behaviours displayed by toddlers during their interactions which infants may have not acquired yet (Brownell et al., 2006). Accordingly, the lack of studies on infant communication can be attributed to researchers focus on verbal

behaviour, which infants are just starting to develop (Brownell et al., 2006; Johansson & White, 2011).

Multimodal Communication

According to Kress (2000), focusing on language alone "has meant a neglect, an overlooking, even a suppression of the potentials of all the representational and communicational modes" (p. 157), and it stems from developmental theories. In response to this theoretical perspective, Haggerty and Mitchell (2010) call for a broader view of communication for young children that extends beyond the written and spoken word. A study on young children's multimodal literacies explains that the affordance of resources, such as material and spaces, supports children's developing competence in expressing themselves (Haggerty, Simonsen, Blake, & Mitchell, 2007). These affordances are powerful because they are seen to "serve as vehicles for children to develop understandings, to think about their worlds, conceptualise and imagine what might be, and explore emotions" (Haggerty et al., 2007, p. 19).

Ruth Finnegan (2002) offers a comprehensive definition of communication: "a multiplex and versatile process….[which encompasses humans'] powers of eye and ear and movement, their embodied interactions in and with the external environment, their capacities to interconnect along auditory, visual, tactile and perhaps olfactory modalities and their ability to create and manipulate objects in the world" (Hull & Nelson, 2005, p. 3). Therefore, Haggerty and Mitchell (2010) have drawn on a concept of multiple literacies, which is understood as the "different modalities children use in communicating and meaning making" (p. 15), to establish a critical, yet inclusive approach to understanding young children's competencies.

Infant-peer interactions

Interactions with infants are described as a dynamic process that involves understanding the other (Reddy & Uithol, 2016). These interactions, which have often been described in relation to infant-caregiver dyads (Hay et al., 2009), have a number of empirical elements that are involved. Tomasello and colleagues (2005, p. 681) represent them across three main categories:

- Dyadic: sharing behaviour and emotions

- Triadic sharing goals and perceptions through an object, for example, giving a toy over or building a tower.

- Collaborative: joint intention (mutual knowledge) and attention, complementary roles and action plans

Some have argued that these forms of interactions cannot be extended to infant-peer interactions. For example, Brownell et al., (2006) report that before 2 years of age, infants have not yet developed an ability to coordinate with someone other than an adult and only have an ability to show a social interest in others. Williams et al., (2007) confirm such a rudimentary characterisation of infant-peer interactions and draw on studies that describe early peer interactions as "exploratory in nature and….often limited to interactions around objects and intense watching or looking at the social partner" (p. 353). Later studies, however, present a different outlook on infant-peer interaction and demonstrate that infants are capable of having sustained interactions with peers (Degotardi & Pearson, 2014; Engdahl, 2012; Shin, 2012) and adults alike (White, 2013; White & Redder, 2015; White, Redder, & Peter, 2015). The shift in the characterisation of infant-peer interactions can be linked to the participatory approaches adopted by researchers. This allows for a wide lens of interpretation as well as the involvement of families and teachers in research and steps away from traditional methodologies and orientations (Sumsion et al., 2011).

Intersubjectivity and joint attention

Zlatev et al., (2008) brings light to the notion of intersubjectivity, defining it in pragmatic terms as "a contextual concept which involves the joint participation in experience of two or more people" (as cited in Degotardi, 2014, p. 187). Explained in relation to experience, Zlatev et al. (2008), highlights that sharing an experience can occur physically, behaviourally, and situationally. However, intersubjectivity comprises of the "perceptions, feelings, intentions, and thoughts of the individuals involved" during an experience, "and is, therefore, perspectival" (as cited in Degotardi, 2014, p. 187). In other words, intersubjectivity can be achieved if two or more individuals share an experience on a physical, behavioural, and perspectival level (Degotardi, 2014).

The notion of two individuals tuning into one another in an experience has far-reaching impacts. In terms of early childhood education, intersubjectivity has been argued as a significant part of children's meaning-making processes. Dalli and

colleagues (2011) report that "intersubjective interactions lead to teaching and learning" (p. 4). These interactions "are more likely to occur in relationships that exhibit emotional engagement, alertness, reflective presence, respect, engagement in critical reflection, and dialogue" (Dalli et al., 2011, p. 4).

Greve (2008) draws on this perspective and identifies that participation in friendships is a significant way to learn about intersubjectivity for toddlers and includes learning about reading signals "to establish shared intentions about the play and negotiate its progression" (Degotardi & Pearson, 2014, p. 192). Mead (1934) also discusses the extension of intersubjectivity beyond the establishment of an understanding of the peer's perspective and includes the potential for building relationships with the community, thus learning the essentials to become an "organic member of society" (Deegan, 1999, as cited in Degotardi, 2014, p. 192).

In Engdahl's (2012) study on friendships at a Swedish preschool, intersubjectivity is described as a mutual awareness where toddlers share smiles and coordinate physically through joint attention. Shin (2012) confirms such findings in her study on infant-peer interactions. She identifies that infants smile to one another as a form of joint attention, particularly to indicate a successful transition or communication of intentions. Murray (2014) on the other hand provides insight into infant-adult dyad and claims that 9–10-month-olds begin to use joint attention with adults to get what they want. For example, looking directly at a person and signalling with their arm that they want something, thus sharing an understanding (Murray, 2014). In these interactions, Murray (2014) speculates that the toddlers in this study were able to successfully communicate and share their intentions because they were in-tuned to one another and were able to understand each other, indicating an early mutual awareness and reciprocity.

Imitation

According to Stern (1985), imitation is a dyadic phenomenon where children engage with one another and express their feelings (as cited in Greve, 2008). This mutuality, he explains, allows children to experience being like the other, which empowers children to experience a feeling of being alike (Greve, 2008). Imitation can be seen as a form of toddler language because of the way it is ritualised in their play (Whaley & Rubenstein, 1994). This social form of language is also confirmed by Rayna

(2002), who describes imitation as a way to express belonging (as cited in Engdahl, 2012).

Wittmer (2012) asserts that teachers and parents recognise imitation as a part of social play that involves reciprocity and emotional expression. American psychologists Meltzoff and Moore (2002) define imitation not only in terms of mechanical reproduction of a movement- but also in terms of active communication with intentions and feelings that lie behind the imitative actions.

The role of teachers in infant-peer communication

A literature review on quality enablers and indicators of quality teaching practice with under-twos found that "ongoing, consistent and stable relationships" (Dalli et al., 2011, p. 5) are central to quality pedagogy. These relationships include teacher-infant attachment, teacher-infant families, and infant-infant relationships. (Bardige, 2006; S. Y. Lee, 2006; Liszkowski, Carpenter, & Tomasello, 2007; Rogoff, 2003; Walker, 2008). Accordingly, it has been identified that teachers have a crucial role to play in supporting these relationships (Davis & Degotardi, 2015; Degotardi & Pearson, 2009). Teachers' responses to an infant's communicative cues can have a direct impact on the infant's learning opportunities and well-being (White et al., 2014).

One finding is that the proximity of teachers plays a role in the social orientation of infants towards their peers. However, these studies report mixed and contradictory findings. For instance, earlier studies claim that infants are socially oriented or attuned with peers when no adult is within immediate proximity (Bradley, 2010; Legendre & Muchenbach, 2011; Williams et al., 2007). Using an environmental approach, Legendre and Muchenbach (2011) find that across their analysis of 175 children between 18 and 40 months of age, the majority spent a substantial amout of time socially interacting with peers when the teachers were not "within 2 meters of immediate proximity" (p. 112). It was also highlighted that the children were more socially engaged with caregivers when they were in immediate proximity and were less inclined to interact with their peers respectively.

Conversely, other studies claim that the presence or close proximity of a teacher can support infants' interactions with others (see Goodfellow, 2012; Recchia and Dvorakova, 2012). Recchia and Dvorakova (2012) claim that teachers can provide a secure base during transitions when infants transition into toddler room. They conclude

that teacher proximity, both physically and emotionally, is a prerequisite for independent exploration and engagement with new peers. Goodfellow (2012) confirms the role that teachers play in encouraging infants' interactions with their peers. White and Redder (2015) describe the role of the teacher as an emotional mediatory role to avoid physical harm between infants, or as a secure base for the unfolding of further social experiences (Borelli, 2007, as cited in White & Redder, 2015).

It is relevant to note the defining parameters that are involved in the studies mentioned. For example, in Legendre and Muchenbach's (2011)'s study, 'social interaction' is described as a reciprocal and mutual flow of corresponding behaviour between partners that lasts for more than *6 seconds* without being interrupted. This narrow definition may exclude naturally occurring phenomena such as short social interactions or fleeting social interactions which are relevant from the perspective of the infant.

Interculturalism

The term intercultural or interculturalism is a broad term that is confused with the likes of multiculturalism. Unlike multiculturalism, where the aim is to preserve multiple separate cultures, the Chandler and Munday (2016) explains that interculturalism is a broad "umbrella term for interaction between people from different cultural or subcultural backgrounds, intended to lead to shared understandings of messages" (para. 1). The composite word derives from the latin roots of *inter* (meaning between) and *cultura* (culture) (Casoni & Gindro, 2003).

The discourse of intercultural communication and dialogue emerged in the 1980s and has been explored in the works of anthropology, linguistics, and philosophy (Besley & Peters, 2011; Casoni & Gindro, 2003). It is argued that interculturalism can be achieved through interaction with other cultures (Casoni & Gindro, 2003) rather than through the simple observation of cultures (Barladi, 2012).

Guo and Dalli (2012) define interculturalism in terms of early childhood education. They describe the term culture in the word intercultural as referring to the aspects "of the social environment that are taken for granted by those who share the environment: customs, ways of being and acting, and in particular, a shared language" (2012, p. 129). From a sociocultural perspective, Guo and Dalli (2012) explain that interculturalism is powerful because it creates opportunities for cultural connections with others. Rogoff et

al., (2015) find that children can learn hybrid ways of existing within different spaces and use cultural practices to adjust to participate in these settings.

Guo and Dalli (2012) find in their study that the affordance of children's own cultural tools was necessary in order for the children to build intercultural relationships with their peers from different cultural backgrounds- in this case it was other children who could speak Chinese, thus not only the affordance of these cultural tools but also the affordance to use them in a responsive environment allowed children to build intercultural relationships.

Interculturalism challenges ethnocentrism on all levels. Besley and Peters (2011) describe ethnocentrism as the view in which one's own ethnic group or subgroup is used as a reference frame for understanding all other groups. According to this view, ethnocentrism holds that people may come to develop a cultural or national superiority (Besley & Peters, 2011).

Review of Te Whāriki (Ministry of Education, 2017b)

Te Whāriki informs the experiences of all stakeholders within early childhood education. A review of Te Whāriki finds that relationships are at the centre of the curriculum and emphasises learning, interacting, and becoming are all grounded in the notion of reciprocal relationships.

Te Whāriki represents a Māori metaphorical mat in which four principles (empowerment, holistic development, family and community, relationships) and five strands (well-being, belonging, contribution, exploration, and communication) are interwoven, symbolising their overall interrelatedness (Ministry of Education, 2017b). In the following section, I will consider in detail how the relationship principle promotes infant-peer relationships. This will be followed by a review on the communication strand, drawing on features that are highlighted as critical areas for infants. Finally, I will draw on the role of teachers in supporting infants' communication and relationships with one another.

Infants in Te Whāriki

Te Whāriki is the first curriculum to include infants in a national educational context (Ministry of Education, 1996, 2017b). In the forefront statement, the curriculum positions children as "confident and competent learners from birth" (Ministry of

41

Education, 2017b, p. 12) and strongly identifies infants as learners. Te Whāriki highlights rapid and foundational development as key features of infancy in the following excerpt: "physical, cognitive, and socio-emotional growth and development are more rapid during infancy than in any other period of life. Neural pathways formed during this period are foundations for all future learning" (Ministry of Education, 2017b, p. 13).

Central to learning, Te Whāriki holds that children learn "by engaging in meaningful interactions with people, places and things" (Ministry of Education, 2017b, p. 12). This positioning of infants draws on sociocultural theories (Bruner, 1986, 1990, 1996; Rogoff, 2003; Vygotsky, 1978) bioecological theories (Bronfenbrenner, 1986), and attachment theory (Bowlby, 1969, 1988).

Relationships in Te Whāriki

The curriculum centralises that relationships as the driving force for learning experiences. Through these relationships, it is understood that children are empowered to engage in learning experiences with others that are meaningful and relevant to them. The following excerpt demonstrates the link between learning and relationships: "Te Whāriki holds the promise that all children will be empowered to learn with and alongside others by engaging in experiences that have meaning for them" (Ministry of Education, 2017b, p. 13).

Drawing on the above quote, it can be suggested that Te Whāriki uses the terms with and alongside to shed light on the importance of relationships with peers. This illumination can be understood an emphasis on the notion of learning as part of a group. In other words, learning takes place through multiple relationships, and relationships are what intrinsically and reciprocally drive learning experiences (Degotardi & Pearson, 2014; Duhn & Craw, 2010; National Scientific Council on the Developing Child, 2009). This view challenges the traditional dyadic notion of relationships between caregiver and-infant and extends it to include triadic relationships as well as multiple others.

Relationships in the curriculum include: teacher-infant, teacher-whānau (which encompasses the wider community), and infant-peer relationships.

Firstly, the curriculum establishes that infants engage in meaningful learning experiences with teachers when reciprocal relationships are established with those infants (Ministry of Education, 2017b). Reciprocity can be achieved when teachers are

sensitive and are responsive to the cues and needs of infants (Ministry of Education, 2017b). Ultimately, these cues are recognised and responded to; it is suggested that teachers use those cues to tailor individualised and relevant learning experiences that engage the infant.

Secondly, the curriculum argues that relationships with whānau can help teachers better understand infant's cues and learn culturally relevant ways of being responsive (Ministry of Education, 2017b). From a sociocultural perspective, children come into ECEC settings with their own set of experiences and connections to communities (Rogoff, 2003). Thus, families can be seen as are the first and foremost educators in a child's life (Arthur et al., 2012; Biddulph, Biddulph, & Biddulph, 2003; Gonzalez, 2005).

Thirdly, Te Whāriki extends relationships to encompass infant-peer relationships. Although the curriculum highlights the key role of teachers in initiating, empowering, and maintaining infant's peer relationships with others a number of times, the curriculum does not explore how infants are able to initiate, maintain, and enjoy relationships with their peers. It does, however, state that toddlers and young children are able to do these things. For example, it is suggested that toddlers are provided with "opportunities for individual exploration, as well as engagement with peers" (Ministry of Education, 2017b, p. 14). In addition, the curriculum explains that young children "increasingly prefer interactions with their peers" (Ministry of Education, 2017b, p. 14). It is argued in a review on the first publication of Te Whāriki (1996) that the conceptualisation of infant-peer relations does not extend beyond what is offered by teachers in ECE settings (White & Mika, 2013). These ideologies may stem from socio-cognitive perspectives, which indirectly position infants as incompetent to initiate and maintain relationships with others (White & Mika, 2013).

Language and culture in Te Whāriki

Te Whāriki is a bicultural curriculum that upholds the three principles of the Treaty of Waitangi: participation, protection, and partnership (W. Lee et al., 2013; Ministry of Education, 2017b; Te One, 2013). The bicultural context of the curriculum affirms language as a valuable cultural tool that has the right to be recognised and protected in early childhood settings (Forsyth & Leaf, 2010; Ministry of Education, 2017b; Nuttal, 2013; Ritchie, 2013). This is addressed in the following statement: "all children have

rights to protection and…..recognition of their language, culture, and identity" (Ministry of Education, 2017b, p. 12). Drawing on the intertwined relationship between language and culture (Rogoff, 2003; Rogoff et al., 2015) of language protection, Te Whāriki aspires to promote the following outcomes for children:

- Enhancing the cultural identity of learners by creating and continuing the cultural ways-of-being between home and the early childhood setting.
- Promoting bilingualism and multiculturalism by building on their funds of knowledge.
- Providing accessibility to cultural tools, such as resources that reflect children's language(s), increasing their participation in the ECE setting and empowering their contribution to the wider community.
- Supporting children's understanding and use of oral language for a variety of purposes.
- Supporting children's understanding and use of non-verbal language for a variety of purposes.

Although the curriculum reflects the bicultural heritage of Aotearoa New Zealand, it recognises the multicultural and linguistic makeup of New Zealand (Ministry of Education, 2017b). Firstly, the curriculum maintains that over 200 languages are spoken in New Zealand besides the three official languages. The curriculum also highlights that children are increasingly likely "to be learning in and through more than one language" (Ministry of Education, 2017b, p. 12). In addition, language is addressed as a central approach to the early childhood curriculum as it is linked to a strong cultural identity (W. Lee et al., 2013).

The curriculum positions infants as communicators from birth and recognises that infants "are rapidly acquiring communication skills" (Ministry of Education, 2017b, p. 14). Teachers are encouraged to support these developing skills through sensitive, individualised and reciprocal interactions in a language-rich environment (Dalli et al., 2011). The term individualised reflects the curriculum's recognition of the linguistic and developmental diversity in children's language acquisition.

A recurring theme in the curriculum is the notion of language-rich environments. Accordingly, it is highlighted that contexts in which language develops need to be meaningful and relevant to children (Ministry of Education, 2017b, p. 201). In relation

to infants, the curriculum identifies that the role of teachers is to provide a language-rich environment, which "includes languages other than the infant's first language" (p. 43). In addition, teachers are guided to attentively observe and respond to infants 'gestures, particularly during caregiving practices. Responses could include "words and gestures to invite infants to engage" (p. 43). Affording an environment with accessible cultural tools, which can be material or psychological, such as a gesture, is seen as a critical pedagogy for supporting children's learning and development (Guo & Dalli, 2012; Ministry of Education, 2017b; Rogoff et al., 2015)

The curriculum illustrates that infants express themselves through their bodies. This has been identified as gesture and movement. However, there is no explicit mentioning of what communication and language forms may be used by infants during their peer interactions.

Interculturalism and dialogue in Te Whāriki

Social competence and dialogue have been identified as elements of interculturalism (Besley & Peters, 2011). Social competence in the curriculum is described as the ability "to take another's point of view, empathise, ask for help, see themselves as a help to others and discuss or explain their ideas" (Ministry of Education, 2017b, p. 36). In this perspective, the curriculum aspires to promote children's developing "strategies and skills, including conversation skills, for initiating, maintaining and enjoying relationships with others" (Ministry of Education, 2017b, p. 37). Overall, the bicultural heritage of Te Whāriki, as well as centrality of language and culture, can be identified as a recognition for the notion of interculturalism through early childhood education.

Summary

In this chapter, I have highlighted that the traditional theories on development and the paucity of academic literature investigating infant-peer communication have led to infants being unrecognised as individuals capable of initiating, maintaining, and enjoying relationships with peers who have different cultural backgrounds within an ECEC centre. In contrast, I draw on the methodological approaches used in the few studies found in the review to establish the grounding basis of my study. There appears to be no studies which investigate intercultural communication between infants from a

Bakhtinian dialogic theoretical framework. Considering the gap that is present in the literature, my study offers possibilities for the further exploration of infant-peer friendships.

Chapter Three: Methodology

A premise of this study is that infants are agentic, social, competent subjects that exist in a world shaped by culture, political systems, customs, traditions, and societal members (Dalli et al., 2011; Education Review Office, 2015; Ministry of Education, 2017b). With these complex factors taken into consideration, this study is designed to gather two infants' *lived experiences* as they interact with each other in their ECEC centre.

In this study, I employ the central constructs of Mikhail Bakhtin's (1895–1975) dialogic theory as an analytical framework to develop an understanding of the intercultural communication between those two infants at play. This chapter presents the methodological and analytical frameworks adopted in this study. First, the questions that this study seeks to answer are highlighted and explained. Then, the context of the setting and participants are illustrated. Subsequently, I set out the dialogic theoretical framework that guides this study along with a discussion of some components of dialogue.

Later, I discuss the relevance of an interpretive paradigm for the purpose of my study. I highlight methodological approaches and data-gathering techniques I used during my investigation. Subsequently, I discuss the way in which I analysed the data. I conclude the chapter by addressing the validity of the methods, as well as setting the ethical considerations of my investigation.

Questions

This study seeks to address the following research questions:

What does intercultural communication look like between two migrant infants (under 18-months) who have different home languages in a multicultural New Zealand early childhood context?

i.   What are the non-verbal dialogic cues that take place during an interaction between the two infants?

ii. What are the verbal dialogic cues that take place during an interaction between the two infants?

Contextual background of setting

The primary investigation was conducted in my workplace, a not-for-profit ECEC centre in New Zealand. This section establishes the organisational structure and educational philosophy of the early childhood setting.

The centre has five buildings, each of which specialises for different age-groups of children. The building featured in the study on the grounds of a University is located in an inner-city suburb. The centre caters for 3–18- month-old infants. The centre is licensed for 19 children and runs under a 1:4 teacher-child ratio.

At the time of the study, the centre had six permanent teachers, including myself, and five were qualified and registered with the Education Council. The overall teaching team came from a variety of ethnic and linguistic backgrounds. Some of the languages spoken by the teachers included English, Māori, Hindi, Punjabi, Urdu, Czech, Arabic, Russian, and Kazakh. Due to the diverse makeup of teachers, the centre is particularly known for its commitment, celebration and inclusion of multicultural partners in accord with the Treaty of Waitangi.

The centre opened from 7:30 am to 5:30 pm on weekdays, and most of the enrolled infants attended for the greater part of the day. At the time of the commencement of data collection, there were 12 infants enrolled at the centre.

The educational philosophy of the centre emphasises the notion of *open communication* to build reciprocal relationships with the enrolled families. In this light, teachers are encouraged to build close relationships with the families through a key-teacher system. Accordingly, a key-teacher is the teacher responsible for supporting a family while they settle into the centre when the enrolment commences. In this role, the teacher is positioned as the primary person for the care and education of that child (Rockel, 2009).

The day at the ECEC centre was scheduled around the individualised routines of the infants. Although it was mostly flexible, some structure was enforced through set times such as kai (food) times. Other times of the day included caregiving practices such as nappy-changing and sleep -time. As the centre follows a play-based approach, free-play comprised most of the day.

The infants attending the centre came from diverse socio-economic backgrounds, ranging from middle-class, working class, and beneficiary families. At the time of data

collection, the children that were attending were predominantly New Zealand *Pākeha* (the Māori term for inhabitants of New Zealand of European descent (The Encyclopedia of New Zealand, 1996). However, there were other ethnicities including Māori, Pakistani, and Dutch.

Participants

The participant infants were pre-selected prior to the beginning of my study through discussions with the families and centre's Head Teacher. My established professional relationships with the families enabled me to share my aspirations to conduct an in-depth study on infants' interactions. Thus, a number of potential parents gave consent in principle. Four infants were recognised as initial potential participants. The first potential pair of infants selected for the study could not take part as the ethics approval for the study took longer than expected, and the pair transitioned to toddler room, passing the age requirement of the study. Consequently, the second pair of infants were invited to participate in the study.

The participants involved in this study included two infants and their respective parents. The parents collaborated with me to provide an enriched interpretation of the infants' communicative cues, providing recognition and insights into cultural ways of being and expressing.

The participant infants were enrolled at the centre at the time of commencement of the study. I had worked with them as their teacher for 8 months prior to data collection.

The participants in the present study met the following criteria:
- At least one infant's parents are first or second-generation immigrants to New Zealand and speak a language additional to English.
- Participant infants are under 18 months of age at the commencement of the study.
- The selected infants must have different home languages from one another.
- Participant parents consent to undertaking an interview after data collection and are comfortable to complete it in English or Arabic (my first language).

Participant pseudonyms and characteristics at the time of commencement of the study are set out in Table 2.

Table 2: *Characteristics of participants*

Infant's Pseudonym	Ellie	T
Infant's age	17 months	16 and a half months
Ethnic background	Dutch	New Zealand European/ Pākeha
Language background	Dutch/English	English
Place in family	1st and only child	1st and only child
Mother's pseudonym	Kerry	Melody
Mother's occupation	Manager	Academic Librarian
Father's pseudonym	Ethan	Nate
Father's occupation	Manager	Lecturer

Ellie

Ellie is described by her parents as a confident, proactive child that expresses herself in many ways. She is known to verbalise babbling bits but she can still convey strong expressions through her use of body language to compliment the babble. She is affectionate and uses her body to express her empathy and love through hugs and kisses.

At the centre, Ellie was recognised as a caring child who is empathetic towards younger children, and highly inquisitive about the older ones. She was identified as fiercely independent, particularly during *kai* times. It was well established that Ellie's favourite experience was selecting and reading books with her teachers, as well as playing outside.

Ellie was enrolled four days a week and attended for about eight hours a day.

At the time of commencement of this study, Ellie's mother, Kerry, was pregnant and being an expectant sibling has shaped Ellie's life. As migrants from the Netherlands, a lot of the home environment revolved around family and being together. Ellie's extended family lived overseas, so the nuclear family is everything. Ellie's family values reading book and promote independence. Coming from a Dutch background, her family aspires to support bilingualism, with Dutch and English used frequently at home.

T

T is described by her parents as a child who enjoys trying things independently before seeking help. She is also characterised as aware of her surrounding and seeks to be physically close to people that she is familiar with. She has a very close relationship with both her parents and spent her days off mostly with her mother. Being an only child, T was the centre of the family.

T's parents identify that T's communication style differs when she is in different contexts. She tends to be more verbal, they explain, when she is just with her parents. Whereas she could be considered silent amongst groups of children. She is known to use gestures and signs to express herself and gain proximity and support from others when needed. Although she did not have a lot of vocabulary, T's family explained that she did not hesitate to hide her emotions and often made her emotions explicit.

Value strongly emphasised by T's family included speaking up for yourself and never hurting others. There is a continual affirmation of T's feelings, as well as the feelings of those around T, in her interactions and conversations with her parents. Her parents, Melody and Nate also support T to make her own choices, which indirectly influences T's independent nature.

At the centre, T is identified as a child who enjoys observing others for a while, familiarising herself with the environment, and then playing alongside others. She takes time to warm up in new contexts, but then she is happy to independently explore and seeks out help from teachers only when she is in desperate need. It was established by the teachers at the centre that T and Ellie's relationship had an emerging friendship, which would possibly guide their transition to the toddler room as a pair. Although an existing friendship was not a criterion of my study, the relationship that T and Ellie had meant that naturally occurring interactions took place without any direct provocation from me or the teachers during the study.

Methodological framework

In the previous chapter, I argued for a dialogic approach to recognise infants' intercultural peer interactions. A dialogic approach is foregrounded on the notion of agentic communicative cues that are open to interpretation from a wide lens (Bakhtin, 1987; White, 2016, 2017). Through this theoretical perspective, therefore, I assert that

an investigation of an infant's intercultural competencies with peers is possible. In the following section, I will introduce the underpinning philosophies of a dialogic conceptual framework that I employed to guide my study.

Dialogic conceptual framework

Dialogism, as Bakhtin explains, refers to the social processes where individuals exchange language with the purpose of building a shared understanding (White, 2016). Bakhtin illustrates that language consists of a "collaboration of multiple dialogues" which are used "by the individual in order to communicate to another (even when there is no apparent other)" (White, 2017, p. 131). Dialogic theory holds that language is not limited to verbal exchanges, but extends to non-verbal nuances such as hand gestures, eye-contact, and body language (Junefelt, 2011; White, 2017). Accordingly, dialogism does not privilege one form of language or communication over another, but, instead, it considers the coming together of different forms of language as a critical aspect of creating shared understandings (Junefelt, 2011).

Drawing on Bakhtin's conceptualisations of language (1987; 1981), the exchange of language is considered only one aspect of understanding children's competencies. A deeper consideration looks at the experience of language itself. This consideration brings forth the feelings, emotions, and intentions imbued through language exchange with a "thinking feeling other" (White, 2017, p. 142). Thus, dialogic theory holds that children engaging in interactions opens opportunities for powerful learning experiences. This is attributed to the experience and engagement in meeting new dialogues, which creates new understandings and meanings (Bakhtin, 1987; White, 2017).

And finally, a Bakhtinian framework positions infants as partners in dialogue, rather than recipients and adopters of language. Infants are seen as capable of shaping and directing their own learning experiences through the affordance of a dialogic partner (one or more) in a *heteroglot* (Bakhtin & Holquist, 1981; White, 2017). Heteroglossia, a term used by Bakhtin, is the "complex space in which language gives rise to certain meanings in social discourse" (White, 2017, p. 131).

In relation to my study, the phenomena of intercultural communication between Ellie and T is explored. Through dialogism, it is possible to uncover new understandings of this phenomena because of the open nature the theory holds (White, 2016). To conclude, I draw on the conceptual understandings discussed above to

recognise infants' competencies and examine them in the light of agentic social discourse.

Dialogic methodological approach

Dialogism is founded on the concept of humans living in a world of others (Bakhtin, 1987). According to this theoretical perspective, intercultural interactions can be understood as relational experiences with others through intersubjective engagement (Junefelt, 2011). With a central focus on infant-peer communication in my study, the following conceptualisations have been adopted in its methodology.

Considering the role of relationships

A dialogic background offers that relationships play a crucial part in the development of an individual (White, 2016). This view highlights that relationships offer dialogic partners the means for evolving and negotiating their understanding of the world (Stetsenko & Pi-Chun, 2015). In relation to my study, this perspective highlights the need to consider the interaction from the perspectives of both infants (and their families) and interpret those perspectives accordingly.

Encountering multiple perspectives

In light of the dialogic framework, gathered data will only be relevant and rich if it is analysed through negotiation and dialogue with multiple others (White, 2016). This framework offers an open approach to understand other perspectives and negotiate them with the intention of creating a shared understanding (Bakhtin & Holquist, 1981; White, 2017). This has informed my collaborative stance with the families of the participant parents. Accordingly, I have invited the families to participate in discussing the gathered data to create new understandings of the infants' recorded interactions.

Diverse forms of language

The critical view of language exchange in dialogic theory offers an emphasises on hidden forms of language which extend beyond the spoken word and may not necessarily be viewed from other perspectives (White, 2016, 2017). Dialogism views the *experience* of dialogue as a significant part of how one comes to understanding (White, 2017). According to this perspective, my study can consider the nuances of experience that take place in the interactions between Ellie and T. For this purpose, I

have chosen videography alongside participatory observation as data-gathering techniques to revisit accounts of the experiences.

Interculturalism is an extension of intersubjectivity

Intersubjectivity is defined as the sharing of an experience on a physical, behavioural, and perspectival level (Degotardi, 2014). In this light, interculturalism can be understood as the sharing of an experience between two or more people from different cultural backgrounds. Overall, interculturalism has the power to convey feelings, ideas, and develop an empathetic consideration of an other (Degotardi, 2014; Junefelt, 2011; Rogoff et al., 2015). This considers the cultural tools that infants use in their interactions, which may be materialistic or psychological (Rogoff, 2003). Links to culture can be made through discussions with families to recognise what certain communicative cues could mean.

Methodological approach

This section highlights the approach I adopted for linking the philosophical and epistemological frameworks that guided my study. For the purpose of this study, the notion of lived experiences involved the ways in which Ellie and T "make meaning of what is going on around and within them" (Sumsion and Goodfellow, 2012, p. 315) through their interactions.

To address the questions of my study, I chose an interpretive paradigm to construct understandings of my gathered data. In this light, knowledge is subjective and is generated through social interaction and negotiation with others (Thanh & Thanh, 2015; Willis, 2007). I adopted a case study approach and used three data-gathering techniques to capture accounts of these lived experiences.

Single case study

Having found a way for conceptualising the knowledge that will be interpreted, I needed a way to gather data and describe the lived experiences of two infants within the setting of the ECEC centre. A single case study approach suited this purpose.

Stake (1995) describes a case study as "the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (p. xi). In other words, a case study is an explorative investigation of a phenomenon that explores the intricacies involved in how that phenomenon is played

out within its natural setting (Baxter & Jack, 2008; Stake, 1995, 2006). The case I sought to understand is *intercultural communication between two infants*.

Although there are a variety of case study approaches (Merriam, 1998, 2009; Yin, 2003, 2014), the framework offered by Robert Stake (1995) was most suitable for the phenomenon I was investigating. The methodological approach offered by Stake is inductive and flexible. Thus, having that flexibility supported my study due to the unpredictable nature of social interactions.

The philosophical view that underpins Stake's (1995, 2006) case study approach is an interpretivist paradigm. This paradigm holds that understandings that are "authentic accounts of the cultural other" can be constructed through social interaction with the research participants (Taylor & Medina, 2013, p. 4). According to Guba and Lincoln (1989), social interactions can support the researcher's understanding of "the subjective world of human experience" (as cited in Kivunja and Kuyini, 2017, p. 33).

Stake's (1995) model afforded me a holistic approach for constructing knowledge from multiple lenses and a way to blend that multi-perspectival knowledge. Instead of seeking a universal truth, I aimed to create rich understandings of the experiences of intercultural communication (Willig, 2008). Stake's model positioned me as a partner in research with my participants (Stake, 1995). As a teacher, I was already familiar with engaging in discussions with families about their children and lives outside of the centre. Thus, the model aligns well with my professional role as a teacher.

I followed Stake's (1995) conceptual structure to guide the data-gathering procedures of my study. This structure provided me a great amount of flexibility to create understandings and refine my ideas as I was gathering data. His method suggests defining the case and gathering perceptions regarding the case through multiple data-gathering techniques (Stake, 1995). Then he recommends triangulating the data as well as interpreting the data along the way, creating new understandings as you go (Stake, 1995). My final report of the case included in-depth descriptions of Ellie and T's complex communicative experiences, interpreted through a Bakhtinian dialogic framework. My case was bounded by time, place, and experience (i.e., intercultural communication).

For my bimodal role as a teacher-researcher, the critical emphasis on relationships in Stake's (1995) model seemed to acknowledge the relationship I had with the

participant infants and families. As I had known the participants for 8 months prior to the commencement of the study, my presence was likely to have some influence on the data that was gathered. This is highlighted in Joy Goodfellow's (2012) study when she attempted to discreetly video-record infants in the room whom she had established relationships with during her pre-recorded visits to the ECEC centre. The infants interacted with her during the recording and waited for a response or acknowledgement through a nod or smile (Goodfellow, 2012).

Because the participant infants in my study had not yet gained the ability to verbally articulate their experiences to me, Stake's (1995) case study approach is very relevant to infant-peer interaction because it is foregrounded on looking beyond what I simply observe, and it endeavours to understand the perspectives of the infants and families themselves (Kivunja & Kuyini, 2017; Willis, 2007). For the purpose of the study and the nature of the participants interactions, multiple perspectives are more suitable than the researchers sole interpretation (Willis, 2007). Accordingly, it became possible to uncover various interpretations in my research by allowing myself to gather and constructively consider the perspectives of my participants, which may differ, contradict, or align with mine. The notion of *openness* offered by Stake's (1995) approach strongly aligned with the dialogic framework that guided my study.

Unit of analysis

Every case study requires a defined case or unit of analysis that is the main focus of the study (Baxter & Jack, 2008). For the purpose of my study, Bakhtin's concept of the *event* of dialogue has been employed as the unit of analysis in my study (Bakhtin, 1987). Ultimately, drawing on this Bakhtinian concept addressed subtleties that occurred within the dialogic interactions between the infants, such as words, gestures, and feelings, as well as the generation of new understandings (White, 2017). This concept offered an analytical framework for recognising the subtleties and constructing an understanding of them in relation the intercultural context of Ellie and T's interactions and relationship.

The *event* of dialogue is comprised of what Bakhtin refers to as utterances. Utterances are described as a "link in the chain of communication" (Bakhtin, 1987, p. 84), which are used within a particular context, time and space, in relevance to the activity involved in using the respective utterances. For instance, the utterances spoken

at a professional setting between two individuals reflect an understanding of these individuals' social rules including tone, body language and selection of words.

Any research with concrete language (written and oral) is a direct investigation of utterances (Bakhtin & Holquist, 1981). Different utterances give "rise to certain meanings in social discourse" (White, 2017, p. 131). This means that one word can mean two (or more) different things when used with different tones and purposes. Bakhtin (1987) stresses that an analytical framework must consider the subtleties in language in order to avoid the decontextualised interpretation of the interaction. He warns that not considering these peculiarities "weakens the link between language and life", leading to "excessive abstractness" (Bakhtin, 1987, p. 63) in the interpretation of language. Mortimer and Wertsch (2003) affirm this by explaining that the dynamics of intersubjectivity can only be understood through an analytical framework which considers utterances as opposed to "abstract, decontextualised linguistic forms" (p. 231). In relation to my study, failing to interpret and seeking understandings of infants' communicative cues and interactions is seen as a direct aim at undermining infants' communicative abilities (White, 2017).

Data-gathering methods

This section describes the methodological steps undertaken to gather the lived experiences of Ellie and T. First, I video-recorded the infants during their unprovoked, naturally developing interactions. Secondly, I used participatory observation to observe the infants. Then, I observed the infants through a handheld camera and interacted with them. Finally, I collated the video footage and interviewed the participant parents and used the footage as the basis of our dialogue.

Participatory observation

Observation involved documenting the interactions of the infants before as well as during the video-recording phase. Similar to Engdahl's (2012) approach on participatory observation, I allowed myself to be involved in the infants' interactions by responding to them if they needed me. In this sense, I did not initiate any interactions, but instead, fulfilled my role as a responsive teacher researcher by being present and nearby.

Observation as a method invites the gathering of "live data from naturally occurring social situations" (L. Cohen et al., 2007, p. 396). According to Robson (1993), observational methods involve observing of complex everyday situations in order to develop an understanding of these situations (as cited in Moyles, 2002). For the purpose of my study, I chose a participatory observation method to guide the observation of the participants based on Moyle's (2002) framework.

In the context of educational research with infants, observational methods as a natural process that position the researcher as an "interested, non-judgemental observer" (King, 1979, p. 7, as cited in Moyles, 2002). Adopting this method seemed particularly relevant as it allowed me to "share in the lives and activities of other people" which was a natural part of my teaching practice and to "learn their language and interpret their meanings" (Bell, 2005, p. 187).

It is illustrated earlier in this thesis (see Chapter Two: Literature Review) that participatory observation offers a distinctive entrance into the lives and activities of others being researched (Bell, 2005; L. Cohen et al., 2007; Marcella & Howes, 2015; Moyles, 2002). From this perspective, I was involved in the interactions between Ellie and T and experienced being part of their dialogue.

Initially, I aimed to use naturalistic methods to observe the infants in order to investigate their interactions, excluding the presence of other children or teachers in the centre. However, investigating Ellie and T's interactions as if they existed in a social vacuum goes against the philosophical and theoretical underpinning of this study (Degotardi, 2011b). It became evident when planning the study that my role as an existing teacher at the ECEC centre who is well-known to the participant infants would certainly have an influence on their interactions together(McLachlan, Fleer, & Edwards, 2010). This meant that I could not exclude my role and adopt the distant position of a naturalistic observer (Marcella & Howes, 2015; Moyles, 2002). Thus, my participatory responsive position is similar to what would be found naturally at any given day at the centre.

The observation times were selected for two different times of the day: kai time, where the infants had their morning tea, lunch, or afternoon tea, and free-play. I specifically chose to observe everyday activities that the participants experienced. Coincidently, both Ellie and T had similar established routines, so they spend the

majority of their day together. The times I selected ensured that there were enough qualified teachers present to care for all the other infants at the centre. In addition, I collected all data when non-participatory infants were in other spaces (e.g., in the kitchen or outside) on the grounds of ethical conduct. Although there were other teachers present at the time of data collection, I was the only one near Ellie and T at time of the observation and data gathering.

During my observations, I wrote field-notes which consisted of "quick, fragmentary jottings of key words" (L. Cohen et al., 2007, p. 405). After my observations, I rewrote the fieldnotes and used Moyle's (2002) approach as a guideline. My fieldnotes roughly included information about the physical and contextual layout of the centre, the time of the day, any critical information about the participants as well as any critical events that happened during the observation. The participatory observation went hand-in-hand with the video-recording as the fieldnotes helped me revisit initial thoughts and interpretations on Ellie and T's interactions (L. Cohen et al., 2007; Moyles, 2002).

Video-recording

Video-recording in my study took place over a period of two weeks. Videography is described as the generation of data through the use of audio-visual technology (Derry et al., 2010). My approach draws from the interpretive frameworks described by Lynch and Stanley (2017) as well as Knoblauch and Tuma, (2011). For the purpose of my study, I needed a substantial amount of recorded detail to construct understandings of Ellie and T's interactions. Videography seemed to be a compatible method for gathering detailed accounts of the infants' interactions.

Videography is a powerful tool used to provide live detailed recordings for research (Derry et al., 2010; Knoblauch et al., 2011; Lynch & Stanley, 2017; National Research Council, 2001). The detailed nature of the gathered data, as well as the accessibility to revisit the data, was a key feature for my study, which was not possible through other methods (Knoblauch et al., 2011). I used a variety of technical options to revisit my video-recordings such as playing in slow motion, zooming, and repeating the videos for my analysis (Walsh et al., 2007).

According to Lynch and Stanley's (2017) framework, videography afforded me the ability to engage with the participants in the research. Accordingly, I re-watched the video-recordings with both the participant infants and the participant parents at a later

time. I was also afforded an ability to identify the "taken-for-granted dimensions of the physical environment" (Lynch & Stanley, 2017, p. 64), such as the layout of the environment and the affordance of materialistic cultural tools within the setting.

I used a handheld Sony video camera with an LCD screen to record periods of the infants' interactions. I also used a high-quality battery-powered Bluetooth microphone and attached this to the back of T's shirt. The microphone gathered audio recordings of both infants' verbal dialogue to compliment the visual recordings of the camera. Only one Bluetooth microphone was used for this study, but its high-quality features ensured that detailed audio-recordings were collected. Video-recording took place indoors and, on the deck, where artificial and natural lighting lit up the respective spaces.

Before I started video-recording, I set aside some time to introduce the camera to Ellie and T. They were familiar with the use of technology in the centre by teachers as this was a significant part of the regular assessment of infants throughout the ECE curriculum (Ministry of Education, 2017b). The infants explored the camera and I demonstrated how the video-recording would take place. At the end of each video-recording day, I re-watched the video with the infants.

After shooting pilot videos, I decided to reposition myself with the camera and moved closer to the infants. I held the camera close to my face but ensured that my face was not obscured by the camera. I was aware of my participatory observer role, and I wanted to maintain eye-contact and keep my facial expressions visible to the infants.

I asked Ellie if I could put the microphone on her shirt and showed her where I would place it. Initially, she verbalised "no" and pulled her shirt down towards her knees. I then asked T if I could put the microphone on her shirt and she also displayed strong dissent by frowning and vocalising. This is discussed in depth elsewhere (see Ethical considerations in this Chapter). After familiarising Ellie and T with the microphone and gaining consent (from T only regarding the microphone), I attached the microphone to the back of T's shirt. I verbally explained to her and demonstrated where it would be placed and she agreed with a smile.

The footage of the video-recordings ranged from 2–12 minutes. A total of 11 videos were recorded, which compiled to 38 minutes and 13 seconds. After video selection and analysis against the research questions and ethical guidelines, the video-recordings used to address the research questions of this thesis compiled to 3 minutes and 48 seconds.

Four critical episodes were identified in the footage. Overall, the video-recordings made up for the largest amount of data in the study.

Semi-structured interview

Participant parents were invited to take part in a face-to-face semi-structured interview to co-interpret the interactions that have been recorded. The interview questions aimed to inquire into the parents' perceptions and reveal cultural insights into the infants' intercultural interactions with one another.

Interview methods are described as a data gathering tool that uses dialogue to gain insight regarding a research enquiry (Menter, Elliot, Hulme, Lewin, & Lowden, 2011). A semi-structured interview offers a set of pre-planned questions as well as the flexibility to include additional unplanned questions and further elaboration on significant topics that emerge during the interview (Menter et al., 2011). The flexibility that is characterised by this method allowed the participant parents "to provide their views in their own terminology" (Menter et al., 2011, p. 127).

Kvale (1996) sheds light on the epistemology of an interview. He emphasises that the term *inter-view* offers "an interchange of views between two or more people" (as cited in Cohen et al., 2007, p. 249). Accordingly, the notion of human interaction is centralised in the formation of understanding (L. Cohen et al., 2007). This method went in line with the dialogic framework I adopted for analysing the infants' intercultural experiences. Through dialogue, I gained insight into the parents' understandings of the experiences in the video and gained insight into agreements, alignment, disagreement, and contradictions to my initial understandings.

Prior to the commencement of the study, I invited the participant parents to undertake a face-to-face interview after the completion of the video-recording. I invited the participants to choose a location of their preference for the completion of the interview. I interviewed T's parents together and interviewed Ellie's parents together the following week. The interviews were audio-recorded using my mobile phone.

I created two sets of pre-planned questions (one for each family) that all the participants were asked. T's family and Ellie's family had 16 and 17 pre-planned questions respectively (see Appendices B and C). The questions were carefully designed to prompt dialogue about the families' perceptions about the identified critical episodes. The questions inquired on home experiences and interpretations of the critical

episodes. I paid careful attention to ensure that the questions were not too structured so that the participants felt able to engage in dialogue rather than the interview being a question and answer monologue. Accordingly, everyone that participated in the interview (including myself) had opportunities to discuss their interpretations and "how they regard situations from their own point of view" (L. Cohen et al., 2007, p. 249). This was shown through the discussions and interpretations offered by the parents, with each parent often providing different interpretations to one another.

Before I asked any questions, we watched the video-recordings together to refresh our memory. The interviews were intended to last an hour, but one of the interviews ended up being two hours long. All the interview audio-recordings were transcribed into written text and checked by the participants, reviewed, and returned to me. Upon receiving the approved transcripts from the parents, I started my analysis following Braun and Clarke's (2006) thematic analysis.

Data analysis

According to dialogic theory, the coming together of different perspectives is key for creating new understandings (Bakhtin et al., 1987; Junefelt, 2011; White, 2017). In approaching data analysis, my understandings have come as an interpretation which has evolved through the course of dialogue with my participants and supervisor. It is the social nature of dialogue that has centralised and formed the analytical framework followed in this study. This study did not seek to find universal truths, but instead it sought to create rich understandings of what intercultural communication may look like between two infants.

In this section, I actively employed processes to construct in-depth descriptions drawn from the interpretation of the gathered data from my field-notes, video-recordings, and audio-recordings.

Critical episodes are identified in the video and are selected for analysis. The unit of analysis in this study is the event of dialogue. The analysis takes place following a dialogic conceptual framework (Bakhtin, 1987; Bakhtin & Holquist, 1981) , interpretive video-coding analysis (Knoblauch et al., 2011; Lynch & Stanley, 2017) and a thematic analysis (Braun & Clarke, 2006), to make sense of the interview data. In the following section, I address all of the above steps that I undertook. I also mention the validity and ethics considerations that framed this study.

Video data coding and analysis

Knoblauch and colleagues (2011) affirm that "the fine-grained sequential analysis starts with interpretation" (p. 419). This interpretation often requires an ability to notice, recognise, and understand the accounts of what is occurring within the recorded phenomenon (Knoblauch et al., 2011). In light of analysing video-recordings, Knoblauch et al., (2011) highlights that the description of video-recordings is a complex process which seeks to coherently portray the phenomenon that has been recorded. He affirms that "the description of visual processes requires seeing the directions of gazes in the recordings and knowing what people are referring to, so that all essential parts (sentence, word, movement) of a sequence make sense for observers" (Knoblauch et al., 2011, p. 419).

I undertook the following steps to analyse the video-recordings:

- I familiarised myself with the video-recordings by repeatedly watching the videos and writing down notes for potential codes and categories of communicative cues, experiences, and communication styles. At this stage, the initial categories included: verbal communicative cues, non-verbal communicative cues, and feelings.
- Relevant aspects of the video were selectively logged (Lynch & Stanley, 2017).
- I transcribed the video-recordings into written text. This helped me identify any sequences or patterns of communication (Knoblauch et al., 2011), particularly with the infants' repeated utilisation of eye-contact.
- I selected critical episodes based on the demonstration of an interaction and/or elements of dialogic interactions (White, 2016). The episodes were named *Spatial Awareness*, *Exploring T's Tummy*, and *Reading Books Together*.
- I re-watched the video-recordings with the participant parents and engaged in dialogue about our different interpretations. The dialogue was audio-recorded on my mobile phone for further analysis later. I utilised key technologies to watch the recordings further in-depth, such as slow motion, and zooming (Walsh et al., 2007).
- I wrote notes during the dialogue with the parents and used them for refining my analysis.

- I spoke with my supervisor about my initial interpretative findings. The transcript at this point was re-written to further incorporate depth of description of the events.

- I closely examined still photos taken of the infants' interactions from the critical episodes. As described in Sumsion and Goodfellow's (2012) study, this step allowed me to "appreciate the fine-grained detail of fleeting, yet critical moments that otherwise may have been impossible to see" (p. 342).

- Interpretation was followed through the entire analytical process and was enriched through dialogic engagement with the participants and data.

- Finally, I reported the analytical findings through in-depth transcriptions of examples relevant to the case of my study: intercultural communication between two infants (see Chapter Four: Findings). These transcripts are aimed to "provide a reliable record" of what were the "most relevant aspects of the video for" (Derry et al., 2010, p. 20) my research questions.

Selection of the videos for analysis was a slow, methodological process. Firstly, the videos that had non-participant infants appear had to be omitted on grounds of ethical conduct. Secondly, the videos that were blurry, shaky, or had unclear sounds also had to be omitted. Thus, the remaining videos were analysed to find significant critical episodes that represented an interaction between the infants, as this is the purpose of my study.

The video-recordings served as the basis for the discussions with the participant families. The interpretation of the recordings was ongoing from the collection of the video-recordings, to the interviews with the parents, and through to the final discussion presented in Chapter Four. This active process kept me engaged with my research over a period of time, reflecting on new understandings and how I came to certain interpretations (Derry et al., 2010; Lynch & Stanley, 2017).

Interview data coding and analysis

In approaching the analysis of the interview audio-recordings, I used Braun and Clarke's (2006) framework for understanding and describing the data set I had. Drawing from Boyatzis's (1998) explanation of thematic analysis, Braun and Clarke (2006) uncover the power of thematic analysis in the following quote:

Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail. However, it also often goes further than this, and interprets various aspects of the research topic (p. 79).

The essence of a theme is that it encapsulates significant parts of the data in relation to the research question. These themes that are actively interpreted and found to represent "some level of patterned response or meaning within the data set" (Braun & Clarke, 2006, p. 82). I undertook the following steps to commence the analysis of my interview data:

1) During the interview, I wrote notes for issues that were of potential interest for later analysis. The process of analysis started when I began to "notice and look for patterns of meaning" in the data that was being gathered (Braun & Clarke, 2006, p. 86).

2) I familiarised myself with the audio-recordings by transcribing them into written text. I re-read the transcript and checked for any errors in the transcription and made amendments accordingly.

3) I generated initial codes based on the research questions and interview questions. These codes were based on a mix of semantic context (responses with specific words) and latent elements (descriptions of experiences and consideration of prior knowledge I had about the participant parents and the relationships I had with them) from the transcripts. Codes in this sense referred to the most basic element "of the raw data that can be assessed in a meaningful way" to make sense of the case of intercultural communication (Boyatiz, 1998, p. 88). I read my notes and highlighted key parts of the transcript to label the codes in relation the my research questions (Menter et al., 2011).

4) I searched for themes by identifying and interpreting patterns between various sets of codes. I utilised a map chart (see Figure 3) to make sense of the codes and arrange the codes accordingly into relevant themes (Braun & Clarke, 2006). This process enabled me to see what has been missed during my earlier interpretation (Braun & Clarke, 2006). In this step, I considered how codes could be "combined to form an overarching theme" (Braun & Clarke, 2006, p. 89).
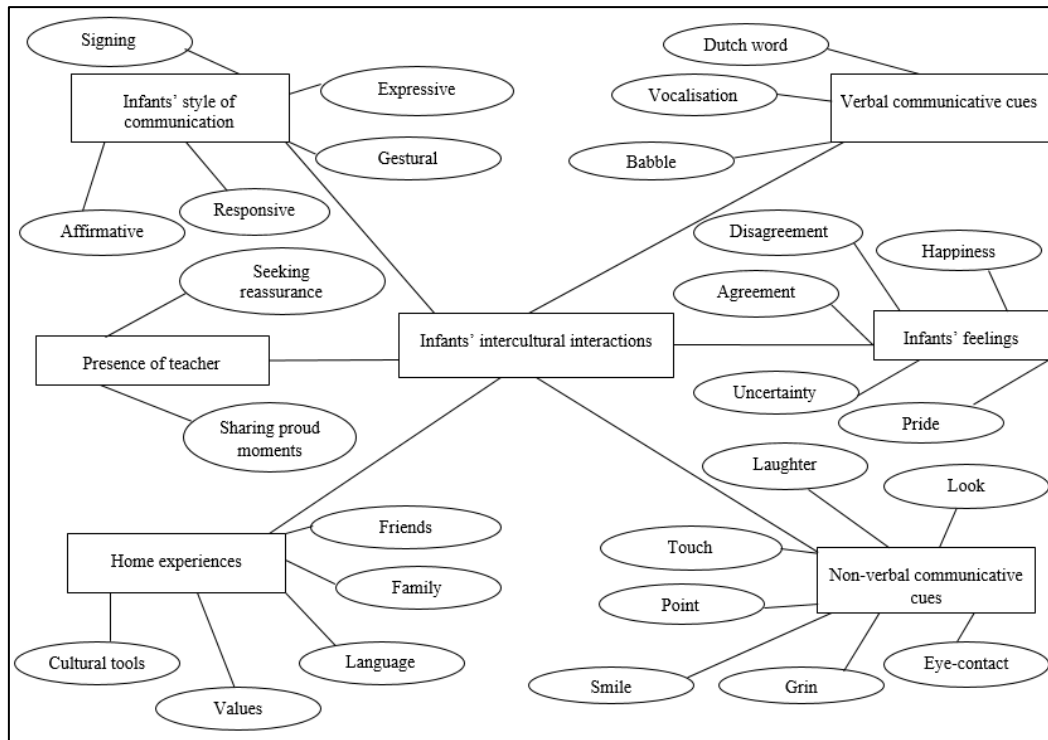
Figure 3: Initial thematic map, showing six main themes and respective code sets

5) I utilised the interview notes and reflected on feelings and underlying perceptions that underpinned the parents' interpretations. Wengraf (2001) highlights that this step is beneficial for building up theoretical links to inform the interpretations.

6) I reviewed and refined the interpreted themes and code sets. I identified the following themes during this process: Coordinated and synchronised play, disagreement and uncertainty, understanding and responding to each other, negotiation and agreement. The themes are demonstrated in Figure 4.
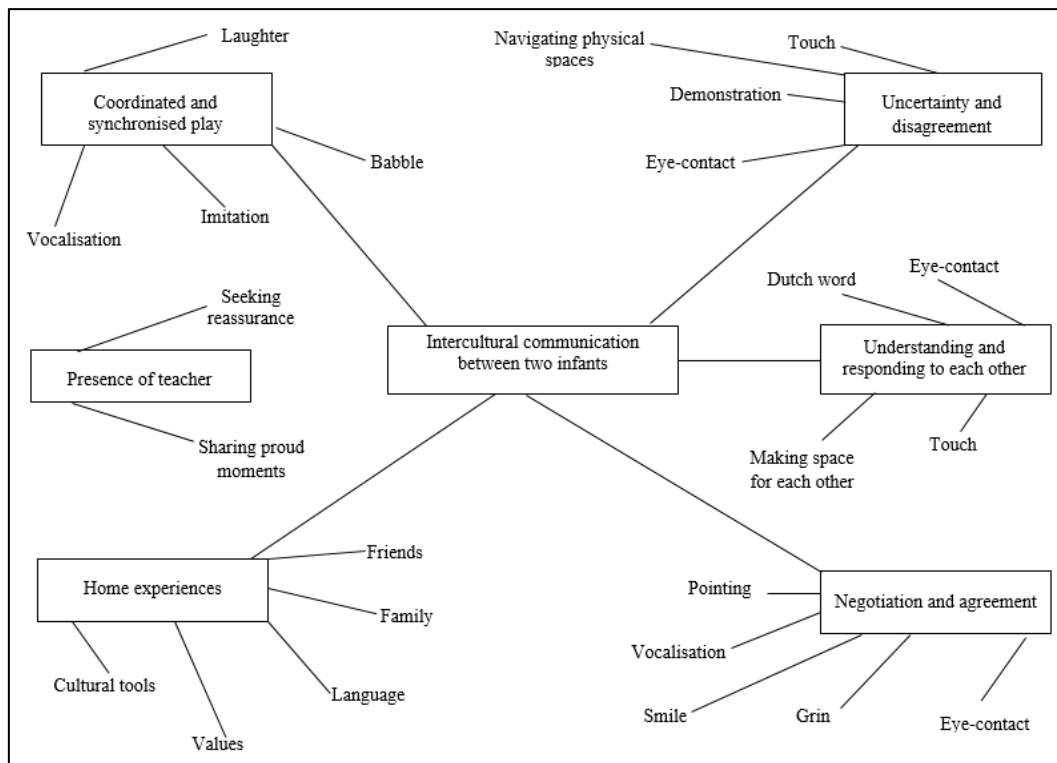
Figure 4: Refined themes of the video-recording analysis

7) A separate theme that appeared to be linked to the interview data was interpreted by merging video-recording analysis with the interview analysis. This was the presence of the teacher and can be seen as a standalone theme in Figure 4, representing the triangulation of data.

8) I produced the final report. This step involved selecting compelling extracts from the analysis "relating back" to the "research question and literature, producing a scholarly report of the analysis" (Braun & Clarke, 2006, p. 87).

Ethical considerations

This study involves working with infants and their families. Accordingly, research involving young children has ethical obligations to follow. As a teacher, I also had another set of ethical and professional expectations and philosophies that I adhered to. At the heart of the study is infants' well-being. The following section describes the processes I followed to gain ethical consent from the centre director and the participants. In addition, I discuss other ethical issues that I encountered during my study as well as ethical considerations.

It is important to note that I attained ethical approval from the Faculty of Education Ethics Committee prior to the commencement of the study (Approval Number

FEDU076/18). I have referred to the ethical guidelines outlined in the Health Research Council guidelines (Health Research Council, 2007), Child Protection Policies (Ministry of Education, 2014; The University of Waikato, 2019) and the Human Research Ethics Committee guidelines (Human Research Ethics Committee, 2008) to guide the methodological decisions I made when researching with the parents and infants.

Ethical consent from the centre director

I sought consent from the centre director directly through a face-to-face meeting. I explained my intentions for undertaking a study at the centre with two infants and their families through a letter (see Appendix A). The consent was formalised through a signed consent sheet (see Appendix E), which highlighted the director's right for centre anonymity, data-protection, and right to opt-out from the study up to a given point. The information sheet and consent form had my contact details and information on where the data from the study is used.

Upon retrieving ethical consent from the director, I sought ethical consent from the participant parents.

Ethical consent from participant parents

Through informal discussions prior to the commencement of the study, the participant parents gave me consent in principle to undertake a study with them and their infants. I hand-delivered an information sheet (see Appendix A) to officially inform the parents of what the participation entailed. Additionally, I handed out both parents consent sheets when they were present at the centre. They took both sheets home. Their consent was formalised when they signed and returned the ethical consent sheets (see Appendix D). I informed the parents that their participation was voluntary, and that they had the right to withdraw from the study up until a given point. I also explained that ongoing ethical assent would be sought from the infants at all times of the study (Bissenden & Gunn, 2017).

The consent process took two-weeks' time. The parents asked me questions about the study during this time. Flewitt (2005) affirms that the negotiation of initial consent allows participants time to consider their choices and make an informed decision. However, I was aware of the risk that parents would feel obliged to participate in the study due to my ongoing professional relationship with the infants and parents alike. To

minimise that risk, I ensured that the parents took the letters home and suggested that they discussed it as a family whether they would like to participate.

I also offered to the parents that they could confide with any of the other teachers if they felt uncomfortable informing me that they would not like to participate in the study. I closely observed the parents' body language to see whether they displayed signs of dissent or disinterest.

All other families at the centre were informed that I would be undertaking a study at the centre through my informal discussions with them. Additionally, I put up a notice to remind families that video-recording was taking place during my 2-week period of video-recording (see Appendix F). The notice was put on the noticeboard as well as next to the sign-in sheet.

Ethical consent from the infants

Bissenden and Gunn (2017) explain that because infants are unable to give written consent, verbal and non-verbal forms of communication should be considered to inform ongoing assent. Thus, in this study I adhered to this concept by watching out for any signs of the infants being uncomfortable or dissent to participate in the research, such as facial expressions and body language.

Before I started my video-recording, I wanted to familiarise the infants with the camera and Bluetooth microphone. The infants did not show any signs of discomfort, unhappiness, or dissent in general with the presence of the camera. One of the infants however strongly dissented to the use of the microphone. I verbally explained why I was using it and demonstrated how it would attach onto my shirt. When I asked if I could attach the microphone on Ellie, she verbally disapproved with a loud and clear "no" and nodded her head to show her disapproval. T also showed signs of dissent. I packed my equipment away and respected the infants' choices. Informed assent with children is not only looking for signs of verbal and non-verbal assent, but it also involves respecting children's choices when they want to opt-out of the study (Bissenden & Gunn, 2017). Ongoing informed assent allows for children's abilities and agency to be recognised and addressed (Bissenden & Gunn, 2017). I sought assent from the infants every time the recording commenced and was actively looking for signs of dissent during the recording.

Confidentiality and data protection

It is argued that confidentiality and participant anonymity are one of the most important parts of research (Flewitt, 2005). Centre anonymity was maintained in this study by identifying the centre as *centre* only. Identifiable aspects of the centre have not been stated in the study. The participant's identities have been kept anonymous by using pseudonyms in the transcripts and throughout the study.

The infants were video-recorded and still photos from the video-recordings were used in the study. There is an ethical dilemma regarding video-recording children, as their identities become recognisable if the video is shown to others (Garcez, Duarte, & Eisenberg, 2011). This dilemma has been resolved by ensuring that only the parents of the infants, my supervisor, examiners and I will be the only ones to view the video. This has been outlined in the informed consent sheet (see Appendix D). The participant parents have chosen the anonymising effects used to hide the infants' facial identity in the still photographs used in this study. This is aimed to protect the infants' privacy and anonymity in my study (Garcez et al., 2011; Walsh et al., 2007). The participant rights to confidentiality were made explicit in the consent forms and information sheets respectively.

Bimodal ethical responsibilities

Because of my bimodal identity as a teacher and researcher during the study, I felt an obligation to ensure the overall well-being of the infants was actively considered and pursued. During the video-recording of one of the critical episodes, a conflict between the infants developed. Accordingly, one of the infants strongly expressed her disapproval. I noticed from her body language that the infant was no longer happy and was seeking out support from me as a teacher. I intervened at this stage and cut off my focus on video-recording. My full attention was directed to supporting and guiding both infants through the conflict. The critical episode remained relevant to the study as it displayed an essential element of any relationship-disagreement, but my intervention was an obligation, particularly as a trusted teacher.

Issues of power

Issues of power exist in all kinds of research. In the case of my study, power relations were between me and the parents, and me and the infants as my role as an authority figure.

I addressed these issues through active engagement and involvement with the participants during the study. The central positioning of me as a researcher in this study was as a collaborative partner with the participants. I used dialogue and social interaction with the participants to create new understandings based on our different perceptions. The open nature of the approach I had was aimed to address any power relations.

I sought to address the risk of unequal power relations between the infants and I through our teacher-child relationship. Accordingly, Einarsdóttir (2007) explains that children are more likely to fall into the dynamics of unequal power relationships which exist due to "age, status, competency, and experience" (p. 205). I addressed this issue by actively considering the ways the infants could be involved in my study, particularly within the framework of my study which positioned me as a participant within the research. Firstly, I followed the infants' lead during their interactions throughout the study. I interacted with them when they invited me to engage and responded to their cues. Secondly, I respected their choice of participation in the study and actively sought their consent during the entire process. Accordingly, Flewitt (2005) describes that respect for children's choices in whether or not they would like to be involved in research is one way to share power with infants and young children in research.

I was in close proximity to the infants when I video-recorded them and did not intend to hide from them as I recorded their interactions. I viewed it as an ethical obligation that infants were aware that they were being recorded so that they can make and express their choices about whether or not they would like to be recorded (Derry et al., 2010). Ultimately, this approach recognises infants' agency as humans rather than views them as "objects of research" (Flewitt, 2005, p. 555)

Chapter Four: Findings

A premise of this thesis is that intercultural communication between infants occurs even when their home languages are different. In this chapter, analysis of video-recordings, parents' interview data, and observation notes have been gathered to address the overarching research question: *What does intercultural dialogue look like between two migrant infants (under 18 months) in a multicultural New Zealand early childhood context?*

In the following chapter, I present a detailed description of two infants' exchange of verbal and non-verbal communication to address the question above. Four critical episodes inform the findings revealed in this chapter: *Spatial Awareness, Exploring T's Belly, Reading Books Together*.

Summary of findings

Interview data analysis reveals that both participants are generally more non-verbal than verbal. The themes identified in the analysis in relation to the research question include: reciprocal understanding and responsiveness, using home language (s), teacher presence, disagreement and uncertainty, negotiation and agreement, and home experiences.

Spatial Awareness

The name given to this episode reflects the infants' experience with physical closeness or intimacy with each other. The interaction in this critical episode shows a social experimentation of being in each other's space.

This episode begins with Ellie and T playing separately while they were sitting about a couple of meters away from each other. The video transcription below demonstrates the shift from parallel play to an explorative interaction between Ellie and T, which involved social boundaries and physical spaces.

Line of action	Critical episode 'Spatial Awareness' interactions
Line 1	T and Ellie are individually playing in the main playroom, 1.5 meters apart from each other.
Line 2	Ellie rolls the carpet and examines the base of the carpet, while T is simultaneously reaching for books from the bookshelf-close to the corner of the fish tank.
Line 3	A couple of books fall from the bookshelf, one of which T picks up. The falling of the books causes noise to break the sound of soft music playing in the background.
Line 4	Ellie turns her head towards T, extends her arm out with splayed fingers in T's direction and says "no".
Line 5	T continues to look through the book, still 1.5 meters away from Ellie.
Line 6	Ellie pulls herself up to stand and walks towards T.
Line 7	Ellie stands besides T and puts a hand on T's forehead.
Line 8	T looks at Ellie's hand while still holding the book.
Line 9	Ellie says "go" and verbalises "geeeee" to T.
Line 10	T makes eye-contact with Ellie, smiles, and sticks her tongue out playfully.
Line 11	Ellie simultaneously makes eye-contact with the researcher and shows a toothy smile.
Line 11	T, still holding the book, rotates her body and slightly shuffles aside, making space for Ellie.
Line 12	T makes eye-contact with the researcher when she has shuffled aside, then returns to look at her book, flipping through the pages.

In relation to the research question of this study, analysis of the video-recording and interview revealed three themes in this critical episode: understanding and responding to each other, interactions do not exist in isolation, and teacher presence is important. These themes are discussed in depth in the following section.

Reciprocal understanding and responsiveness

According to Tomasello et al., (2005), collaborative engagement entails having mutual knowledge, mutual attention, and complementary roles and action plans. Shared intentionality is defined as "collaborative interactions in which participants have a shared goal and coordinated action goals for pursuing that shared goal" (Tomasello et

al., 2005, p. 680). Analysis of my gathered data suggests that Ellie and T understand and collaborate with one another in this episode. This is demonstrated when Ellie uses her body and verbal language to convey her feelings to T, and T actively responds.

In the video-recording, Ellie lifted her hand with splayed fingers facing towards T's direction. The teachers at the centre frequently modelled the use of hand gestures with infants. These gestures are frequently used at kai (food) times when infants express that they want more food. The gestures are also used to positively guide children's positive behaviour with peers (e.g.: as gesturing stop with a 'high-five' position). It is believed that these practices may help alleviate frustration for young children who have not developed the ability to form words and thus provides a mean to express themselves (Gross, 2018). Ellie used a similar gesture in this critical episode; this is shown in Figure 5.
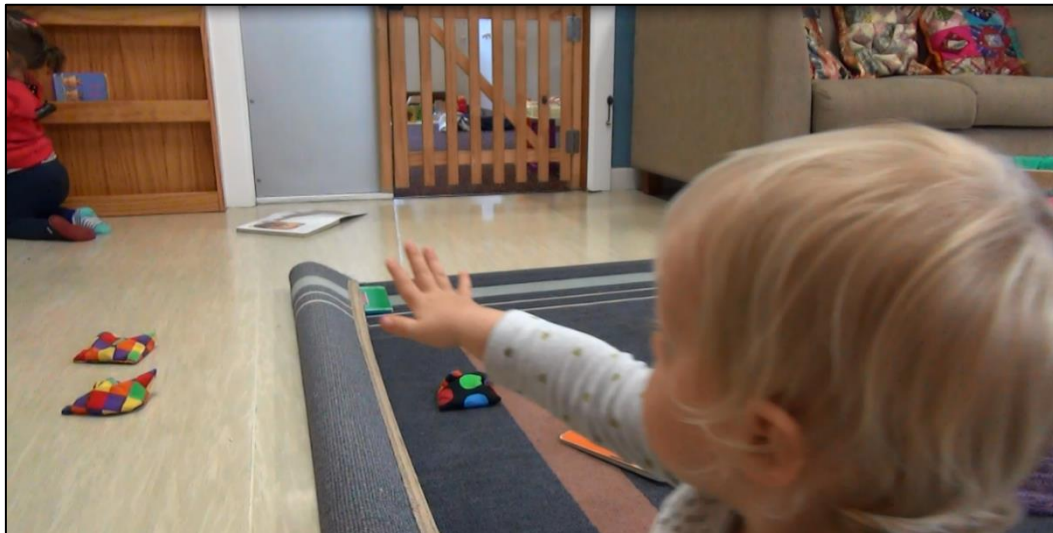
Figure 5: *Hand gesture example from Spatial Awareness video*

Analysis of the video-transcription suggests that Ellie utilised this gesture to grab T's attention. Ellie stopped everything she was doing and redirected her body language towards T. Thus, it was interpreted as a direct call for T's attention. The video transcript showed that Ellie vocalised "no" following her hand gesture. T, however, did not acknowledge Ellie's communicative efforts. The video-recording analysis suggests that T did not acknowledge Ellie's gesture through eye-contact or by responding in any alternative way. Thus, Ellie pulled herself up to a standing position and walked towards T. From a dialogic framework, Ellie and T are seen as dialogic partners who "not only receive language as an emotional experience but also employ that language strategically in relationships with others" (White, 2016, p. 5)

The video transcription showed that Ellie stood in front of T and placed a hand on T's forehead and vocalised "go". At this point, T looked up at Ellie and both infants exchanged eye-contact. This moment was the first time that the pair mutually interacted and established reciprocity. Drawing on Carpenter et al., (1998), this could be described in relation to two significant notions: joint attention, which involved "looking at the face of the other person", and attention following, which is "attempting to determine what the other is actually focussing on (as cited in Sumsion & Goodfellow, 2012, p. 318). According to this perspective, T's gaze at Ellie is seen as an attempt to determine what Ellie was communicating (Sumsion & Goodfellow, 2012). Shin (2012) asserts that gaining an awareness of each other's intentions can be attained through active gaze and eye-contact.

The video-transcription reveals that Ellie attempted to verbally express herself once again. In response to Ellie, T rotated herself away and shuffled aside to make space for Ellie. This was viewed as an intentional response to Ellie's multimodal communicative cues. Analysis of the video transcript infers that T understood Ellie's cues because she acknowledged Ellie through eye-contact, then actively made space for Ellie by shifting her body.

The notion of an understanding between Ellie and T was equally reflected in the interview analysis. T's mother, Melody, for instance, affirmed that an understanding was visible because T responded deliberately and happily in the following transcript.

> **Melody**: I guess it was because she [T]….I mean it was a deliberate move out of her [Ellie's] way.
>
> **Yasmine**: Yup.
>
> **Melody**: And yeah that she's [T's] sort of seemed…yeah seemed happy to do it.

Analysis of the video-recording further shows T smiling and protruding her tongue as she shuffled herself aside (see Figure 6). Therefore, T used her facial expressions, along with physical movement (shuffling aside) and eye-contact to establish a shared understanding with Ellie in the episode.
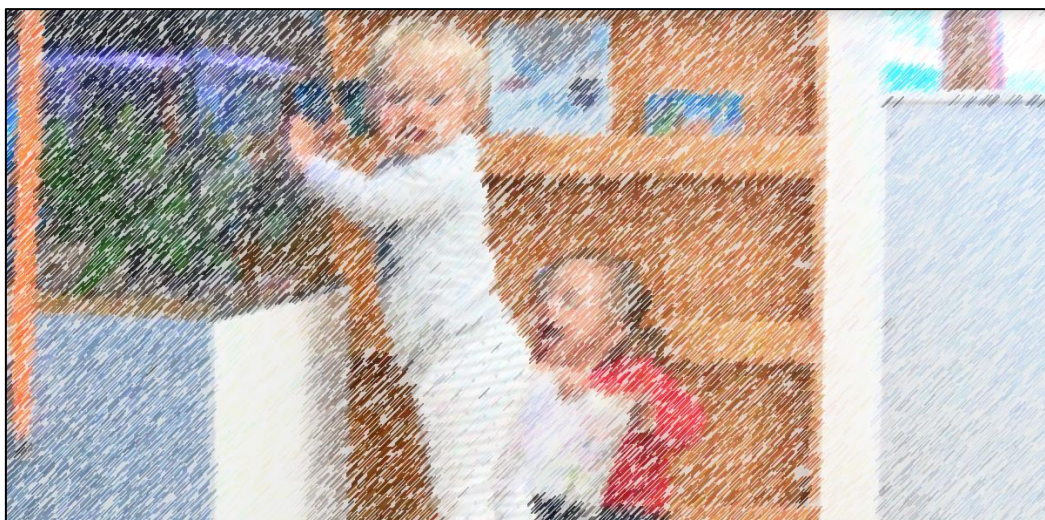
Figure 6*: Example of eye-contact with the researcher*

Using home language(s)

According to Guo's (2012) study on immigrant children in New Zealand ECEC centres, intercultural relationships could take place through the use of one's home language. Both video-recording and interview analyses affirm that Ellie used her home language, Dutch, at the end of the critical episode. During my initial phases of coding, the word that had been coded for the respective verbalisation was *taah*, a term used by the teachers at the centre when asking for an object to be passed over. However, through dialogue with Ellie's parents, it become apparent that Ellie used the Dutch term equivalent for goodbye-*dakh*. The following transcription shows how the interpretation changed and was enriched through dialogue.

> **Ethan**: Stop stop [the video here]. That's probably what she done. I think she's saying 'dakh' as well, like bye [in Dutch]
>
> **Kerry**: Yeah.
>
> **Yasmine**: I interpreted it as 'taah', but no I think it's 'dakh'.

When we revisited the video-recording, we found that Ellie did not have her eyes on T's book, and her gestures and tapping indicated that she wanted T to shuffle aside. Thus, her body language seems to align with her vocalisation of "dakh" more than a vocalisation of "taah". A key feature of the interaction was Ellie's articulate communication, which had been recognised and responded to earlier. Kerry described in

the following transcript that Ellie consolidates her verbal and non-verbal cues to get her point across more strongly and to make the communication stronger.

Kerry: She does that in the video as well I think a couple of times, she uses non-verbal and verbal together, so she makes it [her point] stronger.

Ethan: Mhm

Kerry: And actually, makes it more clear what she means.

Overall, it is clear that Ellie's bilingual background comes to life during her interaction. This view is a result of Ellie using her home language in combination with non-verbal language to make her needs understandable.

Teacher presence is important

Dalli et al., (2011) note that sensitive, responsive, and culturally relevant interactions are quality indicators for best practice with infants. Teacher presence and involvement was a relevant theme that emerged during the analysis. The video-recordings and transcripts show that the infants regularly made eye-contact with me during their interaction. Although I was not intended to be a part of their interaction, my presence in the environment meant that I was somehow included in their dialogue. My reflexivity on this matter is discussed later in this chapter.

The infants are seen making eye-contact with me throughout the episode at various times of the event. For instance, T established eye-contact with me before every movement she made. The interview analysis shows that there seems to be different intentions with different eye-looks. In the following transcript, Nate explains T makes eye contact for two different reasons at different times of the video.

Nate: Every time she [T] moves, she kind of looks at you …I guess for approval or an indication or something?

Nate: And T turns around and looks at you to say, 'look how nice I am…look how good I'm behaving'.

These findings suggest that the presence of a teacher researcher may have an impact on the infants'-peer dialogue (White & Redder, 2015). It is interpreted that the eye-contact was maintained for different intentions during the pair's social experience.

Exploring T's Belly

The name of this critical episode represents an exploration of the body. In this episode, T reveals her belly to Ellie. The following events thereafter shift in the dynamics of the episode from curiosity and determination to feelings of uncertainty.

Two themes were identified during analysis regarding this episode: disagreement and uncertainty, and teacher presence. These themes are discussed in the following section. The following video transcription gives an overview of the events that occurred during the unfolding of the interaction throughout the episode.

Line of action	Critical episode 'Exploring T's Belly' interactions
Line 15	Ellie kneels down to put a hand on T's back and pulls T's shirt.
Line 16	Ellie sits down and says "oooo". T rotates herself to directly face Ellie.
Line 17	T notices that her T-shirt is sticking out from her jumper. She holds her T-shirt, laughs, and makes eye-contact with the researcher.
Line 18	Ellie simultaneously looks at T's belly. Ellie makes a vocalisation and shuffles closer to T.
Line 19	Ellie lifts up T's protruding shirt and jumper to reveal her belly.
Line 20	T makes eye-contact with Ellie as her T-shirt is being lifted.
Line 21	Ellie lifts T's shirt even further up, causing T to lose her balance.
Line 22	T shows a concerned look on her face.
Line 23	T turns her body away from Ellie in attempt to stop Ellie from lifting her shirt forcefully.
Line 24	Ellie is still gazing at T's shirt.
Line 25	Ellie tries to lift T's shirt again. T uses her fingers to pull her shirt down, stopping Ellie.
Line 26	Researcher intervenes in the dialogue. She says: "Ellie. I don't think T likes that."
Line 27	Ellie makes eye-contact with the researcher briefly, then returns to lift T's shirt.
Line 28	The researcher repeats once more: "Ellie. I don't think T likes it when you pull her shirt like that".

Disagreement and uncertainty

In dialogic theory, the coming together of different perspectives creates new understandings (Bakhtin & Holquist, 1981; White, 2016, 2017). The overarching theme of this episode recognises that disagreement and uncertainty shaped the interaction between the infants.

The video-recordings show that Ellie pulled T's shirt. T responded by lifting her own shirt and revealed her belly to Ellie. Analysis of the transcription below demonstrates that T responded to Ellie's gestures. However, Ellie's touch and pull became too strong and caused T to lose her balance. It is suggested that the end result of the disagreement and uncertainty can be attributed to different cultural understandings of touch.

The analysis suggests that T is happy to reveal and demonstrate her belly to Ellie. Accordingly, T is seen smiling and maintaining eye-contact with the researcher when she revealed her belly to Ellie (see Figure 7)

Figure 7: *T happily revealing her belly to Ellie*

Drawing back on my field-notes, I recognised that T has an awareness of her body and had a particular liking to her belly button.

Later in the video, T lifts up her shirt and reveals her bellybutton. T's parents have informed me that she uses a compound word 'belly-bah' at home for belly button.

There may be a link between the word she knows, and the demonstration observed here (Fieldnotes, 9th November 2018).

This view highlights that the experience of demonstrating her own belly button may have been empowering for T. Her smiley facial expression in Figure 7 also affirms this as a positive experience for T. The interview analysis shows similar findings. In the following transcript, T's parents note that the interaction shifts from happy to an uncomfortable situation.

Nate: She's happy for Ellie to be lifting her shirt and having a look at her [T's] belly button, but then Ellie does it in a way that causes T to lose her balance, and that's the tipping point. That's the transition.

Melody: Yeah it turns into an uncomfortable….

Yasmine: Situation?

Nate: Lost her balance and that was it.

Melody: Then it was not a fun experience anymore.

I suggest that this transition is due to the different cultural understandings of touch.

Ellie's parents pointed that T's skin showed when she shuffled aside. Ellie's parents explained that this is could have been an intriguing phenomenon for Ellie because Ellie always wears bodysuits, which cover her abdominal area. The excerpt below identifies that the revealing of skin may have intrigued Ellie to touch and push T.

Kerry: So she [Ellie] can see some skin

Ethan: Because Ellie has always been wearing bodysuits.

Kerry: So she [Ellie] might be fascinated by that…she saw something other than clothes.

Ellie's experimentation with pulling up T's shirt could also be linked to her experiences at home as an expecting sister. Figure 8 illustrates this event The interview analysis reveals that it was common practice at home for Ellie to take a close look at her mother's pregnant belly and examined her father's belly through touch and cuddles.

Figure 8: *Ellie pulling up T's shirt*

Thematic analysis of the interviews reveals that both infants have an understanding and awareness of different parts of their bodies. However, the infants had different approaches to the notion of touch.

Based on these findings, I would like to argue that the infants Ellie and T have not simply replicated their home experiences into their social dialogue. This is revealed when the families shared their initial thoughts about the interaction, and how the infants interacted differently within different environments and with different individuals. Stetsenko and Pi-Chun (2015) affirm that all previous knowledge and experience can be changed and challenged in play. They argue that children do not simply reproduce experiences, but instead are agentic actors who are capable of challenging prior experiences and creating new ways of being and doing things (Stetsenko & Pi-Chun, 2015). I argue that Ellie is not reproducing the experience of touching her mother's tummy because in this context, she is with a different individual, who has responded differently to how Ellie's mother would. The environment is also different so it has its own set of rules. Accordingly, "play is about acting in novel and creative ways, like no one ever did before, each time bringing forth novelty, transcending the given, and realizing the impossible" (Stetsenko & Pi-Chun, 2015, p. 229).

Teacher presence in times of conflict

Another critical theme in the analysis of this episode is teacher presence. The infants maintained eye-contact and used other communicative cues to reach out to the teacher-researcher. The video-recording showed that T made eye-contact with the teacher-researcher three times: when Ellie first pulled up T's shirt; when T revealed her belly to Ellie, and when Ellie caused T to lose her balance. This section discusses the possible influence my presence on the direction of the verbal and non-verbal cues of the infants when T lost her balance.

An interpretation of why T could reach out is that T understood and trusted my role as a teacher-someone who could intervene in a controllable environment.

T's parents offered that T reached out to me for support. In the excerpt below, Nate and Melody suggested T understood and trusted the role of the teacher-researcher in intervening in the disagreement that had come about.

Nate: I guess the other thing in there is that she [T] also knows that you [the researcher] can intervene.

Melody: Yeah so when she looks at you [the researcher]

Nate: When she's uncomfortable she's looking at you [the researcher] being like 'you can stop this'

Melody: Yeah that's true because she's [T's] not looking at you [the researcher] at all until she's [T] like unhappy and then it's like……that pointed look.

The video-recording analysis shows that Ellie also made eye-contact with me when T attempted to end the dialogue and rotated herself away from Ellie. Some scholars have argued that the presence of teachers, on physical and emotional levels, may support infants' interactions with others (see Goodfellow, 2012; Recchia and Dvorakova, 2012). The view considers that my presence as a teacher is that of a secure base for the T, as similarly shown in Recchia and Dvorakova's (2012) study.

T's parents also recognised that Ellie made eye-contact with me, indicating her understanding that she should not be pulling T's shirt too hard.

The use of eye-contact with teachers to convey so many different things. Analysis of these interpretations brings me to conclude that eye-contact is a shared non-verbal cue

in both lives of the infants, used to communicate feelings and intentions beyond words, such as shared understanding, consultation, and attentiveness (Goodfellow, 2012; Shin, 2012; White et al., 2015). This finding supports the claims of Kidwell (2010) and White et al., (2015). Both studies recognise that infants utilise the action of a gaze to understand other' intentions and even attain the teacher's attention.

Overall, interpretation draws attention to the role of teachers in early childhood settings as trusted brokers and stand-by supporters for children's conflicts (White & Redder, 2015). Many researchers indicate that when children experience a sense of belonging within an early childhood centre, they trust and approach their teachers. White and Redder (2015) note that the role of the teacher in their study on teacher-infant proximity was sometimes viewed as an emotional mediatory role to avoid physical harm between infants.

Reading Books Together

In this episode, T invited Ellie to choose books from the bookshelf, and the pair selected their books and sat opposite one another. Underpinned by the Bakhtinian view that events of dialogue do not occur in isolation (Bakhtin & Holquist, 1981; White, 2017), my field-notes were analysed to provide an in-depth understanding of how the infants experienced the events of choosing and sharing an activity together.

This episode is characterised by the infants' use of multimodal communicative cues to direct each other towards novelty items- in this case, books. Some of these multimodal cues included the use of a book as an invitation, babble, eye-contact, physically proximity, and pointing.

The following section highlights two major themes that emerged through the analysis of this critical episode: negotiation and agreement, and home experiences.

Negotiation and agreement

Analysis of the events of dialogue in this episode brings forth the overarching theme of negotiation and agreement. Negotiation and agreement can be seen twice in this critical episode: when T directed Ellie to come to the bookshelf, and when the pair chose books, carried them, and sat opposite each other.

Negotiation and agreement when T directed Ellie's attention to the bookshelf

T had a book in her hand and crawled over to Ellie, who was sitting in a squatting-position a couple of meters away. T looked at Ellie, who was playing with a small bean-bag and Ellie briefly looked back at T. Soon, however, Ellie heard me unzip the camera-bag and turned her hear head away from T.

Reddy (2008) highlights that having intentions drives the motivation for interacting and seeking proximity with others. In T's case, it is interpreted that she acted in a way to elicit a response or a reaction from Ellie by physically approaching her, holding out a book, and maintaining eye-contact. From this perspective, T's communicative cues can be seen as intentional and purposeful (Reddy, 2008). T's eye-contact is also a powerful tool used in this episode. According to Hay et al., (2009), looking can be an expression of social interest in with peers. Thus, T's gaze at Ellie could be a means for expressing interest or an invitation to social engagement. Another explanation for eye-contact is offered by Tomasello and Carpenter (2007), who explain that infants use gaze more intentionally, such as to "share attention with others" (p. 121). Accordingly, Ellie's momentarily gaze at T could be viewed as a moment of shared attention with T as the pair exchanged eye-contact.

Later in this interaction, analysis of my field-notes suggests that my presence with the camera could have hindered the unfolding of dialogue between Ellie and T. The following excerpt from my field-notes demonstrates an interruption in T's attention-seeking cues.

> As soon as Ellie saw me pull out the camera, her attention shifted from T to myself. It was common practice for the pair to explore my camera on the days that I was video-recording them, and this was my fourth day of recording. I responded to Ellie's interest in the camera by explaining that I will be recording her and T shortly. Ellie walked over to me with her eyes locked onto my camera. She stroked the camera and peeped through the LCD screen, while T sat from afar watching us (Field-notes, 9th November 2019)

A study on the role of teacher proximity in supporting infant-peer interactions found that "sustained peer encounters….were more likely to take place when teachers were in range" (White & Redder, 2015, p. 1793). However, these interactions occurred when teachers promoted connections "through language and body positioning" of

infants (White & Redder, 2015, p. 1793). As the field-notes highlight, I directed most of my language and attention directly to Ellie and I did not elicit an inclusion or recognition of T's cues. This could be interpreted as a hinderance of the pair's interactions, similar to what was found in Legendre and Muchenbach (2011) study on caregiver proximity and peer interactions between 2–3-year-olds. Accordingly, they found that infants spent a considerably longer amount of time socially interacting with peers when caregivers were "not within 2 meters of immediate proximity" (Legendre & Muchenbach, 2011, p. 112). From this view, my presence, particularly with a novelty item, could be viewed as a hinderance on the pair's dialogue.

As T sat afar from Ellie and I, she called out to Ellie once more and babbled. In response, Ellie turned away from the camera and walked towards T. Simultaneously, T had her eyes on Ellie and noticed that she was looking back at her. Thus, T took the initiative to crawl towards the bookshelf, and Ellie followed her lead. Dialogic theory suggests that T's approaching of Ellie demonstrates elements of dialogue as she not only directly addressed Ellie through non-verbal cues and babble, but she also anticipated a response from Ellie by waiting and persevering to gain Ellie's attention (White, 2017).

The exchange of eye-contact in the latter part of this interaction could be described as the purposeful sharing of attention (Tomasello & Carpenter, 2007, p. 121). In other words, the pair exchanged an understanding of each other's intentions through this look. This is illustrated when T crawled towards the bookshelf, and Ellie followed her lead. Subsequently, this was where the video-recording came into action and the second event of *negotiation and agreement* was identified.

Negotiation and agreement when T and Ellie negotiated and agreed on the selection of books

In this event of dialogue, Ellie and T were by the bookshelf, pointing, touching, and selecting books. Out of the seven books sitting on the shelves, only two appeared to be relevant to Ellie and T in this episode: the blue book on the top-shelf, and the green book on the middle-shelf. The following transcript highlights the unfolding of the event in this section of the episode.

Line of action	Critical episode '*Reading Books*' interactions (part 1)
Line 6	Ellie and T head towards the bookshelf together as Ellie babbles.
Line 7	Ellie points to the blue book on the top shelf and says something similar to "*this*"
Line 8	T pulls herself up to stand, using the bookshelf for support, and holds the blue book, while Ellie continues to talk.
Line 9	Ellie points to the green book on the lower shelf and says, "*that*".
Line 10	Ellie points at the blue book that T is holding and says, "*that*".
Line 11	Ellie picks up the green book and says, "*that...dook* [book]".
Line 12	Ellie and T have made their book selections.

The video analysis shows that Ellie and T understood each other, coordinated their roles, and agreed on taking a book each. Initial analysis showed that Ellie pointed to the blue book on the top shelf and said "this". In response, Ellie lifted herself to stand up and reached for the blue book that Ellie pointed to. However, upon a closer look at the video using slow-motion technology, it was noted that Ellie pointed to T's hand rather than the book, which suggests that she was inviting T to take the book on the upper shelf. This is illustrated in Figure 9.

Figure 9: *Ellie pointing to T's hand, and T accepting the book selection*

Ellie's parents reveal that there is some sort of compromise in the interaction demonstrated in the episode. In the excerpt below,

Ethan: I wonder if Ellie points to the top book, say, "T, you take that one [top book] and then I'll take this one [lower book]", because she's [Ellie] is pointing at both.

Kerry: [T is] reaching out for that green book and she [Ellie] thinks "oh now I need to get the green book".

Gestural pointing in this episode is seen as a rich communicative cue through which choices could be negotiated and agreements could be made. According to Liszkowski and colleagues (2007), declarative pointing can be used to share ideas, gain attention, or redirect attention to a reference. In their study on infant-adult pointing, infants were found to actively redirect interested adults to an object by pointing (Liszkowski et al., 2007). This was shown in Ellie's interaction where T responded by selecting the blue book. Interpreting the interaction from Ellie's perspective, it can be inferred that Ellie attuned her body language and vocalisations to bring T's attention to one of the books (Meltzoff, 2009). This intentionality with communication has been described as "linking mental experiences and behaviour" (Meltzoff, 2009, p. 35) for fulfilling a goal.

T's responses to Ellie's pointing and words could be seen as intersubjectivity, which is defined as "two people experiencing the same thing at the same time knowing

together that they are doing this" (Tomasello & Carpenter, 2007, p. 121). Accordingly, Dalli et al., (2011) reveal the potential that intersubjective interactions have for rich learning experiences. They identify that these interactions "are more likely to occur in relationships that exhibit emotional engagement, alertness, reflective presence, respect….and dialogue" (Dalli et al., 2011, p. 4). Thus, according to this perspective, the unfolding of the interaction from T's call for attention to the bookshelf, to Ellie's pointing to the books and T's hand, are all examples of alert, present, emotional engagement with one another.

The dialogic exchange seen in the transcript also indicates a coordination of intentions and actions, which resulted in compromise (Brownell et al., 2006). Although the ability to compromise something for some else was found to exist only in older children (Brownell et al., 2006), Ellie and T's coordination is a clear demonstration of compromise- as Ellie indicated her interest in both books and eventually invited T to take one of the books. In the following excerpt, Kerry considers Ellie's initial want for the blue book, but compromises the book for T.

Kerry: I also think that when you think like from Ellie's perspective, she absolutely goes for the one that T wants

Ethan: Yeah.

Kerry: And then takes that one, and then agrees that T can have the other one. Do you know? Yeah.

Negotiation and agreement when playing together

In the final section of the video, T selected the blue book and sat down, and Ellie walked over with her green book and sat opposite T. The pair engaged in a collective reading activity whilst facing each other. The following transcript highlights the unfolding of the events.

Line of action	Critical episode '*Reading Books*' interactions (part 2)
Line 13	T sits down and opens her book, and watches Ellie walk with the green book.
Line 14	Ellie, still holding onto her green book, sits down about 0.5 meters away from T, directly facing her. Ellie exhales loudly as she sits.
Line 15	T still has her gaze on Ellie.
Line 16	Ellie babbles to T "dubadubadub" and flips her book around.
Line 17	Ellie and T make eye-contact, and T smiles at Ellie as Ellie babbles.
Line 18	Ellie's book falls onto the ground.

Analysis of the transcript reveals an emphasis on the role of gaze and eye-contact in the characterisation of this playful encounter. Firstly, T looks over at Ellie who walked over to sit down with her book opposite T. In this instance, looking can be seen as a way of checking that Ellie "has caught on to the essence of [T's] play" (Degotardi & Pearson, 2014, p. 96). This is demonstrated in Figure 10.

Figure 10: *Ellie walking away with her book, while T gazes at her*

Degotardi and Pearson (2014) offer insights into intersubjectivity which highlight that T is reading signals from Ellie's body language "to establish shared intentions about the play and negotiate its progression" through gaze (p. 192). Interview analysis suggests that T uses gaze to check for the "continuation of [the] shared activity" (Degotardi & Pearson, 2014, p. 96). Interview analysis also reveals that gaze was a critical part of this dialogue. The following excerpt highlights that T's gaze could be an important means for assessing Ellie's social orientation.

Melody: I just like the way she's [T is] kind of assessing [things]. She's [T's] got her book, she's happy with her book, then she's just kind of checking up on what Ellie's got as well.

Nate: Because you see how they move together a bit just after this (0:17), it's like she [T] follows Ellie [with her eyes] to see whether Ellie's going to stop and sit down with her [T].

Melody: Yeah

Nate: [T] decides that yeah, she [Ellie] has, and then just turns to face up so she's [T's] facing directly at Ellie.

Gaze following thus could be described as "looking intently" at Ellie and "studying [her] facial expressions" (Engdahl, 2012, p. 95).

Once Ellie sat down, T rotated herself so that she directly faced Ellie. This brought about another interpretation on body orientation for opening up dialogue. By reorienting herself to face Ellie, T has taken on the role of a negotiator "in creating togetherness" by using her "own ways of acting and talking" to engage with Ellie (Singer & De Haan, 2007, p. 328). According to Hay et al., (2009), cooperative play involves a shared understanding of intentions and acting upon those intentions. As a result of the cooperative play demonstrated in this event, T smiles at Ellie when she recognises that Ellie is sitting down too with a book (see Figure 11).

Figure 11: *T recognises that Ellie is facing her, so T rotates herself and smiles*

Degotardi and Pearson (2014) highlight that the establishment of shared intentions and understandings provides a common ground for experiencing the feeling of "affiliation and belonging" within a context and ultimately developing "a sense of 'us'" (p. 95, original emphasis). Thus, the notion of togetherness has the power to transform play from an individual experience to a shared experience based on common interests and intentions (Van Oers & Hännikäinen, 2001). Therefore, it can be interpreted that shared meaning is established between Ellie and T through their togetherness in this playful experience. Hännikäinen (2001) notes that these playful experiences afford young children the means to experience group activities that involve collective expressions. In the case of Ellie and T, the shared experience of selecting books, and sitting down together has afforded them the means for experiencing new ways of collectively expressing and being.

Relevance of home experiences

An interesting finding of this critical episode was the link of home experiences to the unfolding of the interaction, the findings of this section are primarily based on the interview analysis. Firstly, it was found that cultural tools from home were recognised and utilised in the early childhood centre to communicate with the 'other'. Secondly, Ellie and T have created their own experiences through interpretive reproduction (Corsaro, 2012).

Cultural tools from home

The following quote from Miller (2010) notes the role that material cultural tools play in shaping our lives: "Objects make people. Before we can make things, we are ourselves grown up and matured in the light of things that come down to us from the previous generations" (p. 53). Upon interview analysis, it has been identified that both Ellie and T shared a particular cultural tool in both of their homes- books.

Ellie's parents demonstrated how reading in general is highly valued at home. In the following excerpt, Kerry and Ethan highlight that Ellie has had extensive experience with reading books and being encouraged to read books.

Kerry: And I think that's reading books comes from in terms of that being encouraged a lot to read a book.

Ethan: Mhm

Kerry: But we have always done it so we started it from really young that we were reading books to her and ummm

Ethan: We were reading books to her before she went to bed, before she could sit up.

T's parents as well have introduced that they value books. A study on infant-toddler educator's perspectives on peer interactions finds that a "shared interest in objects" may bring infants together (Davis & Degotardi, 2015, p. 70). In T and Ellie's case, the shared cultural tool-books- has been used to share attention and intentions, negotiate, and agree on book selection.

This interpretation is similar to the findings of Henning and Kirova (2012), who found intercultural relationships between a Somali child and a Sudanese child at a preschool in Canada. Both of these children were drawn to each other because of their singing at the preschool and this was a tradition that is carried out by the families of both children at home.

It is important to recognise that cultural tools can be material or psychological. However, the findings I am reporting demonstrate the material tools used in Ellie and T;s interaction, such as physical spaces and books. Affordance of accessible cultural tools within the environment can support children's learning and development (Guo & Dalli, 2012; Ministry of Education, 2017b; Rogoff et al., 2015). These findings alert

teachers to critically reflect on the setting out of their teaching environments. Essentially, these tools have the power to reconnect people with their ethnic identity (Henning & Kirova, 2012), as well as provide means for establishing a sense of belonging (Guo & Dalli, 2012; Ministry of Education, 2017b). However, Henning and Kirova (2012) warn in the following excerpt that bringing in cultural tools or objects also carries the responsibility of appropriately using the tool, and it's relevance to the child:

> Since no object is culture-neutral, we need to recognise that when we bring an object into the classroom, we also bring a particular cultural meaning and a cultural way of using the object. …….We argue that only when an object is situated in the classroom environment as a means of bridging that object's 'functional significance' in relation to the child's cultural knowledge of the object can it serve as an intermediary for children to find and resolve their sense of self in a place in relation to others (p. 229)

Creation of new experiences

Children have a wealth of knowledge about the use of utterances and come into early childhood education with these understandings. According to a Bakhtinian perspective, these utterances can be "strategically employed to generate new meanings" (White, 2017, p. 139). The analysis suggests that both Ellie and T used the utterances they already learned from home to create new experiences with each other.

Melody explained that T does seek out books by herself at home. However, she invites one of her parents to join and go through the pages with her. In the excerpt below, Melody explains that T enjoys having someone else's company when T 'reads' books.

Melody: Yeah that's why I find it interesting watching this. She doesn't…like at home she doesn't read books. Like she'll open a book, but really she wants input from us, so she won't just kind of independently [do it].

A strong emphasis in the excerpt is that T interacted differently with Ellie than how she would engage with her parents at home. Melody's insight offers a possible interpretation on why T actively observes Ellie's 'willingness' to join in the activity. The video-recording shows that T is happy to read the book independently, but only as long as Ellie directly faced her and also joined in the collective reading activity (see Figure 12).

Figure 12: *T sits directly facing Ellie.*

According to Bakhtin, "the word in language is half someone else's" (Bakhtin & Holquist, 1981, p. 293). What this means is that words, or communicative cues in the case of my study, are partial interpretations of prior experiences. Ultimately, these words or cues can drive the force for generating new understandings when they are used with intention with another partner. With this perspective, it is possible to view how infants may use prior cultural experiences at home, such as reading books as a collective activity, as a reference point for approaching peers and interacting with them. However, this interaction may unfold new experiences, where in turn creates new understandings about how the cultural activity of reading books may occur develop.

Corsaro (2012) offers a term for the creation of new understandings as such- *interpretive reproduction*, which suggests that children's interactions with peers interpret or appropriate " information from the adult world to address their unique peer concerns" (p. 488). The term *reproduction* in Corsaro's (2012) conceptualisation also offers that children actively create and contribute "to cultural production and change" as

part of their innovative, competent nature (p. 488). From this lens, Ellie and T can be seen as participants of at-least two cultures "their own, and adults" (Corsaro, 2012, p. 489). These two cultures are intertwined and may have social constraints on the infants' ability to participate with others.

The events of dialogue in the second half of the episode show that Ellie and T are using the familiarity and love for a shared object to be together, and create new ways of reading the books together-differently to what is done in both of their homes- thus innovatively contributing to their own repertoire of knowledge.

Summary of findings

Addressing the overarching research question in this study, the following key findings have been interpreted through the analysis of the gathered data:

- Infants collaborate to share intentions and achieve common goals in intercultural relationships. They use pointing, eye-contact, active gaze, and hand gestures as well as vocalisations to initiate, maintain, and end these collaborations.
- Infants are confident in using their home language in intercultural communication.
- Disagreement and conflict are essential parts of any relationship.
- The affordances of tools (material and physiological) and dialogic partners, or peers in the case of my study, are essential for supporting intercultural communication.
- Video-recording methods can provide detailed insights into infants' interactions, especially when used to establish conversations with families.
- Conflicts between infants are a critical way in which infants experience 'other' ways of being. This implies that teachers must take critical decisions on their pedagogical involvement in these social learning experiences.
- Infants do not simply reproduce their prior experiences from home (Corsaro, 2012). Instead, they use these experiences to create new ways of being and participating with others.

Difference in interpretation

Analysis of the video-transcript and interview data affirms that parents and teachers see different meanings in gesture, and different gestures captured their attention. This is

linked to the familiarity that each individual had with that child. It also highlights the importance of video-recording, as it captures all the minute details which other methods may not produce. Partnerships with parents are crucial because they reveal so much information about the child's abilities and knowledge that teachers may not necessarily know.

Conclusion

This study demonstrates what intercultural communication looks like between two infants that have different home languages. One of the most crucial findings of this study is that intercultural communication has been found to occur between infants as young as 17 months. Although the findings of this study cannot be generalised to consider every infant, it gives an insight into how interculturalism could be a pedagogy that is worth considering within early childhood education. The findings also shed light on infants' early competencies and abilities to participate in reciprocal, complex, dialogue. Accordingly, the findings offer that infants are agentic and contribute to their own learning by using prior experiences as a reference point to create new understandings and navigating new experiences with peers.

This study contributes to a very small pool of literature which investigates infant-peer relationships within educational contexts. In New Zealand in particular, despite the growing number of infants enrolled in early childhood education, there is a significant shortage of literature that addresses infancy in early childhood education (Dalli et al., 2011; McLachlan, 2010).

In this study, I used a collaborative approach to consider the interpretations of the infants' parents to enrich my interpretations as a teacher-researcher. This stance has helped me understand the experiences of infants during their interactions with peers. Using videography to form the basis of my discussions with the families, I gained critical insight into the infants' lives outside of the centre and formed a multi-perspectival understanding of the infants' experiences.

The findings in my study contradict the findings reported by Williams et al., (2007) on infant-peer interactions. Accordingly, they claim infant-peer interactions are rudimentary and mostly involve exchanging and displaying emotions to one another. Alternatively, my study proposes that infants are highly capable social beings that have shown to partake in complex activities that require a coordination of roles, responding

with actions, understanding each other, calling for attention, and communicating all of the above (Degotardi, 2011a; Engdahl, 2012; Goodfellow, 2012; Shin, 2012; White, 2016).

The findings in my study also refute what is described by Brownell et al., (2006) as primitive and coincidental coordination of infants. Conversely, my study offers that interactions are intentional, purposeful, and acts of perseverance have been identified.

My study challenges the findings of Legendre and Muchenbach (2011) who report that infants' interactions with peers are more likely to take place when no teacher is nearby. As discussed earlier in this thesis (see Chapter Two: Literature Review), other studies reveal that the depth of the relationship the infant has with the teacher influences the interactions the infant would have with his or her peers (White & Redder, 2015). My study provides an alternative view of this; infants are seen as agentic experts in moving in and out of dialogue with various others. This was seen in critical episode *Reading Books Together* when Ellie and T were interrupted by my presence with the camera. Ellie was seen shifting into and out of the dialogue initiated by T. My presence with the novelty item could have hindered the dialogue of the infants, but T soon called out to Ellie and Ellie returned her attention back to Ellie.

This study invites a view of infants as highly complex and capable individuals. To answer the question that I considered at the beginning of the study: if we as adults struggle to communicate with a language barrier, how do infants build relationships with other children that have different languages? Could it be that love is a universal language?

The answer to that infants have a powerful determination to learn and experience other ways of being. That is not to say that infants do not have conflicts when understandings are not shared, but they are capable of compromise, seeking proximity, and reaching out over and over again. And perhaps after all, love is a universal language that must be learnt.

References

Akhtar, N., & Gernsbacher, M. A. (2008). On privileging the role of gaze in infant

social cognition. *Child Development Perspectives*, *2*(2), 59–65.

https://doi.org/10.1111/j.1750-8606.2008.00044.x

Arthur, L., Beecher, B., Death, E., Dockett, S., & Farmer, S. (2012). *Programming and

planning in early childhood settings* (4th ed.). Melbourne, Australia: Cenage

Learning.

Bakhtin, M. (1987). *Speech genres and other late essays* (M. Holquist, Ed.). Austin,

TX: University of Texas Press.

Bakhtin, M., & Holquist, M. (1981). *Dialogic imagination: Four essays*. Austin, TX:

University of Texas Press.

Bakhtin, M., Holquist, M., & Emerson, C. (1987). *Speech genres and other late essays*

(V. W. McGee, Trans.). Austin, TX: University of Texas Press.

Bardige, B. (2006). Infants and toddlers: Providing supportive care. *Young Children*,

61(4), 12–13.

Barker, J., & Weller, S. (2003). "Is it fun?": Developing children centered research

methods. *International Journal of Sociology and Social Policy*, *1*(2), 22–58.

https://doi.org/10.1108/01443330310790435

Barladi, C. (2012). Intercultural education and communication in second language

interactions. *Intercultural Education*, *23*(4), 297–311.

https://doi.org/10.1080/14675986.2012.727601

Barresi, J. (2007). Consciousness and intentionality. *Journal of Consciousness*, *14*(1),

77–93.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, *13*(4), 544–559.

Beard, R. (2006). *An outline of Piaget's developmental psychology* (2nd ed.). Oxon, United Kingdom: Routledge.

Bell, J. (2005). *Doing your research project: A guide for first-time researchers in education, health, and social science* (4th ed.). Berkshire, England: Open University Press.

Belsky, J. (2006). Early child care and early child development. Major findings of the NICHD Study of Early Child Care. *European Journal of Developmental Psychology*, *3*(1), 95–110. https://doi.org/10.1080/17405620600557755

Berthelsen, D. (2009). Participatory learning: Issue for research and practice. In D. Berthelsen, J. Brownlee, & E. Johansson (Eds.), *Participatory learning in the early years: Research and pedagogy* (Vol. 2, pp. 1–11). New York, NY: Routledge.

Besley, T., & Peters, M. A. (2011). Interculturalism, ethnocentrism and dialogue. *Policy Futures in Education*, *9*(11), 1–12. https://doi.org/10.2304/pfie.2011.9.1.1

Biddulph, F., Biddulph, J., & Biddulph, C. (2003). The complexity of community and family influences on children's achievement in New Zealand: Best evidence synthesis. Retrieved from https://www.educationcounts.govt.nz/__data/assets/pdf_file/0006/7692/bes-community-family-influences.pdf

Bissenden, M., & Gunn, A. (2017). Consent, assent, dissent: A case study of a child's understanding of research. *Early Childhood Folio*, *21*(1), 11–15.

Bone, J. (2005). An ethical journey: Rights, relationships and reflexivity. *Australian Journal of Early Childhood*, *30*(1), 1–5. https://doi.org/10.1177/183693910503000102

Bowlby, J. (1969). *Attachment and loss*. New York, NY: Basic Books.

Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London, England: Routledge.

Boyatiz, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage.

Bradley, B. (2010). Jealousy in infant–peer trios: From narcissism to culture. In S. Hart & M. Legerstee (Eds.), *Handbook of jealousy: Theory, research, and multidisciplinary approaches* (pp. 192–234). London, England: Wiley-Blackwell.

Bradley, B., Sumsion, J., Stratigos, T., & Elwick, S. (2012). Baby events: Assembling descriptions of infants in family day care. *Contemporary Issues in Early Childhood*, *13*(2), 141–153. https://doi.org/10.2304/ciec.2012.13.2.141

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, *22*(6), 723–742. https://doi.org/10.1037/0012-1649.22.6.723

Brownell, C., Ramani, G., & Zerwas, S. (2006). Becoming a social partner with peers: Cooperation and social understanding in one and two-year-olds. *Child Development*, *77*(4), 803–821. https://doi.org/10.1111/j.1467-8624.2006.t01-1-.x-i1

Bruner, J. (1966). *Toward a theory of instruction*. Cambridge, MA: Belknap Press of Harvard University.

Bruner, J. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.

Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.

Bruner, J. (1991). The narrative construction of reality. *Critical Inquiry*, *18*(1), 1–21.

Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.

Buttlemann, D., Zmyj, N., Daum, M., & Carpenter, M. (2013). Selective imitation of in-group over out-group members in 14-month-old infants. *Child Development*, *84*(2), 422–428. https://doi.org/10.1111/j.1467-8624.2012.01860.x

Camaioni, L., Perucchini, P., Bellagamba, F., & Colonnesi, C. (2004). The role of declarative pointing in developing a theory of mind. *Infancy*, *5*(3), 291–208. https://doi.org/10.1207/s15327078in0503_3

Cameron-Faulkner, T. (2014). Language development in the young child. In T. Maynard & S. Powell (Eds.), *An introduction to early childhood studies* (3rd ed., pp. 103–114). Los Angeles, CA: Sage.

Carroll-Lind, J., & Angus, J. (2011). *Through their lens: An inquiry into non-parental education and care of infants and toddlers*. Wellington, New Zealand: Office of the Children's Commissioner.

Casoni, A., & Gindro, S. (2003). Interculturalism. In G. Bolaffi, R. Bracalenti, P.

 Braham, & S. Gindro (Eds.), *Dictionary of race, ethnicity, & culture*. Retrieved

 from https://doi.org/10.4135/9781446220375

Center on the Developing Child. (2016). From best practices to breakthrough impacts:

 A science-based approach to building a more promising future for young

 children and families. Retrieved from https://developingchild.harvard.edu/

Chandler, D., & Munday, R. (2016). *Oxford reference: A dictionary of media and

 communication*. Retrieved from

 https://doi.org/10.1093/acref/9780191800986.001.0001

Christensen, P. (2004). Children's participation in ethnographic research: Issues of

 power and representation. *Children and Society*, *18*(2), 165–176.

 https://doi.org/10.1002/CHI.823

Clark, A., McQuail, S., & Moss, P. (2003). *Exploring the field of listening to and

 consulting with young children Department for Education and Skills.* (No. 445).

 Retrieved from Thomas Coram Research Unit website:

 https://dera.ioe.ac.uk/8367/1/RR445.pdf

Clark, A., & Moss, P. (2001). *Listening to young children: The mosaic approach*.

 London, England: Joseph Rowntree Foundation.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th

 ed.). London, England: Routledge Falmer.

Corsaro, W. (1997). *The sociology of childhood*. Thousand Oaks, CA: Pine Forge Press.

Corsaro, W. (2012). Interpretive reproduction in children's play. *American Journal of

 Play*, *4*(4), 488–504.

Dalli, C. (2000). Starting child care: What young children learn about relating to adults in the first weeks of starting child care. *Early Childhood Research and Practice*, *2*(2), 1–32.

Dalli, C., White, J., Rockel, J., & Duhn, I. (2011). *Quality early childhood education for under-two-year-olds: What should it look like? A literature review*. Wellington, New Zealand: Ministry of Education.

Datler, W., Datler, M., & Funder, A. (2010). Struggling against a feeling of becoming lost: A young boy's painful transition to day care. *Infant Observation*, *13*(1), 65–87. https://doi.org/10.1080/13698031003606659

Davis, B., & Degotardi, S. (2015). Educators' understandings of, and support for, infant peer relationships in early childhood settings. *Journal of Early Childhood Research*, *13*(1), 64–78. https://doi.org/10.1177/1476718X14538600

Degotardi, S. (2008). Looking out and looking in: Reflecting on conducting observational research in a child-care nursery. *The First Years Ngā Tua Tuatahi: New Zealand Journal of Infant and Toddler Education*, *10*(2), 15–19.

Degotardi, S. (2011a). From greetings to meetings: How infant peers welcome and accommodate a newcomer into their classroom. *The First Years Ngā Tua Tuatahi: New Zealand Journal of Infant and Toddler Education*, *13*(2), 29–33.

Degotardi, S. (2011b). Two steps back: Exploring identity and presence while observing infants in the nursery. In E. Johansson & J. White (Eds.), *Educational research with our youngest: Voices of infants and toddlers* (pp. 15–38). Dordrecht, Netherlands: Springer.

Degotardi, S. (2014). Expressing, interpreting and exchanging perspectives during infant-toddler social interactions: The significance of acting with others in mind.

In L. J. Harrison & J. Sumsion (Series Eds.), *Lived spaces of infant-toddler education and care: Exploring diverse perspectives on theory, research and practice* (pp. 187–199). Dordrecht, Netherlands: Springer Netherlands.

Degotardi, S., & Pearson, E. (2009). Relationship theory in the nursery: Attachment and beyond. *Contemporary Issues in Early Childhood*, *10*(2), 144–155. https://doi.org/10.2304/ciec.2009.10.2.144

Degotardi, S., & Pearson, E. (2014). *The relationship worlds of infants and toddlers: Multiple perspectives from early years theory and practice*. Berkshire, England: McGraw Hill.

Denzin, N., & Lincoln, Y. (2000). *Handbook of qualitative research*. London, England: Sage.

Derry, S. J., Pea, R. D., Barron, B., Engle, R. A., Erickson, F., Goldman, R., … Sherin, B. L. (2010). Conducting video research in the learning sciences: Guidance on selection, analysis, technology, and ethics. *The Journal of the Learning Sciences*, *19*(1), 3–53. https://doi.org/10.1080/10508400903452884

Duhn, I., & Craw, J. (2010). Embracing the complexity of a socio-cultural pedagogy: Interpersonal relationships as a vehicle for learning. In B. Clark & A. Grey (Series Eds.), *Āta kitea te pae-Scanning the horizon* (pp. 59–71). Auckland, New Zealand: Pearson.

Duncan, R. M., & Tarulli, D. (2003). Play as the leading activity of the preschool period: Insights from Vygotsky, Leont'ev, and Bakhtin. *Early Education & Development*, *14*(3), 271–292. https://doi.org/10.1207/s15566935eed1403_2

Dunham, P. J., & Moore, C. (1995). Current themes in research on joint attention. In P. J. Dunham & C. Moore (Eds.), *Joint attention: Its origins and role in development* (pp. 15–28). Hillsdale, NJ: Lawrence Erlbaum Associates.

Education Counts. (2019a). Early learning services: Search results. Retrieved from https://www.educationcounts.govt.nz/find-an-els/search-results?eceName=&regionId=&eceTypeId=6&ageId=u2&langId=

Education Counts. (2019b). Participation. Retrieved from https://www.educationcounts.govt.nz/statistics/early-childhood-education/participation

Education Review Office. (2015). Infants and toddlers as competent and confident communicators and explorers. Retrieved from http://www.ero.govt.nz/publications/infants-and-toddlers-competent-and-confident-communicators-and-explorers/findings/#infants-and-toddlers-as-competent-and-confident-communicators-and-explorers

Education Review Office. (2016). Types of early childhood education services. Retrieved from https://www.ero.govt.nz/publications/early-childhood-education-a-guide-for-parents/types-of-early-childhood-education-services/

Einarsdóttir, J. (2007). Research with children: Methodological and ethical challenges. *European Early Childhood Education Research Journal*, *15*(2), 197–211. https://doi.org/10.1080/13502930701321477

Elfer, P. (2006). Exploring children's expressions of attachment in nursery. *European Early Childhood Education Research Journal*, *14*(2), 81–95. https://doi.org/10.1080/13502930285209931

Engdahl, I. (2012). Doing friendship during the second year of life in a Swedish preschool. *European Early Childhood Education Research Journal*, *20*(1), 83–90. https://doi.org/10.1080/1350293X.2012.650013

Feldman, C. F. (2010). Thought from language: The linguistic construction of cognitive representations. In J. Bruner & H. Haste (Eds.), *Making sense: The child's construction of the world* (pp. 87–96). London, England: Routledge.

Flewitt, R. (2005). Conducting research with young children: Some ethical considerations. *Early Child Development and Care*, *175*(6), 553–565. https://doi.org/10.1080/03004430500131338

Forsyth, H., & Leaf, G. (2010). Te Tiriti o Waitangi and biculturalism in early childhood education. In B. Clark & A. Grey (Eds.), *Āta kitea te pae: Scanning the horizon* (pp. 23–36). Auckland, New Zealand: Pearson.

Garcez, A., Duarte, R., & Eisenberg. (2011). *Production and analysis of video recordings in qualitative research*. *37*(2), 249–260. https://doi.org/10.1590/S1517-97022011000200003

Gervain, J., & Mehler, J. (2010). Speech perception and language acquisition in the first year of life. *Annual Review of Psychology*, *61*, 191–218.

Goldin-Meadow, S. (2009). How gesture promotes learning throughout childhood. *Child Development Perspectives*, *3*(2), 106–111. https://doi.org/10.1111/j.1750-8606.2009.00088.x

Golinkoff, R. M., Ma, W., Song, L., & Hirsh-Pasek, K. (2013). Twenty-five years using the intermodal preferential looking paradigm to study language acquisition: What have we learned? *Perspectives on Psychological Science*, *8*(3), 316–339. https://doi.org/10.1177/1745691613484936

Gonzalez, N. (2005). Beyond culture: The hybridity of funds of knowledge. In N. Gonzalez, L. Moll, & C. Amanti (Eds.), *Funds of knowledge: Theorizing practices in households, communities, and classrooms* (pp. 29–46). Mahwah, NJ: Taylor & Francis Group.

Goodfellow, J. (2012). Looking, listening-in and making meaning: An infant's encounter at childcare. *Early Childhood Folio*, *16*(1), 22–26.

Goodfellow, J. (2014). Infants initiating encounters with peers in group care environments. In L. J. Harrison & J. Sumsion (Series Eds.), *Lived spaces of infant-toddler education and care: Exploring diverse perspectives on theory, research and practice* (pp. 201–210). Dordrecht, Netherlands: Springer Netherlands.

Greene, S., & Hogan, D. (2006). *Researching children's experiences: Approaches and methods*. London, England: Sage.

Greve, A. (2008). Friendships and participation among young children in a Norwegian kindergarten. In D. Berthelsen, J. Brownlee, & E. Johansson (Eds.), *Participatory learning in the early years: Research and pedagogy* (1st ed., pp. 78–92). New York, NY: Routledge.

Grey, A. (2010). Developmental theories in early childhood education. In B. Clark & A. Grey (Eds.), *Āta kitea te pae: Scanning the horizon* (pp. 46–57). Auckland, New Zealand: Pearson.

Gross, D. (2018). *Infancy: Development from birth to age 3* (3rd ed.). Lanham, MD: Rowman & Littlefield.

Gunnarsdottir, B., & Bateman, A. (2017). Toddler agency and conversation analysis. *Early Childhood Folio*, *21*(1), 33–38. https://doi.org/10.18296/ecf.0030

Guo, K. (2012). Chinese immigrants in New Zealand early childhood settings: Perspectives and experiences. *Early Childhood Folio*, *16*(1), 5–9.

Guo, K., & Dalli, C. (2012). Negotiating and creating intercultural relations: Chinese immigrant children in New Zealand early childhood education centres. *Australasian Journal of Early Childhood*, *37*(3), 129–136.

Haggerty, M., & Mitchell, L. (2010). Exploring curriculum implications of multimodal literacy in a New Zealand early childhood setting. *European Early Childhood Education Research Journal*, *18*(3), 327–339. https://doi.org/10.1080/1350293X.2010.500073

Haggerty, M., Simonsen, Y., Blake, M., & Mitchell, L. (2007). Investigating multiple literacies: Wadestown Kindergarten COI. *Early Childhood Folio*, *11*, 15–20.

Haig, B. D. (2010). Abductive research methods. *International Encyclopedia of Education*, *3*, 77–82. https://doi.org/10.1016/B978-0-08-044894-7.01688-2

Hatch, J. (1995). Ethical conflicts in classroom research: Examples from peer study from stigmatization in kindergarten. In J. Hatch (Ed.), *Qualitative research in early childhood settings* (pp. 213–222). Westport, CT: Praeger.

Hay, D. F., Caplan, M., & Nash, A. (2009). The beginnings of peer relations. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 121–142). New York, NY: The Guilford Press.

Health Research Council. (2007). Guidelines for health research with children. Retrieved from http://www.hrc.govt.nz/sites/default/files/HRC%20Guidelines%20for%20Health%20Research%20with%20Children.pdf

Henning, K., & Kirova, A. (2012). The role of cultural artefacts in play as tools to mediate learning in an intercultural preschool programme. *Contemporary Issues in Early Childhood*, *13*(3), 226–241. https://doi.org/10.2304/ciec.2012.13.3.226

Hull, G. A., & Nelson, M. E. (2005). Locating the semiotic power of multimodality. *Written Communication*, *22*(2), 224–261. https://doi.org/10.1177/0741088304274170

Human Research Ethics Committee. (2008). Appendix 5: Guidelines for observation and research in schools and early childhood services. Retrieved from http://www.waikato.ac.nz/__data/assets/pdf_file/0008/257750/Appendix-5-Guidelines-Schools-and-ECE.pdf

Inland Revenue. (2019). Paid parental leave. Retrieved from https://www.ird.govt.nz/yoursituation-ind/parents/parents-paid-parental-leave.html

Johansson, E. (2011). Introduction: Giving words to children's voices in research. In E. Johansson & J. White (Series Eds.), *Educational research with our youngest: Voices of infants and toddlers* (pp. 1–14). Dordrecht, Netherlands: Springer.

Johansson, E., & White, J. (2011). *Educational research with our youngest: Voices of infants and toddlers*. Dordrecht, Netherlands: Springer.

Junefelt, K. (2011). Early dialogues as a teaching device. In J. White & M. Peter (Series Eds.), *Bakhtinian pedagogy: Opportunities and challenges for research, policy and practice in education across the globe*. New York, NY: Peter Lang.

Kidwell, M. (2010). Gaze as social control: How very young children differentiate 'the look' from a mere look by their adult caregivers. *Research on Language and*

Social Interaction*, *38*(4), 417–449.

https://doi.org/10.1207/s15327973rlsi3804_2

Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, *6*(5), 26–41. https://doi.org/10.5430/ijhe.v6n5p26

Knoblauch, H., Tuma, R., Margolis, E., & Pauwels, L. (2011). Videography: An interpretative approach to video-recorded micro-social interaction. In *The SAGE handbook of visual research methods* (pp. 414–430). London, England: Sage.

Kress, G. (2000). Design and transformation: New theories of meaning. In B. Cope & M. Kalantiz (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 153–161). London, England: Routledge.

Kvale, S. (1996). *Interviews*. London, England: Sage.

Lee, S. Y. (2006). A journey to a close, secure, and synchronous relationship: Infant-caregiver relationship development in a childcare context. *Journal of Early Childhood Research*, *4*(2), 133–151. https://doi.org/10.1177/1476718X06063533

Lee, W., Carr, M., Soutar, B., & Mitchell, L. (2013). *Understanding the Te Whāriki approach*. Oxon, United Kingdom: Routledge.

Legendre, A., & Muchenbach, D. (2011). Two-to-three-year-old children's interactions with peers in child-care centres: Effects of spatial distance to caregivers. *Infant Behaviour and Development*, *34*(1), 111–125. https://doi.org/10.1016/j.infbeh.2010.10.004

Liszkowski, U., Carpenter, M., Henning, A., Striano, T., & Tomasello, M. (2004).

    Twelve-month-olds point to share attention and interest. *Developmental Science*,

    7(3), 297–307.

Liszkowski, U., Carpenter, M., & Tomasello, M. (2007). Reference and attitude in

    infant pointing. *Journal of Child Language*, *34*(1), 1–20.

    https://doi.org/10.1017/S0305000906007689

Løkken, G. (2004). *Toddlerkultur: Om ett- og toåringers sosiale omgang i barnehagen*

    (Toddler culture: Social interactions of one and two year olds in the barnehage).

    Oslo, Norway: Cappelen Akademisk Forlag.

Lynch, H., & Stanley, M. (2017). Beyond words: Using qualitative video methods for

    researching occupation with young children. *Occupation, Participation, and*

    Health, *38*(1), 56–66. https://doi.org/10.1177/1539449217718504

Marcella, J., & Howes, C. (2015). Using naturalistic observation to study children's

    engagement within early childhood. In O. Saracho (Series Ed.), *Contemporary*

    Perspectives in Early Childhood Education: *Vol. 2*. *Handbook of research*

    methods in early childhood education: Review of research methodologies (pp.

    25–53). Information Age Publishing.

Marjanovic-Shane, A., & White, J. (2014). When the footlights are off: A Bakhtinian

    interrogation of play as postupok. *International Journal of Play*, *3*(2), 119–135.

    https://doi.org/10.1080/21594937.2014.931686

Marsh, J., Brooks, G., Hughes, J., Ritchie, L., Roberts, S., & Wright, K. (2005). *Digital*

    beginnings: Young children's use of popular culture, media and new

    technologies. https://doi.org/10.4324/9780203420324

Marshall, C., & Rossman, G. B. (1999). *Designing Qualitative Research* (3rd ed.). Thousand Oaks, CA: Sage.

May, H. (2009). *Politics in the playground: The world of early childhood in New Zealand*. Dunedin, New Zealand: Otago University Press.

McLachlan, C. (2010). From a good idea to a robust research design: A discussion of challenges in designing early childhood research for beginning researchers. *NZ Research in ECE Journal*, *13*, 87–99.

McLachlan, C., Fleer, M., & Edwards, S. (2010). *Early childhood curriculum: Planning, assessment and implementation.* Melbourne, Australia: Cambridge University Press.

McLeod, S. (2018). Jean Piaget's theory of cognitive development. Retrieved from https://www.simplypsychology.org/piaget.html

McMullen, M. B., Addleman, J. M., Fulford, A. M., Moore, S. L., Mooney, S. J., Sisk, S. S., & Zachariah, J. (2009). Learning to be me while coming to understand we: Encouraging prosocial babies in group settings. *Young Children*, *64*(4), 20–28.

Mead, G. H. (1934). *Mind, self and society*. Chicago, IL: University of Chicago Press.

Mead, G. H. (1938). *The philosophy of the act*. Chicago, IL: University of Chicago Press.

Meltzoff, A. (2007). The 'like me' framework for recognizing and becoming an intentional agent. *Acta Psychologica*, *124*(1), 26–43. https://doi.org/10.1016/j.actpsy.2006.09.005

Meltzoff, A. (2009). Roots of social cognition: The like-me framework. In D. Cicchetti & M. Gunnar, *Minnesota Symposia on child psychology: Meeting the challenge*

of translational research in child psychology (pp. 29–58). Hoboken, NJ: John Wiley.

Meltzoff, A., & Moore, K. (2002). Imitation, memory, and the representation of persons. *Infant Behaviour and Development*, *25*(1), 39–61. https://doi.org/10.1016/S0163-6383(02)00090-5

Menter, I. J., Elliot, D., Hulme, M., Lewin, J., & Lowden, K. (2011). *A guide to practitioner research in education*. Thousand Oaks, CA: Sage.

Merleau-Ponty, M. (1962). *The phenomenology of perception*. London, England: Routledge and Kegan.

Merriam, S. B. (1998). *Qualitative research and case study applications in education* (2nd ed.). San Francisco, CA: Jossey-Bass Publishers.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation* (2nd ed.). San Francisco, CA: Jossey-Bass Publishers.

Miller, D. (2010). *Stuff*. Malden, MA: Policy Press.

Ministry of Education. (1996). *Te Whāriki. He whāriki mātauranga mō ngā mokopuna o Aotearoa: Early childhood curriculum*. Wellington, New Zealand: Learning Media.

Ministry of Education. (2005). *Kei Tua o te Pae. Assessment for learning: Early childhood exemplars. Books 1–10.* Wellington, New Zealand: Learning Media.

Ministry of Education. (2014). Vulnerable Children Act 2014: A practical guide for early childhood education services, ngā kōhanga reo, playgroups, schools and kura. Retrieved from http://www.education.govt.nz/assets/Uploads/VCAPracticalGuide.pdf

Ministry of Education. (2017a). Different kinds of early childhood education. Retrieved from https://parents.education.govt.nz/early-learning/early-childhood-education/different-kinds-of-early-childhood-education/

Ministry of Education. (2017b). *Te Whāriki. He whāriki mātauranga mō ngā mokopuna o Aotearoa: Early childhood curriculum*. Retrieved from https://education.govt.nz/assets/Documents/Early-Childhood/ELS-Te-Whariki-Early-Childhood-Curriculum-ENG-Web.pdf

Moll, H., & Tomasello, M. (2007). How 14- and 18-month-olds know what others have experienced. *Developmental Psychology*, *43*(2), 309–317. https://doi.org/10.1037/0012-1649.43.2.309

Mortimer, E. F., & Wertsch, J. V. (2003). The architecture and dynamics of intersubjectivity in science classrooms. *Mind, Culture, and Activity*, *10*(3), 230–244. https://doi.org/10.1207/s15327884mca1003_5

Moyles, J. (2002). Observation as a research tool. In M. Coleman & A. R. Briggs (Eds.), *Research methods in educational leadership* (pp. 172–191). Thousand Oaks, CA: Paul Chapman.

Mundy, P., & Newell, L. (2007). Attention, joint attention, and social cognition. *Current Directions in Psychological Science*, *16*(5), 269–274. https://doi.org/10.1111/j.1467-8721.2007.00518.x

Murray, M., Lynne. (2014). *The psychology of babies: How relationships support development from birth to two*. London, England: Constable & Robinson.

National Research Council. (2001). The power of video technology in international comparative research in education. In *The handbook of qualitative research in education*. Washington, D.C: National Academy Press.

National Scientific Council on the Developing Child. (2009). *Young children develop in an environment of relationships*. Cambridge, MA: Center on the Developing Child.

New Zealand Immigration. (2018). Immigration factsheet: Refugees and asylum seekers. Retrieved from https://www.beehive.govt.nz/sites/default/files/2018-09/Refugees%20and%20asylum%20seekers%20factsheet.pdf

New Zealand Ministry of Education. (2013). *Ka hikitia: Accelerating success, 2013-2017*. Wellington, New Zealand: Te Tāhuhu o te Mātauranga.

Nuttal, J. G. (2013). *Weaving Te Whāriki: Aotearoa New Zealand's early childhood curriculum document in theory and practice* (2nd ed.). Wellington, New Zealand: New Zealand Council for Educational Research.

Ødegaard, E. E. (2006). What's worth talking about? Meaning-making in toddler-initiated co-narratives in preschool. *Early Years*, *26*(1), 79–92. https://doi.org/10.1080/09575140500507892

Papalia, D., Olds, S., & Feldman, R. (2009). *Human development* (11th ed.). New York: McGraw Hill.

Parish-Morris, J., Golinkoff, R. M., & Hirsh-Pasek, K. (2013). From coo to code: A brief story of language development. In P. D. Zelazo (Ed.), *The Oxford handbook of developmental psychology* (Vol. 1, pp. 867–908). New York, NY: Oxford University Press.

Patterson, W. (2008). Narratives of events: Labovian narrative analysis and its limitations. In M. Andrews, C. Squire, & M. Tamboukou (Eds.), *Doing narrative research* (pp. 22–40). London, England: Sage.

Perszyk, D., & Waxman, S. (2016). Listening to the calls of the wild: The role of experience in linking language and cognition in young infants. *Cognition*, *153*, 175–181. https://doi.org/10.1016/j.cognition.2016.05.004

Petitto, L. A., Holowka, S., Sergio, L. E., Levy, B. G., & Ostry, D. J. (2004). Baby hands that move to the rhythm of language: Hearing babies acquiring sign language babble silently on the hands. *Cognition*, *93*(1), 43–73. https://doi.org/10.1016/j.cognition.2003.10.007

Petitto, L. A., Katerelos, M., Levy, B. G., Gauna, K., Tétreault, K., & Ferraro, V. (2001). Bilingual signed and spoken language acquisition from birth: Implications for the mechanisms underlying early bilingual language acquisition. *Journal of Child Language*, *28*(2), 453–496. https://doi.org/10.1017/S0305000901004718

Piaget, J. (1952). *The origins of intelligence in children* (M. Cook, Trans.). New York, NY: International Universities Press.

Piaget, J. (1954). *The construction of reality in the child* (M. Cook, Trans.). New York, NY: Basic Books.

Piaget, J. (1970). *Science of education and the psychology of the child* (D. Coltman, Trans.). New York, NY: Orion Press.

Recchia, S., & Dvorakova, K. (2012). How three young toddlers transition from an infant to a toddler child care classroom: Exploring the influence of peer relationships, teacher expectations, and changing social contexts. *Early Education and Development*, *23*(2), 181–201. https://doi.org/10.1080/10409289.2012.630824

Reddy, V. (2008). *How infants know minds*. Cambridge, MA: Harvard University Press.

Reddy, V., & Uithol, S. (2016). Engagement: Looking beyond the mirror to understand action understanding. *British Journal of Developmental Psychology*, *34*(1), 101–114. https://doi.org/10.1111/bjdp.12106

Rinaldi, C. (2005). Documentation and assessment: What is the relationship? In A. Clark, A. T. Kjørholt, & P. Moss (Eds.), *Beyond listening: Children's perspectives on early childhood services* (pp. 17–28). Bristol, England: Policy Press.

Ritchie, J. (2010). Being "sociocultural" in early childhood education practice in Aotearoa. *Early Childhood Folio*, *14*(2), 2–7.

Ritchie, J. (2013). Te Whāriki and the promise of early childhood care and education grounded in a commitment to Te Tiriti o Waitangi. In J. G. Nuttal (Ed.), *Weaving Te Whāriki: Aotearoa New Zealand's early childhood curriculum framework in theory and practice* (2nd ed., pp. 141–156). Wellington, New Zealand: NZCER Press.

Rockel, J. (2009). A pedagogy of care: Moving beyond the margins of managing work and minding babies. *Australasian Journal of Early Childhood*, *34*(3), 1–8. https://doi.org/10.1177/183693910903400302

Rogoff, B. (2003). *The cultural nature of human development*. New York, NY: Oxford University Press.

Rogoff, B., Moore, L., Correa-Chávez, M., & Dexter, A. (2015). Children develop cultural repertoires through engaging in everyday routines and practices. In J. Grusec & P. Hastings (Eds.), *Handbook of socialization: Theory and research* (2nd ed., pp. 472–498). New York, NY: Guilford Publications.

Ross, H. S., & Goldman, B. D. (1977). Establishing new social relations in infancy. In
    T. Alloway (Ed.), *Attachment Behaviour* (Vol. 3, pp. 61–79). Boston, MA:
    Springer.

Rutanen, N., Amorim, K. de S., Marwick, H., & White, J. (2018). Tensions and
    challenges concerning ethics on video research with young children:
    Experiences from an international collaboration among seven countries. *Video
    Journal of Education and Pedagogy*, *3*(7). https://doi.org/10.1186/s40990-018-
    0019-x

Salamon, A., Sumsion, J., & Harrison, L. (2017). *Infants draw on 'emotional capital' in
    early childhood education contexts: A new paradigm. 18*(4), 362–374.
    https://doi.org/10.1177/1463949117742771

Saxton, T. F., Colombo, J., Robinson, E. L., & Frick, J. E. (2000). Dyadic interaction
    profiles in infancy and preschool intelligence. *Journal of School of Psychology*,
    38(1), 9–25. https://doi.org/10.1016/S0022-4405(99)00034-5

Shin, M. (2012). The role of joint attention in social communication and play among
    infants. *Journal of Early Childhood Research*, *10*(3), 309–317.
    https://doi.org/10.1177/1476718X12443023

Singer, E., & De Haan, D. (2007). Social life of young children: Co-construction of
    shared meanings and togetherness, humour, and conflicts in child care centres.
    In B. Spodek & O. Saracho (Eds.), *Contemporary perspectives on research in
    early childhood social learning* (pp. 309–332). Charlotte, NC: Information Age
    Publishing.

Skinner, B. F. (1957). *Verbal behaviour*. New York, NY: Appleton.

Smidt, S. (2009). On language, concepts and thinking. In *Introducing Vygotsky: A guide for practitioners and students in early years education* (pp. 58–73). New York, NY: Routledge.

Sommer, D., Samuelsson, I. P., & Hundeide, K. (2010). What can we learn about child perspectives and children's perspectives from empirical research? In D. Sommer, I. P. Samuelsson, & K. Hundeide, *Child perspectives and children's perspectives in theory and practice* (pp. 151–161). Dordrecht, Netherlands: Springer.

Stainton Rogers, R., & Stainton Rogers, W. (1992). *Stories of childhood: Shifting agendas of child concern*. New York, NY: Harvester Wheatsheaf.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Stake, R. E. (2006). *Multiple case study analysis*. New York, NY: Guilford Publications.

Stats NZ Tatauranga Aotearoa. (2014). 2013 Census QuickStats about culture and identity. Retrieved from http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-culture-identity/languages.aspx

Stats NZ Tatauranga Aotearoa. (2019a). 2018 Census totals by topic: National highlights. Retrieved from https://www.stats.govt.nz/information-releases/2018-census-totals-by-topic-national-highlights

Stats NZ Tatauranga Aotearoa. (2019b). Population. Retrieved from https://www.stats.govt.nz/topics/population

Stetsenko, A., & Pi-Chun, G. H. (2015). The serious joy and the joyful work of play: Children becoming agentive actors in co-authoring themselves and their world

through play. *International Journal of Early Childhood*, *47*(2), 221–234. https://doi.org/10.1007/s13158-015-0141-1

Stratigos, T. (2015). Assemblages of desire: Infants, bear caves and belonging in early childhood education and care. *Contemporary Issues in Early Childhood*, *16*(1), 42–54. https://doi.org/10.1177/1463949114566757

Stratigos, T., Bradley, B., & Sumsion, J. (2014). Infants, family day care and the politics of belonging. *International Journal of Early Childhood*, *46*(2), 171–186. https://doi.org/10.1007/s13158-014-0110-0

Sumsion, J., & Goodfellow, J. (2012). 'Looking and listening-in': A methodological approach to generating insights into infants' experiences of early childhood education and care settings. *European Early Childhood Education Research Journal*, *20*(3), 313–327. https://doi.org/10.1080/1350293X.2012.704758

Sumsion, J., Harrison, L., Press, F., McLeod, S., Goodfellow, J., & Bradley, B. (2011). Researching infants' experiences of early childhood education and care. In D. Harcourt, B. Perry, & T. Waller (Eds.), *Researching young children's perspectives: Debating the ethics and dilemmas of educational research with children* (pp. 113–127). London, England: Routledge.

Swick, K., & Williams, R. (2006). An analysis of Bronfenbrenner's bio-ecological perspective for early childhood educators: Implications for working with families experiencing stress. *Early Childhood Education Journal*, *33*(5), 371–378. https://doi.org/10.1007/s10643-006-0078-y

Taylor, P. C. S., & Medina, M. N. D. (2013). Educational research paradigms: From positivism to multiparadigmatic. *Journal for Meaning-Centered Education*, *1*, 1–16. https://doi.org/10.13140/2.1.3542.0805

Te One, S. (2013). Te Whāriki: Historical accounts and contemporary influences 1990-2012. In J. G. Nuttal (Ed.), *Weaving Te Whāriki: Aotearoa New Zealand's early childhood curriculum framework in theory and practice* (2nd ed.). Wellington, New Zealand: NZCER Press.

Thanh, N. C., & Thanh, T. L. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science*, *1*(2), 24–27.

The Encyclopedia of New Zealand. (1996). The word "pākeha." Retrieved from https://teara.govt.nz/en/1966/maori-pakeha-pakeha-maori/page-2

The Office of Ethnic Communities: Te Tari Matawaka. (2014a). Languages in New Zealand. Retrieved from https://ethniccommunities.govt.nz/story/languages-new-zealand

The Office of Ethnic Communities: Te Tari Matawaka. (2014b). Our languages: Tō tātou reo. Retrieved from https://ethniccommunities.govt.nz/story/our-languages-t%C5%8D-t%C4%81tou-reo

The Sutton Trust. (2014). *Sound foundations: A review of the research evidence on quality of early childhood education and care for children under three*. Retrieved from https://www.suttontrust.com/wp-content/uploads/2014/01/1sound-foundations-jan2014-3-1.pdf

The University of Waikato. (2019). Child protection policy. Retrieved from https://www.waikato.ac.nz/__data/assets/pdf_file/0010/285661/Child-Protection-Policy.pdf

Thyssen, S. (2000). The child's start in day care centre. *Early Childhood Development and Care*, *161*(1), 33–56. https://doi.org/10.1080/0030443001610103

Tomasello, M., & Carpenter, M. (2007). Shared intentionality. *Developmental Science*, *10*(1), 121–125. https://doi.org/10.1111/j.1467-7687.2007.00573.x

Tomasello, M., Carpenter, M., Call, J., Behne, T., & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioural and Brain Sciences*, *28*(5), 675–735. https://doi.org/10.1017/S0140525X05000129

Tomasello, M., Carpenter, M., & Liszkowski, U. (2007). A new look at infant pointing. *Child Development*, *78*(3), 705–722. https://doi.org/10.1111/j.1467-8624.2007.01025.x

Van Oers, B., & Hännikäinen, M. (2001). Some thoughts about togetherness: An introduction. *International Journal of Early Years Education*, *9*(2), 101–108. https://doi.org/10.1080/713670686

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Cambridge, MA: Harvard University Press.

Walker, R. (2008). The philosphy of Te Whatu Pokeka: Kaupapa Māori assessment and learning exemplars. *The First Years: Ngā Tau Tuatahi. New Zealand Journal of Infant and Toddler Education*, *10*(2), 5–10.

Walsh, D., Bakir, N., Lee, T. B., Chung, Y., & Chung, K. (2007). Using digital video in field-based research with children: A primer. In J. Hatch (Ed.), *Early childhood qualitative research* (pp. 43–62). New York, NY: Routledge.

Wegerif, R. (2007). *Dialogic education and technology: Expanding the space of learning*. New York, NY: Springer.

Wengraf, T. (2001). *Qualitative research interviewing: Biographic narrative and semi-structured methods*. Thousand Oaks, CA: Sage.

Whaley, K. L., & Rubenstein, T. S. (1994). How toddlers 'do' friendship: A descriptive analysis of naturally occurring friendships in a group child care setting. *Journal of Social and Personal Relationships*, *11*, 383–400. https://doi.org/10.1177/0265407594113005

White, J. (2011). Summary: Lessons learnt and future provocations. In E. Johansson & J. White (Series Eds.), *Educational research with our youngest: Voices of infants and toddlers* (Vol. 5). Dordrecht, Netherlands: Springer.

White, J. (2013). Cry, baby, cry: A dialogic response to emotion. *Mind, Culture, and Activity*, *20*(2), 62–78. https://doi.org/10.1080/10749039.2012.692107

White, J. (2014). A dialogic space in early childhood education: Chronotopic encounters with people, places and things. In L. J. Harrison & J. Sumsion (Series Eds.), *Lived spaces of infant-toddler education and care: Exploring diverse perspectives on theory, research and practice* (pp. 211–223). Dordrecht, Netherlands: Springer Netherlands.

White, J. (2015). Bringing dialogism to bear in the early years. *International Journal of Early Childhood*, *47*(2), 213–216. https://doi.org/10.1007/s13158-015-0145-x

White, J. (2016). *Introducing dialogic pedagogy: Provocations for the early years*. Oxon, United Kingdom: Routledge.

White, J. (2017). Mikhail Bakhtin: Dialogic language and the early years. In L. E. Cohen & S. Waite-Stupiansky (Eds.), *Theories of early childhood education: Developmental, behaviorist, and critical* (pp. 131–148). New York, NY: Routledge.

White, J., & Mika, C. (2013). Coming of age? Infants and toddlers in curriculum. In J. G. Nuttal (Series Ed.), *Weaving Te Whāriki Aotearoa New Zealand's curriculum*

document in theory and practice (2nd ed., pp. 93– 115). Wellington, New

Zealand: NZCER Press.

White, J., Peter, M., & Redder, B. (2014). Infant and teacher dialogue in education and

care: A pedagogical imperative. *Early Childhood Research Quarterly*, *30*(2015),

160–173. https://doi.org/10.1016/j.ecresq.2014.10.008

White, J., & Redder, B. (2015). Proximity with under two-year-olds in early childhood

education: A silent pedagogical encounter. *Early Childhood Development and

Care*, *185*(11–12), 1783–1800. https://doi.org/10.4324/9781315601564

White, J., Redder, B., & Peter, M. (2015). The work of the eye in infant pedagogy: A

dialogic encounter of 'seeing' in an education and care setting. *International

Journal of Early Childhood*, *47*(2), 283–299. https://doi.org/10.1007/s13158-

015-0139-8

Williams, S. T., Ontai, L. L., & Mastergeorge, A. M. (2007). Reformulating infant and

toddler social competence with peers. *Infant Behaviour and Development*, *30*(2),

353–365. https://doi.org/10.1016/j.infbeh.2006.10.008

Willig, C. (2008). *Introducing qualitative research in psychology*. Maidenhead,

England: Open University Press.

Willis, J. (2007). *Foundations of qualitative research: Interpretive and critical

approaches*. https://doi.org/10.4135/9781452230108

Wittmer, D. (2012). The wonder and complexity of infant and toddler peer

relationships. *Young Children*, *67*(4), 16–25.

Woodhead, M., & Faulkner, D. (2008). Subjects, objects or participants? Dilemmas of

psychological research with children. In P. Christensen & A. James (Eds.),

Research with children: Perspectives and practice, (pp. 10–39). London, England: Taylor & Francis Group.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

Appendices

Appendix A: Information sheet

Kia ora. My name is Yasmine and I am completing my Master of Education degree at the University of Waikato. As part of my degree, I am undertaking a small-scale study on how infants with different home languages communicate together, crossing their language barriers, yet, make agreements, share toys, laugh together, and even have conflicts. Recent research highlights that infants are capable of having friendships with other children. I am particularly interested in how communication, or dialogue in particular, occurs in these friendships when there is no shared home-language between the infants. The main purpose of my study is to identify how intercultural communication (dialogue) can be promoted in infants to recognise the ways in which teachers can enhance children's sociocultural and emotional competence as they grow to be a part of a diverse society.

Video-recording

Upon the attainment of informed consent from the participating families, I will begin video-recording infants' interactions over a period of two-weeks, using a handheld Sony video-recording camera. The recordings will range from 5-20 minutes to capture valuable interactions that the infants have with each other. The video-recordings will be used to shape the second part of my study: interviews with the families of the infants. It is noteworthy to highlight that the video-recordings will only take place with the assent of the infants. I will pay close attention to their body-language, gestures, and utterances to make ethical decisions about recording the infants. If the infants show any dissent or discomfort with my recordings, I will immediately stop the recording.

Interview

I would like to interview the participating families, using the recorded videos as prompts for the questions that will be asked. The purpose of the interview is to use the voices of families to bring out significant cultural knowledge about their children's communication, as well as an in-depth transcription of the infants' communication in the videos. The interviews will take up to an hour and will include going over some of the videos and asking questions about the families' children's interactions. I would like to audio-record the interviews to revisit the contributions of participating families. I will

transcribe the recording and give the families a copy of the transcription. They will have the opportunity to amend or add to the transcript.

Use of data, anonymity, and confidentiality

The data from this study will be used to form a major component of my thesis. This can be accessed on the University of Waikato Research Commons Database (https://researchcommons.waikato.ac.nz/). The findings of this study may ultimately be used in scholarly articles, publications, and presentations. The early childhood centre, participating families, and children will remain anonymous when the research is presented. Children's faces will be blurred to hide their identities, and pseudonyms will be given to all participants to protect their identities. While every effort will be made to protect anonymity of all participants, this cannot be guaranteed.

Participation and Withdrawal from Study

Participation in this study is completely voluntary (by choice). Families who wish to participate will be given a consent form to read and sign. As infants will be involved in the study, ethical assent is a crucial part of this study. I will be paying close attention to their body language and verbal cues to guide my understanding of their willingness to take part in the study. If the infants are uncomfortable with the video recording, the recorder will be turned off immediately. Participants have the right to withdraw from the study at any given point up until they review and approve of their interview transcripts.

If you have any questions or concerns regarding this study, please feel free to contact me on my e-mail address.

Yasmine Serhan. e-mail: ys309@students.waikato.ac.nz

If there are any further questions that you would like to have answered, please contact my thesis supervisor:

Associate Professor Linda Mitchell

Phone: 07 838 7734 (extension 7734)   e-mail: linda.mitchell@waikato.ac.nz

Appendix B: Questions for T's parents

Spatial Awareness video

How would you describe T's communication style?

What sort of physical intimacy does T normally have in her home environment? For example, does she have cuddles before bed, holds hands when walking, etc?

Mostly, is the physical affection initiated by her or by you?

Can you please describe a common scenario that would upset T in the home environment which involves 'being in her space'?

Tell me about her verbalisation as well as her non-verbal communication in those scenarios.

As the instance in (*0:36-0:44*), T expresses her discomfort in other people's interactions with her. Can you tell me about what you see in this section?

Are there any instances in this video where you felt that there was a mutual understanding between Ellie and T? If yes, why?

Are there any instances in this video where you felt that there was a conflict between Ellie and T? If yes, why?

Do you think T communicates with unfamiliar children the same way she communicates with Ellie?

What do you think T's facial expression/body language means in this section (*0:00-0:22*)?

What do you think T's facial expression/body language means in this section (*0:24-0:36*)?

<center>*Reading Books* video</center>

In the home environment, does T have opportunities to engage in activities individually (solo-play) with those around her do something else?

Does T play "peek-a-boo" at home?

Does she have opportunities to peep through an object to view the other person on the other side at home? (i.e: windows, glass, see-through curtains, etc?)

Throughout this video, T regularly keeps an eye out for Ellie, carefully observing her actions. Would you describe T to normally be an observant character?

Is turn-taking something that is valued in your home environment? How do you support this when T does not have siblings for instance?

Appendix C: Questions for Ellie's parents

Spatial Awareness video

How would you describe Ellie's communication style?

What sort of physical intimacy does Ellie normally have in her home environment? For example, does she have cuddles before bed, holds hands when walking, etc?

Mostly, is the physical affection initiated by her or by you?

Can you please describe a common scenario that would upset Ellie in the home environment which involves 'being in her space'?

Tell me about her verbalisation as well as her non-verbal communication in those scenarios.

As the instance in (*0:02-0:21*), Ellie uses a variation of words and hand-gestures to communicate with T. Can you tell me about what you see in this section?

Are there any instances in this section (0:22-0:45) where you felt a mutual understanding between Ellie and T? If yes, why?

Are there any instances in this video where you felt that there was a conflict between Ellie and T? If yes, why?

Do you think Ellie communicates with unfamiliar children the same way she communicates with T?

What do you think Ellie's facial expression/body language means in this section (*0:24-0:41*)?

How would you describe Ellie's strategy in resolving or escaping conflict?

Reading Books' video

In the home environment, does Ellie have opportunities to engage in activities individually (solo play) with those around her do something else?

Does Ellie play "peek-a-boo" at home?

Does she have opportunities to peep through an object to view the other person on the other side at home? (i.e: windows, glass, see-through curtains, etc?)

Are there any instances in this video where you felt that that there is a shared understanding between Ellie and T?

How do you know that Ellie understands T throughout this video?

Is turn-taking something that is valued in your home environment? How do you support this when Ellie does not have siblings for instance?

Appendix D: Ethical consent sheet for participant parents

Informed Consent Sheet

"Intercultural dialogue between two infants in a multicultural early childhood education context in Aotearoa New Zealand"

Name: _____

Please complete the following checklist.

Tick [✓] the appropriate box for each point.	YES	NO
I have received a copy of the Information Sheet describing the research project.		
Any questions that I have, relating to the research, have been answered to my satisfaction.		
I understand that I can ask Yasmine further questions about the research at any time during my participation.		
When I sign this consent form, I will retain ownership of my interview, but I give consent for Yasmine to use the interview for the purposes of the research outlined in the Information Sheet.		
I understand that I will be given an opportunity to read a transcript of my interview and amend it if I wish.		
I am aware that I can withdraw my participation at any time until I approve my interview transcript.		
During the interview, I understand that I do not have to answer questions unless I am happy to talk about the		

topic. I can stop the interview at any time, and I can ask to have the recording device turned off at any time.		
I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.		
I understand that taking part in this study is voluntary (my choice) and that I may withdraw my child and/or myself from the study (prior to my approval of my interview transcript) at any time without being disadvantaged in any way.		
I understand that if I withdraw my child and/or myself from the study then I will be offered the choice between having any data that is identifiable as belonging to my child and/or myself removed or allowing it to continue to be used.		
I understand that once the interview transcripts have been approved, removal of our data may not be possible.		
I am aware that I will be given access to my child's video-recordings on a USB stick, which I can keep.		
I understand that all the notes, video-recordings, audio-recordings, and transcripts will remain confidential and that access to my gathered data will be restricted to Yasmine's supervisor, examiner, and myself.		

I understand the identity of my child and I will remain confidential in the presentation of the research findings] I will be encouraged to choose a pseudonym for my child.		
I understand that ethical approval for this interview has been received from The University of Waikato Faculty of Education Research Ethics Committee.		
I agree to participate in this study.		
I agree to my child taking part in this research.		
I am aware of where to find the final thesis once this study is complete.		
I wish to receive a summary of the research findings		

I understand that if I have any concerns regarding this study which I would prefer not to discuss with the Yasmine, I can contact:

Associate Professor Linda Mitchell

Faculty of Education, The University of Waikato

Private Bag 3105 Hamilton

e-mail: linda.mitchell@waikato.ac.nz

Phone: (07) 838 7734

Child's name : _____

Parent/Guardian's name : _____

Parent/Guardian's Contact Details : _____

_____

_____

Parent/Guardian Signature: _____ Researcher Signature: _____

Date: _____ Date: _____

Appendix E: Ethical consent for centre director

Informed Consent Sheet

"Intercultural dialogue between two infants in a multicultural early childhood education context in Aotearoa New Zealand"

Name: _____

Please complete the following checklist.

Tick [✓] the appropriate box for each point.	YES	NO
I have received a copy of the Information Sheet describing the research project.		
Any questions that I have, relating to the research, have been answered to my satisfaction.		
I understand that I can ask Yasmine further questions about the research at any time during my participation.		
When I sign this consent form, I give consent to commence her data collection for the purposes of the research outlined in the Information Sheet.		
I understand that Yasmine is seeking consent from two infants and their families in this study. Other children and teachers will not be invited to take part in the study.		
I understand that all the notes, video-recordings, audio-recordings, and transcripts will remain confidential and that access to my gathered data will be restricted to Yasmine's supervisor, examiner, and myself.		

I understand the identity of the participant infants and families will remain confidential in the presentation of the research findings. The centre will also be made anonymous.		
I understand that ethical approval for this interview has been received from The University of Waikato Faculty of Education Research Ethics Committee.		
I agree to participate in this study.		
I am aware of where to find the final thesis once this study is complete.		
I wish to receive a summary of the research findings		

I understand that if I have any concerns regarding this study which I would prefer not to discuss with the Yasmine, I can contact:

Associate Professor Linda Mitchell

Faculty of Education, The University of Waikato

Private Bag 3105 Hamilton

e-mail: linda.mitchell@waikato.ac.nz

Phone: (07) 838 7734

Child's name : _____

Parent/Guardian's name : _____ ___

Parent/Guardian's Contact Details : _____

_____

_____

Parent/Guardian Signature: _____ Researcher Signature:_____

Date:_____   Date:_____

Appendix F: Video-recording notice

Video-Recording Today

This notice is to let you know that Yasmine Serhan from The University of Waikato will be video-recording here today for her research project, *Intercultural dialogue between two infants in a multicultural early childhood education context in Aotearoa New Zealand* at Whekī at Campus Creche. Only the children for whom consent has been given by parents will be videoed. In other words, other parents (non-participants in the study) who enter the centre should be assured that the videoing will not include their children.

Yasmine Serhan

Appendix F: Video-recording transcript Spatial Awareness

Critical episode 1A transcript (0:00-0:22)

Line	Action
Line 1	T and Ellie are individually playing in the main playroom, 1.5 meters apart from each other.
Line 2	Ellie rolls the carpet and examines the base of the carpet, while T is simultaneously reaching for books from the bookshelf-close to the corner of the fish tank.
Line 3	A couple of books fall from the bookshelf, one of which T picks up. The falling of the books causes noise to break the sound of soft music playing in the background.
Line 4	Ellie turns her head towards T, extends her arm out with splayed fingers in T's direction and says "no".
Line 5	T continues to look through the book, still 1.5 meters away from Ellie.
Line 6	Ellie pulls herself up to stand and walks towards T.
Line 7	Ellie stands besides T and puts a hand on T's forehead.
Line8	T looks at Ellie's hand while still holding the book.
Line 9	Ellie says "go" and verbalises "geeeee" to T.
Line 10	T makes eye-contact with Ellie, smiles, and sticks her tongue out playfully.
Line 11	Ellie simultaneously makes eye-contact with the researcher and shows a toothy smile.
Line 12	T, still holding the book, rotates her body and slightly shuffles aside, making space for Ellie.

Appendix G: Video-recording transcript Exploring T's Tummy

Critical episode 1B transcript (0:22-0:45)

Line	Action
Line 13	Ellie says "dakh" [which is the informal Dutch word for "bye"].
Line 14	T flips through the pages of the book in her new spot and does not respond to Ellie's verbal cue.
Line 15	Ellie kneels down to put a hand on T's back and pulls T's shirt.
Line 16	Ellie sits down and says "oooo". T rotates herself to directly face Ellie.
Line 17	T notices that her T-shirt is sticking out from her jumper. She holds her T-shirt, laughs, and makes eye-contact with the researcher.
Line 18	Ellie simultaneously looks at T's belly. Ellie makes a vocalisation and shuffles closer to T.
Line 19	Ellie lifts up T's protruding shirt and jumper to reveal her belly.
Line 20	T makes eye-contact with Ellie as her T-shirt is being lifted.
Line 21	Ellie lifts T's shirt even further up, causing T to lose her balance.
Line 22	T shows a "concerned" look on her face.
Line 23	T turns her body away from Ellie in attempt to stop Ellie from lifting her shirt forcefully.
Line 24	Ellie is still gazing at T's shirt.
Line 25	Ellie tries to lift T's shirt again. T uses her fingers to pull her shirt down, stopping Ellie.
Line 26	Researcher intervenes in the dialogue. She says: "Ellie. I don't think T likes that."
Line 27	Ellie makes eye-contact with the researcher briefly, then returns to lift T's shirt.
Line 28	The researcher repeats once more: "Ellie. I don't think T likes it when you pull her shirt like that".

Appendix H: Video-recording transcript Reading Books Together

Critical episode 2A transcript (0:00-0:22)

Line	Action
Line 1	T grabs a book from the bookshelf and crawls towards Ellie.
Line 2	Ellie sees the researcher pulling out the camera, so she walks towards the researcher.
Line 3	T, sitting close to Ellie, gazes at the book in her hand.
Line 4	Shortly later, Ellie turns around to face T. Ellie makes eye-contact with T.
Line 5	T makes eye-contact with Ellie.
Line 6	Ellie and T head towards the bookshelf together as Ellie babbles.
Line 7	Ellie points to the blue book on the top shelf and says something similar to "*this*"
Line 8	T pulls herself up to stand, using the bookshelf for support, and holds the blue book, while Ellie continues to talk.
Line 9	Ellie points to the green book on the lower shelf and says, "*that*".
Line 10	Ellie points at the blue book that T is holding and says, "*that*".
Line 11	Ellie picks up the green book and says, "*that...dook* [book]".
Line 12	Ellie and T have made their book selections.
Line 13	T sits down and opens her book, and watches Ellie walk with the green book.
Line 14	Ellie, still holding onto her green book, sits down about 0.5 meters away from T, directly facing her. Ellie exhales loudly as she sits.
Line 15	T still has her gaze on Ellie.
Line 16	Ellie babbles to T "dubadubadub" and flips her book around.
Line 17	Ellie and T make eye-contact, and T smiles at Ellie as Ellie babbles.
Line 18	Ellie's book falls onto the ground.