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The Reciprocal Influences of Chinese Immigrant Children’s Home-Kindergarten Experiences on their Literacy Learning and Identity Construction in Aotearoa New Zealand

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Abstract

The research investigated the experiences of Chinese immigrant children in home-kindergarten routines in Aotearoa New Zealand with the purpose of providing early childhood practitioners with educational implications. Based on the emergent and sociocultural perspectives on early learning development, this study was theoretically framed by third-generation activity theory (Engeström, 2001; 2014), which explains the complex relationships between interconnected activity systems and expansive learning. A multiple case study design was used with focal children, aged between four- to five-year-old, from four Chinese immigrant families and two English kindergartens in Auckland. Four types of data (i.e., interviews, narrative tasks, observations and children’s artefacts) were accessed from the four children, their parents, siblings, teachers, and peers over four months. Data analysis was completed in three waves (i.e., individual case story, activity theory, and cross-case analysis).

Findings revealed that each of the children contacted literacy via their unique engagement in routines (e.g., spontaneous conversation, role play, and singing) in and across the two settings. The children were active drivers of learning when their prior home-kindergarten experiences, serving as the cultural tools, generated contradictions and mediated participants’ discourses as the activities unfolded. The children constructed learner, linguistic and cultural identities by varying their roles in the activities. This thesis contributes to the body of activity theory research via the investigation of Chinese children’s bridging learning opportunities across different cultural contexts. It also
provides early childhood educators with insights of establishing seamless connections between children’s literacy experiences and learning across different cultural contexts.
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CHAPTER ONE

INTRODUCTION

This study investigated four Chinese immigrant children’s experiences of literacy learning and identity construction at home and in kindergarten in Aotearoa New Zealand. The purpose was to increase understanding of Chinese immigrant children’s learning experiences and to identify educational implications for early childhood education (ECE) teachers and researchers. The study examined multiple activities in which the children engaged in during home-kindergarten routines and how their experiences from one setting (i.e., home or kindergarten) influenced their meaningful communication with others in the other setting (i.e., kindergarten or home). The research also explored the children’s early identity constructed in the activities. Parents’ perspectives on and expectations for the children’s early learning in the two settings and their experiences of working with kindergarten teachers were discussed.

This chapter primarily presents my personal and the theoretical rationale of the research. It briefly introduces the research context in the second section, followed by two sections, the research questions and an overview of the research. The organisation of the thesis is outlined in the last section of the chapter.

Rationale for the Research

Children’s learning begins from birth and is a dynamic process (Clay, 1982).
Understanding and building on children’s experiences to extend their learning, yet, are not easy goals for teachers to achieve despite the importance. Trawick-Smith (2014) recounted a conversation between a child and a teacher:

(A child is holding up a piece of paper with horizontal lines of scribbles written on it.)

Child: Look! Read this!

Teacher: Oh! Interesting! You’ve done some writing. Why don’t you read it to me!

Child: You read it!

Teacher: Well, I’d like you to read it to me.

Child: No! You read it!

(The child answered in an annoyed tone.)

Teacher: Since this is your own story, in your own writing, I’d like you to be the one to read it.

(The child exhaled in exasperation.)

Child: All right! It says right here, “No other people allowed in the blocks.” (p. 300)

Trawick-Smith (2014) did not clarify where or when this story happened, or the age of the child. We also have no idea about how the child knew that other individuals could read and understand what he or she wrote on the paper. Nevertheless, the child obviously believed that he or she could pass information to others by writing. On demand, the writing could be read out to help others (i.e., the teacher in the story) make meaning. The
child’s intention of expressing his or her meaning with the writing challenged the teacher’s understanding, as the teacher might have no idea about what had happened “in the blocks” and led to the child’s writing. Although the meaning was finally shared between the child and the teacher, the seven-turns conversation, through which the child might have deepened his or her concept of the relationships between meaning-making, writing, and reading, might have ended at anywhere without the child’s willingness of sharing and cooperation and the teachers’ persisting request and encouragement.

Stories like this may happen at both home and early childcare centres, where children communicate with their parents, siblings, teachers, and peers (Clay, 2014; McNaughton, 1995; Paley, 1981; Tizard & Hughes, 2002). In addition to verbal language, non-verbal language, such as facial expressions, body language, and children’s artefacts (e.g., scribbles, drawing, early writing, and craft), are usually used by children in the interactions. These stories give rise to questions about children’s learning, especially literacy learning in the early years. For example, what influences children’s understanding and responding in everyday activities, such as talking and scribbling? From when and where do children learn the relationships between talking, writing, and reading? How can children's literacy learning be extended based on their previous experiences? As a former ECE teacher, I have been interested in seeking possible answers to these questions. My personal and theoretical justification is the basis for the rationale for this study.

**Personal justification.** A Chinese proverb states that at least we can learn from one
when three of us walk together. In other words, experiences, perceptions, and knowledge of other individuals, no matter how old or who they are, can contribute to our understanding and learning. This proverb exemplifies my beliefs as a member of the Chinese cultural group and a previous ECE teacher in China.

I taught kindergarten for three years in Guangdong Province in the People’s Republic of China. ECE is valued in China with an old Chinese saying, "You may figure out a person's future from his childhood." Parents do anything they can to facilitate their children’s early education. Children may have access to various learning-related materials (e.g., storybooks, writing tools, and electronic devices), hands-on experiences in daily life, and short and long trips with their parents, depending on the economy of each family. Nowadays, whether their children can receive a high-quality education may even influence parents’ decision about where they would buy a house. Some families move from one district of a city to another so that their children can be enrolled in a better kindergarten. Parents are anxious to know how their children’s learning is progressing as an entry to senior school with high quality is competitive. Conversations between children’s parents and teachers often concentrate on children’s learning at home and in kindergarten.

The parents at the kindergarten, where I taught, frequently reported that their children sang nursery rhymes, talked about stories and games, drew pictures, and wrote Chinese characters at home. Children’s engagement in some of the activities surprised me as some rarely showed interests in these activities in kindergarten. Two mothers heard
their children speaking Cantonese, the dialect of the southern province, with other children during pick-up time. Later, they even heard their children using Cantonese at home. The mothers were impressed because Mandarin was the only language used by the children’s family members and the dominant language used by teachers and children in kindergarten. Meanwhile, my colleagues and I noticed differences among children during kindergarten routines. Some children were more interested (e.g., frequently initiating), engaged (e.g., spending a long time and ignoring the surroundings), experienced (e.g., knowing how to do and having related stories to tell) in specific activities (e.g., role play, puzzle, and writing), compared to their peers who showed less or no interest in these activities but preferred and engaged in other activities.

These phenomena provide ECE teachers, parents, and researchers with moments to celebrate children’s early learning every day. Yet, deep in my mind, I was curious and eager to understand more about the origins and process of early learning. My doctoral study at the University of Auckland, New Zealand offered opportunities for me to explore the topics in a multilingual and multicultural context. I remember the misunderstandings in the communication between me, a Chinese student, and my English-speaking fellow students at the beginning of my doctoral journey, although I have learned English for more than 15 years. For example, my fellow students were surprised when I offered them a cup of tea during break time because they saw tea leaves, which I brought from China, in the cup. Instead, tea bags were more popular with the locals. I often felt confused when they talked about “black tea”, which meant “红茶[red tea]” in Mandarin. In China, there is white, green, red, and black tea, whose tea leaves
grow in different parts of the country and are processed in various ways. My parents and I preferred “红茶[red tea]” in the morning thanks to it warming up our stomach and “黑茶[black tea]” after dinner due to it helping digestion. Considering the language and culture difference, I spent a whole week to collect information about diverse tea in China and finally explained how Chinese drink tea to my fellow students.

My previous working and living experiences and bilingual and bicultural identities inspired me to explore how Chinese immigrant children live, communicate, and learn in New Zealand. These children may be used to Mandarin, Cantonese, or other Chinese dialects and cultures at home, but may have to deal with English, Māori, or other languages and cultures at early childhood centres. Reviewing scholarly articles and empirical research on children’s early literacy development helped me establish the theoretical justification of this study.

**Theoretical justification.** Children’s early literacy development has been extensively studied over the past three decades. Researchers’ perspectives on children’s early literacy development have evolved and described a variety of cultural practices. Teale and Sulzby (1986) reviewed and summarized four perspectives of early literacy development evolved from the late 1800s to the 1980s. They are: (a) benign neglect, early literacy development minimally addressed; (b) instructional lockstep, “same instruction for all children in a given grade at the same time” (p. viii); (c) reading readiness, developed from maturation theory; and (d) emergent literacy, new learning developing from birth.
Hill (1997), drawing on Crawford’s (1995) work, described six theoretical perceptions of early literacy development. They are: (a) maturational readiness, valuing the biological process of neural ripening; (b) developmental readiness, recognising the precedence of nurturing in children's readiness; (c) connectionist, placing priority on code learning (i.e., letterforms and spelling patterns); (d) emergent, regarding literacy learning as a dynamic, on-going process beginning earlier than formal schooling; (e) social constructivist, addressing the influence of sociocultural practices on literacy learning; and (f) critical perspectives, highlighting the influences of sociocultural practices, home-school match, and children's identity formation. Hill’s summary included not only viewpoints (i.e., reading readiness and emergent) from Tealze and Sulzby’s (1986) categories but also more perspectives focusing on the impact of social-cultural practices on early literacy. Neuman and Dickson (2002) concluded that biological, cognitive, emergent, and sociocultural perspectives are the main theoretical perspectives in early literacy research.

Hill (1997) suggested that researchers’ perspectives on early literacy development influence methods and approaches for empirical research. To achieve the research aims of investigating preschool Chinese immigrant children’s literacy learning and identity construction at home and in school in Aotearoa New Zealand, the theoretical justification of this study is based on emergent and sociocultural perspectives. According to Fellow and Oakley (2010), these two perspectives are currently the most influential and popular concepts with ECE researchers.
Emergent perspective. The phrase emergent literacy was first used by Clay (1966) in her doctoral thesis (Ihmeideh, 2014; McNaughton, 1995; Teale & Sulzby, 1986; Whitehurst & Lonigan, 1998). Clay (1966) investigated the early reading behaviours of 5-year-old new entrants to school in Aotearoa New Zealand and introduced the concept of new literacy skills continually emerging during children’s development. With further research, Clay described young children’s developing control over literacy learning (Clay, 1991), formulating a systematic theoretical account of early literacy development through her clinical orientation to observation and high frequency of contact with children, parents, and educators (Gaffney & Askew, 1999). Clay’s (1982) emergent perspective proposed that children literacy learning emerges since they are born and the on-going process of the interactions between a child and other individuals sustains the learning.

Clay’s emergent perspective influenced other researchers in ECE fields. Whitehurst and Lonigan (1998) believed that literacy is a “developmental continuum, with its origins early in the life of a child, rather than an all-or-none phenomenon when children start school” (p. 848). Different aspects of early literacy emerge due to children’s individual development and participation in events or activities at home, early childhood centre, and community (Adams, 1990; Goodman, 1986; Teale & Sulzby, 1986). Crawford (1995) also argued that literacy learning begins in children’s early life and happens in meaningful and authentic environments, where children not only engage in writing and reading but also oral communication. Early literacy activities, such as talking, singing, scribbling, drawing, and storytelling, in which children engage in the home and school settings, are pathways for their later literacy development (Clay, 2014; Levy, Gong,
In sum, advocates of the emergent perspective acknowledge children’s early literacy development from birth and encourage children’s learning in natural contexts. As a coin has more than one side, one theoretical perspective is inadequate in explaining children’s early literacy learning, which is complex and influenced by various factors in natural contexts. A sociocultural perspective highlights the influences of social and cultural practices on early literacy learning, which otherwise may be overlooked.

**Sociocultural perspective.** A sociocultural perspective is drawn primarily from Vygotsky’s theory that social-cultural tools mediate human beings’ intellectual activity, such as thinking and learning (Fellowes & Oakley, 2010; Trawick-Smith, 2014). With this perspective, researchers examined school-age children’s learning and developing concepts in collaboration with other adults and peers in and out of school (Moll, 1994). Young children are competent and capable of learning and making sense of the signs and symbols of their culture; and the sophistication of their interactions with literacy increases through everyday practices and experiences within social contexts (Hill, 1997; Rogoff at al., 2007; Smith, 2002, 2013). Meanwhile, the influence of children’s experiences, through their participation in events or activities in various social and cultural contexts, on literacy learning is of interest to researchers (Barratt-Pugh, 2000; Gee, 2002; Jordan, 2010; Reid & Comber, 2002; Rogoff, 2003).

From a sociocultural perspective, researchers found that some children started kindergarten with more potential for literacy success than others because kindergarten...
practices were closely aligned to home experiences (Barbarin, Downer, Odom, & Head, 2010). Continuity between home-school practices was advocated to promote children’s learning (Heath, 1983). Schick (2014), however, argued that the continuity between home and school literacy practices might play complex roles in children’s outcome as discontinuity led to further learning in some aspects, such as print concepts, conversational autonomy, and literate language.

Children’s identities (e.g., learner, lingual, and cultural) reciprocally influence and are influenced by children’s literacy learning within sociocultural practices (Black Korobkova, & Epler, 2014; Compton-Lilly, 2006; Cowie and Carr, 2009; Ferdman, 1990; Gee, 2002; Jones Diaz, 2003). Researchers, thus, have valued approaches and intervention programmes, such as promoting educators’ awareness of home-school differences (Barbarin et al., 2010; Guo, 2010; Hill & Nichols, 2009) and organising workshops and coaching parents for home book reading (Tran, McNaughton & Parr, 2011), to facilitate children’s literacy experiences across different educational settings based on a sociocultural perspective.

The emergent and sociocultural perspectives gave me preliminary clues to answer the questions brought about by the story described by Trawick-Smith (2014). The child’s initiating, understanding and responding in communication may originate in his or her early home or kindergarten experiences, which may have also contributed to the child’s construction of an original concept about the relationships between early writing and reading. Thanks to the teacher's response in the conversation, the child's engagement in
writing, reading, and talking may reappear, or be extended, in his or her interactions with other persons, such as family members and kindergarten peers.

**Chinese children’s learning.** Researchers have investigated the influences of Chinese traditional culture on Chinese children’s learning in China and other countries. Wang and Mao (1996) found that young children, who had experienced childcare centres in China, were acclimated into education under the direction of the preschool curricula, in which tradition, authority, collectivism, and ethical and moral self-cultivation are highly valued. Some researchers claimed that Chinese children were more willing to following the orders of authorities and group decisions than critically thinking and asking questions (Carson, 1992; Hammond & Gao, 2002). Guo (2010), however, argued that Chinese children could be the active drivers of their learning although their family culture, originated in Chinese traditional culture, significantly impacted these children’s learning experiences both at home and childcare centres. Moreover, researchers found that Chinese immigrant parents supported their children’s bilingual development in host countries and valued play-based learning more than traditionally skill-based and adult-directed methods, which they had experienced as children, in home literacy practices (Chan, 2018; Hu, Torr & Whiteman, 2014).

In sum, the emergent perspective justifies my investigation of young children’s early literacy learning, while a sociocultural perspective provides a framework to examine the complex relationships among children’s literacy learning, experiences, and identities in their interactions with other individuals in routines. My review of research on children’s
learning exposed that there was a wealth of studies on early learning but few of them focused on Chinese immigrant children’s literacy learning and identity construction in Aotearoa New Zealand, which do not correspond with the increasing enrolment number of Chinese children in the childcare services of this country. I briefly present the research context in the next section.

**Research Context**

Aotearoa New Zealand is a nation with multiple cultures and “becoming more so” (Webber, 2008, p. 7) as many other countries in the world. Based on the lasted population census conducted by Statistics New Zealand (2013), the Chinese ethnic group stably grew from a population of 147,567 in 2006 to 171,411 in 2013, an increase of 16.2%, and was the third highest ethnicity group in New Zealand (Table 1). The Chinese culture, hence, became prominent amongst the dominant Pākehā and Māori cultures in the country, which is apparent in various aspects of life (e.g., education, workforce, and festivals).

The increasing number of Chinese immigrants have contributed to the increasing enrolments of Chinese children in early childhood services in New Zealand. According to the Ministry of Education (2017a), the number of enrolments for children with an Asian background, including children of Chinese descent, increased from 13,205 in 2008 to 32,056 in 2017 (Appendix A), with an increase of 142.8%. A diverse range of early

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1 Pākehā, a Māori term of New Zealanders of Europeans descent, “or even more specifically the United Kingdom” (Webber, 2006), and Māori, “descendants of the country’s first Polynesian immigrants” (King, 1985, p.12), are the two major ethnicity groups in Aotearoa New Zealand.
Table 1

*Top 10 Ethnicity Groups in Aotearoa New Zealand*

<table>
<thead>
<tr>
<th>Ethnicity Group</th>
<th>Population Count 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand European</td>
<td>2,727,009</td>
</tr>
<tr>
<td>Māori</td>
<td>598,605</td>
</tr>
<tr>
<td>Chinese</td>
<td>171,411</td>
</tr>
<tr>
<td>Indian</td>
<td>155,178</td>
</tr>
<tr>
<td>Samoan</td>
<td>144,141</td>
</tr>
<tr>
<td>New Zealander</td>
<td>65,973</td>
</tr>
<tr>
<td>Cook Islands Māori</td>
<td>61,839</td>
</tr>
<tr>
<td>Tongan</td>
<td>60,336</td>
</tr>
<tr>
<td>English</td>
<td>38,916</td>
</tr>
<tr>
<td>Korean</td>
<td>30,174</td>
</tr>
</tbody>
</table>

learning services (Anandh, Harvey, Hedges, Lotomau, & Subhani, 2016; Hartley et al., 2016; Harvey, Hedges, & Podmore, 2016; Ministry of Education, 2017b) has been provided to cater to children with different backgrounds.

**ECE services in New Zealand.** In Aotearoa New Zealand, ECE services are offered to children from birth to school age (i.e., 5-years-old entry for primary school). Parents can choose from seven types of licensed ECE services for their children to receive quality education and care. The seven types, under three organisational structures (i.e., teacher-led, whānau¹-led, and parent-led), are kindergartens, education and care services,

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¹ Whānau, a Māori-language word, means extended family or community of related families who live together in the same area.
home-based education and care, Te Kura (i.e., the Correspondence School), Te Kōhanga Reo¹, Playcentres and Playgroups (Ministry of Education, 2017b).

The first four types of services (i.e., kindergartens, education and care services, home-based education and care, and Te Kura) are under a teacher-led structure. At least 50% of the teaching staff of these services are qualified and certified as ECE teachers, and children can attend either the full-day, morning, or afternoon sessions. Children, who attend Te Kōhanga Reo, a whānau-led service, can enjoy a Māori environment. Others, who enrol in parent-led services, Playcentres and Playgroups, are educated and cared for at caregivers’ homes. Although ECE services are differently organised and subject to various regulatory requirements, Te Whāriki (Ministry of Education, 1996; 2017c), the curriculum, underpins children’s learning, and educators’ and caregivers’ practice.

The curriculum. New Zealand has a history of influential ECE curriculum and literacy practices in the world. Te Whāriki, one of the first national ECE curriculum documents, was initially launched by the Ministry of Education of Aotearoa New Zealand in 1996 and highly regarded in the country and by other nations (Ministry of Education, 2017c). An updated version of the curriculum was published by the government in 2017 to respond to social, political and educational changes (Ministry of Education, 2017c) and to strengthen the implementation of the curriculum and support continuity of children’s learning from birth (Ministry of Education, 2017d). Sociocultural perspectives, originating in Vygotsky’s theory, underpinned both versions of Te Whāriki.

¹ Te Kōhanga Reo aims to maintain and strengthen Māori language and philosophies.
The overarching principles (i.e., the fundamental expectations, including empowerment, holistic development, family and community, and relationships) interwove with the strands of learning and development (i.e., wellbeing, belonging, contribution, communication, and exploration) to form a mat for “all to stand on” (Ministry of Education, 2017c, p. 10). The principles and strands are in consensus throughout the two versions.

Both curricula, the original and updated Te Whāriki, acknowledge children’s unique journey as a competent and confident learner and communicator to participate in meaningful communication with people, places, and things. Children’s engagement in various play-based activities, mostly child-initiated and partly adult-initiated, which often involves a collaboration of teachers, families, and others in specific contexts, is encouraged and valued. The experiences contribute to children building on their interests and making sense of “their immediate and wider worlds through exploration, communication, and representation” (Ministry of Education, 2017c, p. 15).

The new Te Whāriki included the concepts (i.e., underpinning theories, principles, strands, and acknowledgement of children’s different pathways) from the original version. The goals for kaiako1 and the learning outcomes of children, however, were further developed with stronger bicultural framing and identity, language, and culture emphasising (Ministry of Education, 2017d). Based on the bicultural foundation and multicultural present (Parata, 2017, p. 2), the refreshed curriculum emphasizes the

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1 Kaiako includes all teachers, educators, and other adults, including parents in parent-led services, who have a responsibility for the care and education of children in an ECE setting (Ministry of Education, 2017c, p. 3).
influence of children’s home languages and cultures on their learner identity. Learning outcomes, such as knowledge, skills, and attitudes, are combined as dispositions and working theories. Children, hence, are likely to have access to more languages than the dominant ones, including English, Māori, and New Zealand Sign Language (NZSL).

Some 200 languages used in the country, such as North Chinese and Cantonese—the most common ones, are available in some of the ECE services. Kaiako are expected to support all children with diverse cultural and lingual backgrounds to promote an inclusive environment and engage in communication with parents and whānau to understand their priorities for children’s learning (Ministry of Education, 2017c).

*Te Whāriki* (2017) includes more explicit statements related to children’s language and literacy capabilities and learning than the original version. For example, Children’s potential capacities are explicitly described, such as “growing confidence with language, recognition of letters, numbers and environmental print, sounds in words, rhymes, songs and music” (Ministry of Education, 2017c, p. 15), in addition to symbolisation and representation which are addressed in both versions of the curriculum. Children’s growing to be competently bilingual and multilingual is an aim highlighted in the updated curriculum. Furthermore, children’s learning to learn, a process of development through direct and indirect experiences, activities and events, together with other learning outcomes of the acquisition of knowledge and skills, is highlighted and valued (Ministry of Education, 2017d, p. 7),

Although *Te Whāriki* (2017) provides ECE services with guidance to facilitate early
learning of children from diverse language and cultural backgrounds, a report from Education Review Office (ERO)\(^1\) suggested that discrepancies existed between the policy and practices. According to ERO (2018), only 37% of the 74 early learning services, which participated in an investigation of responding to language diversity in Auckland, intentionally supported children’s acquisition of English and promoted engagement with children’s families by using children’s home language and with an awareness of the children’s home culture. ECE services are encouraged to implement the curriculum into their programmes according to teachers’ understanding (Cullen, 2003; Nuttall, 2005) and their specific contexts (Guo, 2010). ERO (2018) suggested kaiako identify children’s interests, strengths, and learning priorities to enrich their understanding of children’s languages, identities, and abilities and learn from children’s parents, whanau, and other individuals from the same culture. Kaiako can also support children’s home language use in ECE settings through professional development, such as learning to understand and speak a second language.

In summary, two reasons led to the selection of Aotearoa New Zealand as the research context: (a) the increasing number of Chinese immigrant children in ECE services in the country, and (b) the implementation of Te Whāriki and the great importance attached to the early education of all children with diverse cultural and language backgrounds by the Ministry of Education. My personal and theoretical justifications, as well as initial understandings of how ECE was carried out by visiting two kindergartens (i.e., not the research sites of this study) in Auckland, have encouraged

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\(^1\) Education Review Office is an independent external evaluation agency, reporting to the Ministry of Education, ECE services and schools, and the public.
me to find out more about Chinese immigrant children’s early learning, especially literacy learning in natural settings, such as home and kindergarten. Consequently, four research questions are asked to achieve the purpose of this study.

**Research Questions**

This study is premised on the belief that children are emergent and competent learners and that their literacy learning and identity construction are influenced by the social and cultural contexts, in which children spend most of their time. Young children, as part of their context and with their experiences and capabilities, influence activities or events in the context.

The overarching research question of this study is: What are the reciprocal influences of Chinese preschool children's home and kindergarten experiences on their literacy learning and identity construction in kindergarten and at home in Aotearoa New Zealand? Four sub-questions are investigated:

1. What experiences do the Chinese immigrant children have in literacy activities at home and in kindergarten?
2. What are the reciprocal influences of the children’s home and kindergarten experiences on their literacy learning in and across kindergarten and home?
3. What is the influence of the children’s literacy learning on their identity construction in the early years?
4. What are the Chinese parents’ experiences and perspectives of their children’s
Overview of the Research

This study adopted a qualitative multiple-case study approach. Literacy learning experiences of four Chinese immigrant children, aged between 4.0- to 5.0-years from two kindergartens in Aotearoa New Zealand, will be described. The influence of the children's earlier experiences (e.g., verbal and non-verbal) on their initiation and participation in new literacy learning opportunities in home and kindergarten routines were at the centre of the study. Children's identities and the collaboration of other individuals were identified to understand the social and cultural influences on these children's literacy learning and development.

Based on emergent and sociocultural perspectives of children’s early literacy development, third-generation activity theory (Engeström, 2001; 2014) was applied as the framework for data collection and analysis. I followed a pattern of listening, observing, reflecting, and verifying in the fieldwork. Specifically, the four children's parents and teachers were interviewed to provide background information about the participants and an initial understanding of the children’s experiences of literacy learning at home and in kindergarten. The Chinese parents initially shared their perspectives on their children's early learning and their experiences of working with teachers in the kindergarten. The focal children then participated in story-based narrative tasks in kindergarten and at home to help me increase familiarity with their discourse and interests. The interactions between the four children and other individuals, such as
parents, sibling, teachers, and peers, were observed in three 3-day observation cycles, which followed a kindergarten-home-kindergarten sequence. The observations were designed to capture children's experiences, literacy learning, and identity construction through routines in natural settings. Informal chatting with parents or teachers occurred before each observation to enrich my understanding of children's experiences during the gaps between the observation-sessions. Similarly, informal chatting after an observation helped me clarify my confusions of children's discourses in the observation. I also reviewed the focal children's artefacts, such as paintings, drawings, writings, and handcrafts, after each observation. This data source provided further evidence of the children’s learning interests and experiences.

Data analysis of this study was carried out in three waves: of individual stories, analysis with activity theory, cross-case analysis. Findings of the research were presented following the order of the three waves. Discussions focused on the interpretations of the four focal child’s unique journey of literacy learning and identity construction and the impact of the influential factors in the process. The research contributes to the body of research on activity theory via the description of the four focal children’s real-life stories and the investigation of their bridging learning opportunities across diverse cultural contexts. It also provides early childhood educators with insights into literacy learning opportunities experienced by the Chinese immigrant children as well as the challenges they faced. Outcomes from the research may facilitate teachers to establish seamless connections between children’s literacy experiences and learning across different cultural contexts.
Organisation of the Thesis

This thesis is presented in eight chapters. Chapter One introduces the rationale, context and research questions of the study. An overview of the research is provided. The chapter concludes with the organisation of the thesis.

Chapter Two begins with the definitions of key terms and reviews the history, critical concepts and application of third-generation activity theory, the theoretical framework of the research. It also undertakes a review of literature associated with children’s home-school literacy learning in the early years, including children’s engagement in diverse activities in home-school routines, their congruent and incongruent learning experiences across the two settings, and those of Chinese immigrant children. Studies on children’s identities, constructed literacy learning process in the early years, are described. Literature on Chinese immigrant parents’ experiences and perceptions of child rearing and educating, originating from the integration of their family culture and the domain culture of the immigrant countries, is reviewed in this chapter.

Chapter Three describes the method of this study, including the multiple-case study design, research sites, and participants. Detailed information about data sources and collection procedures is presented next. Three waves of data analysis are justified and illustrated in Chapter Four. Particularly, an analytical model developed on third-generation activity theory and used in the second wave of data analysis is highlighted in the chapter.
Chapter Five presents the findings from twelve purposefully selected stories from the four focal children. Specifically, an overview picture of each child’s background information and previous learning is depicted. Stories of each child’s engagement in home and kindergarten activities are illustrated. Multiple components that influence each child’s communication with others in the two settings are analysed with the model based on third-generation activity theory. The findings illustrate the critical role of children’s previous experiences in their participation in diverse activities (i.e., mediating discourses, generating contradictions, and inviting contributions) in and across home-kindergarten settings. Meanwhile, evidence of the focal children’s construction of cultural, lingual, and learner identities is identified when their roles change in the activities.

Chapter Six brings together the main findings in the former chapter to draw a holistic picture of the focal children’s literacy learning and identity construction at home and kindergarten. It also describes the Chinese immigrant parents’ experiences and perceptions of their children’s learning in the early years.

Chapter Seven presents conceptual interpretations of the focal children's literacy learning at home and in kindergarten in Aotearoa New Zealand. Discussions on the components that impact the learning process of the children are illustrated. The interpretations and discussions lead to an identification of the contributions and implications of the research, which are exemplified in Chapter Eights. Limitations of the study and suggestions for future research are also discussed in the final chapter.
CHAPTER TWO

LITERATURE REVIEW

This study focuses on the reciprocal influence of Chinese immigrant children’s experiences on their literacy learning and identity constructions in home-kindergarten settings in Aotearoa New Zealand. A literature review helps me see what has been investigated in the field and hence identify the research gap. Standing on the shoulder of giants also provides a theoretical and methodological basis to conduct the research. The research purpose and the parameters of participants (e.g., age and ethnic group) helped me narrow down the scope of literature to be investigated. Theoretical and empirical research on the application of activity theory, children’s literacy learning experiences at home and in school, children’s identity construction, and related experiences and perceptions of Chinese parents are reviewed in this chapter.

The chapter is organised into five sections. The key terms of this study (i.e., literacy, experience, activity, and identity) are explained in the first section. The history of third-generation activity theory, its important concepts and application of theory in empirical research are presented next. In the third section, literature focusing on children’s literacy learning at home and in kindergarten, specifically children’s literacy learning in routine activities, the congruent and incongruent literacy learning across home and kindergarten settings, and the learning experiences of Chinese immigrant children, are reviewed in this section. Studies on children’s identities (e.g., learner, lingual, and cultural), constructed in early literacy learning, are reviewed in the fourth section. Research that explored Chinese immigrant parents’ experiences and perspectives of their children’s learning are discussed in the fifth section, which is followed by a chapter summary.
Key Terms

This section contextualises the research by clarifying the meanings of four key terms (i.e., literacy, experience, activity, and identity), which have been interpreted in various ways in previous studies due to the diverse viewpoints and research purposes. The varied interpretations show a need to be explicit about what the terms mean in this research. A specific definition, therefore, is presented after a range of concepts from previous researchers are discussed and synthesised.

**Literacy.** Being literate in the early years is traditionally understood as the ability to read and write (Teale & Sulzby, 1986; Wang, 2017). The definition, however, is controversial among early childhood researchers. Snow (1983) defined literacy as “the activities and skills associated directly with the use of print” (p. 166), such as reading and writing, scrabble or boggle playing, crossword puzzles figuring. Whitehurst and Lonigan (1998) and Neuman (2014) claimed that literacy is not an all-or-none phenomenon that begins with formal schooling; instead, literacy is a series of skills or capabilities (e.g., phonological, syntactic, and print awareness, letter and word knowledge), which contribute to children’s later reading and writing development, and are acquired early in children’s literacy life.

Other researchers have argued that young children’s involvement with literacy is falsely represented as simply identifying letters, learning sounds, or memorizing words, although reading and writing are indispensable components of literacy (Bissex, 1980; Ferreiro & Teberosky, 1982). With a sociocultural perspective on literacy, Moll (1994) emphasized the desire to move beyond a simple concentration on skills. Children’s meaningful communication with adults or other individuals in specific social and cultural contexts is highlighted as literacy (Kress, 1997; McNaughton, 1995). Clay (1998)
suggested that communication and learning how to communicate with family members, peers, and other individuals in different languages and cultural contexts value as aspects of literacy for young children from birth to formal-schooling age. Similar in vein, Gillen and Hall (2013) suggested that the nature of early literacy, which is indivisible from language, is children’s making and drawing meanings in communication with various environments in all domains of their lives.

While skills and communication have been addressed in researchers’ understandings, Gee (2002) argued that literacy is more than a general concept and includes the ways people are involved with printed words and inextricable “talking, thinking, believing, knowing, acting, interacting, valuing and feeling” (p. 30) within sociocultural practices. Hill (2007) described literacy as the ability to read, write, speak, and listen, and the knowledge and skills needed to take part in activities in a community. Researchers, hence, concluded that that the definition of literacy is indivisible from children’s identities in a community (Compton-Lilly, 2006; McCarthey & Moje, 2002).

Based on the literature, researchers understood literacy from various aspects, such as developing skills, meaningful communication, social-cultural influences, and identities in a community. Snow (2006) summarized a series of varying but related dimensions of what counts as early literacy. The dimensions include componential (e.g., phonological awareness and letter knowledge) or holistic (e.g., meaning-making in fostering reading capacity), solitary (e.g., individual cognitive accomplishment) or social (e.g., interactive and collaborative activity with social purpose), instructed (e.g., instructions from adults) or natural (e.g., the literate environment), functional (e.g., accomplishment to complete tasks) or transformational (e.g., influential factor in identity construction by impacting a person’s talking, thinking and behaving), and school-focused (e.g., school activities) or home-focused (e.g., everyday life at home).
The definition of literacy, in this study, is constructed on a synthesis of pioneer researchers’ understandings and the specific context of the research. Specifically, literacy is defined as children’s meaningful communication (e.g., understanding and responding) with other individuals through utilization of language (e.g., oral and written) and behaviours (e.g., facial expressions and actions, such as scribbling and drawing) in natural settings (i.e., home and kindergarten). Children’s identities are constructed and work as an influential factor in communication.

**Experience.** According to Honderich (2005), experience can be understood in two ways: knowledge a person has about the world and events in which the person participates and gains the knowledge. Duncan (2014, p. 3) divided knowledge into two categories: propositional knowledge (i.e., something is the case) and ability knowledge (i.e., know how to do something). Clay (2017) pointed out that educators need to make use of children’s prior knowledge, drawn from their “understanding of the world and how things work” (p. 17), to facilitate their new learning. Children, she argued, come to literacy with full of meaningful experiences. Based on these concepts, experience refers to children’s knowledge that they obtained by participating in home-kindergarten events in this study.

**Activity.** Generally, researchers defined an activity, with a sociocultural nature, as a system of actions of individuals, who employ tools in pursuit of some socially determined object and is regulated by rules in the process (Blunden, 2010; Bronckart, 1995; Guo, 2010; Leont’ev, 1979). Individuals are related to other social members by sharing societal organisation and tools in an activity (Rogoff, Mosier, Mistry, & Goncu, 1993). In the field of educational practice, an activity usually refers to a task or exercise designed by the tutors and participated by the learners to achieve a specific learning outcome (Wallace, 2015). In early childhood education, however, researchers consider an
activity as an everyday event that participants, especially children, participate in with ideas and goals (Callanan & Oakes, 1992; McNaughton, 1995; Tizard & Hughes, 2002). In this study, an activity is an event initiated or participated in by children, who use tools (e.g., language, pen and paper, and actions) to achieve specific purposes, such as communication, entertainment and learning, in home and kindergarten settings.

**Identity.** The definition of identity is complex and culturally contextualised (Oyserman, 2004), as it can be connected to a person’s gender, race, nationality, and social class (Fearon, 1999). Gee (2000) explained that a person’s identity is related to a “kind of person” (p. 99) he or she is being at a certain time and in a particular context through his or her actions and interactions. Cowie and Carr (2009) described children’s identities as a range of sociocultural roles involving with skills, knowledge and attitudes in a learning community. For example, a child in a childcare centre may have two identities: a student for the teacher and an expert for a younger peer. Young children are engaged in identity construction by clarifying their roles and learning more about themselves (Trawick-Smith, 2014). Based on these perspectives, identity can be defined as a role or roles children play when they are interacting with others by using multiple cultural tools in diverse home and kindergarten activities.

In sum, the meanings of the four key terms (i.e., literacy, experience, activity and identity) are clarified based on the previous definitions and context of this study (e.g., the theoretical perspectives, the age of focal children’s, and research settings). The next section concentrates on the third-generation activity theory, the conceptual framework underpinning this study. The three lineages, critical concepts, and application of the theory in empirical studies are discussed.
Third-generation Activity Theory

Activity theory, which deals with the complicated interrelationships among the factors that influence human behaviours in a specific culture or context (Engeström, 1987; 1990; 1996; 1999), is one of the “most commonly used conceptual lens” (Engeström, 2016, p. vii) in research. Scholars sometimes use cultural-historical activity theory (CHAT) in their research, due to activity theory’s origin in the Soviet cultural-historical research (Blunden, 2010; Engeström, 2001; Greig, Entwistle, & Beech, 2012; Roth & Lee, 2007). Prior to its popularity, however, activity theory was once regarded as one of the “best-kept secrets of academia” (Engeström, 1996, p. 64) to western scholars because of language barriers and the epistemological foundations of the theory, which were constraints for researchers inexperienced with classical German philosophy and dialectics.

The pioneering work of Soviet researchers, Vygostky (1978) and Leont’ev (1978; 1981), did not keep activity theory out of researchers’ insights for a long time. It gradually flourished in diverse research fields, such as education (Moll, 1990, Russell, 1997), language socialization (Ochs, 1988), computer interface (Bodker, 1990), learning environments (Jonassen & Rohrer-Murphy, 1999); social studies (Foot, 2001), healthcare (Engeström, 2001; Greig, Entwistle, & Beech, 2012), and technology use (Ekundayo, 2012; Kaptelinin & Nadi, 2012; Murphy & Rodriguez-Manzanares, 2008). In the ECE field, activity theory has been used to study phenomena in specific fields, such as the development of ECE curriculum (Anning, 2009), children’s learning experiences (Guo, 2010), and mediation of cultural tools in literacy learning (Henning & Kirova, 2012; Reaves, 2014).

In the next section, I first present the three lineages in the development of activity theory. A specific introduction to the critical concepts in third-generation activity theory,
such as the analytical model and five principles, follows the history of activity theory. Applications of third-generation activity theory in ECE research are reviewed to highlight its application in this study.

**Three lineages of activity theory.** Activity theory has evolved through three generations (Engeström, 2001; 2014; Kaptelinin & Nardi, 2012; Mwalongo, 2016; Yamagata-lynch, 2010). Vygotsky’s philosophy about the effect of human’s labour activity or physical work and culture on mental development informs activity theory (Roth & Lee, 2007). The idea of tool mediation between subject and object, which is centred around Vygotsky’s (1978) interpretation of the influence of cultural tools on human acts (see Figure 1), is transparent in the first-generation activity theory (Engeström, 2001).

![Figure 1 Vygotsky’s (1978) Conceptualisation of Mediated Act](image)

According to Cole (1995), cultural tools, which can be conceptualised in the form of codes (or concepts) and materials (or artefacts), distinguish human beings from other creatures by living in an environment “transformed by the artefacts of prior generations” (p.31) and mediate human beings’ relationships with their present environment. Engeström (2001) regarded the appearance of cultural tools in the relationship between
subject and object as “revolutionary” (p. 134), because the subject (individual or groups of human beings) can be understood with their cultural means and the object (i.e., society or its artefacts) can be understood through the agency of individuals who process and produce the artefacts.

Leont’ev (1981), a colleague and follower of Vygotsky, noted a limitation of first-generation activity theory, which focused on the action of an individual as the unit of analysis. He argued that a collective activity, which includes more influential factors (i.e., the division of labour among the participants in an activity) than cultural tools, should be considered when analysing the subject-object relationships. For instance, a couple’s object is preparing dinner for their family. The husband and wife divide labour between them: he chops the vegetable and meat and she takes out the cooking pots and sets the table. The action of the husband’s chopping makes no sense, if taken in isolation, but is sensible, when it is considered within a collective system, in which the wife cooperates with her labour.

Leont’ev’s second-generation activity theory incorporates the opportunities and challenges in a human being’s activities, which are brought by the interrelations between the individual and his or her community. The identification of the difference between an individual action and a collective activity extended the concepts (i.e., agency of subject, cultural mediation and object-drive) in Vygotsky’s foundational work. Engeström (2014) commented that although no model was graphically depicted, the turning focus of second-generation activity theory, from an individual’s action to the individual’s activity in a community was “a major step forward” (p. xv) regarding the subject, object and mediation paradigm.

While the focus of activity theory is developing from an individual action to a collective activity, some researchers noticed the issues arisen in the application of
second-generation activity theory. According to Griffin & Cole (1984) and Cole (1988), cultural diversity in communication, especially interactions across nations, was ignored by the second-generation activity theory. The international application of activity theory was challenged by different cultures, traditions and perspectives (Engeström, 2001), when individuals travelled across various cultural contexts or engaged in activities that were participated by people with different cultural backgrounds. The issue identified a need for the further development of activity theory.

Third-generation activity theory (Engeström, 1987, 1996, 1999, 2001) was developed to “understand networks of interacting activity systems, dialogue, and multiple perspectives and voices” (Engeström, 2014, p. xv). Engeström (2001) depicted two interacting activity systems as a minimal model of the unit of analysis, based on his triangle model to explain the interrelationships among components of a collective activity system (Engeström, 1987). As a founder of third-generation activity theory, Engeström’s ideas, which evolved through his research, are exemplified next to illustrate the application of the theory in this study.

**Critical concepts in third-generation activity theory.** Human beings’ actions cannot be understood without the context in which the actions occur (Bodker, 1991; Joanssen & Rohrer-Murphy, 1999). Engeström (1987; 1996) criticized the concept that simply regarded contexts of human actions as containers or situationally created experiential spaces. He argued that the relationships and interactions of different factors in a collective activity system should be regarded as the context. Engeström’s involvement with activity theory started with and became well-known due to the triangle model, which Engeström (1987) depicted to present the interrelations among the factors of a collective activity system of Leont’ev’s second-generation activity theory.
**Analysis model.** Six interconnected components (i.e., subject, object, instruments, rules, community, and division of labour) are included in an activity system (Figure 2). The system integrates two inseparable aspects (i.e., object-oriented production and subject-oriented communication) of human conduct (Engeström, 1996). Engeström (1996) defined the six interrelated components of an activity system.

![Figure 2 An Activity System](image)

*Figure 2 Six components contributing to the outcome of an activity system (Engeström, 1987, p. 78)*

The *subject* refers to the individual or subgroup whose agency is chosen as the point of view in the analysis. The *object* refers to the “raw material” or “problem space” at which the activity is directed and which is moulded or transformed into outcomes with the help of physical and symbolic, external and internal *tools* (mediating instruments and signs). The *community* is composed of multiple individuals and/or subgroups who share the same general object. The *division of labour* refers to both the horizontal division of tasks between the members of the community and to the vertical division of power and status. Finally, the *rules* refer
to the explicit and implicit regulations, norms and conventions that constrain actions and interactions within the activity system (Engeström, 1996, p. 67).

Engeström’s diagram of the interconnected factors in an activity system and his explanation of the activity system model was applied by researchers. Researchers used the activity system analysis to capture the development of professional learning (Yamagata-Lynch & Smaldino, 2007); to describe organisational cooperation of diverse levels of schools (Yamagata-Lynch, 2003); to identify the factors impacting the constructivist learning environment designing (Jonassen & Rohrer-Murphy, 1999); and to manage and evaluate the interacting process of the variables and tools, individually and collaboratively, of asynchronous discussion forums (Mwalongo, 2016). Jonassen and Rohrer-Murphy (1999) stated that with the model one can analyse not only the kinds of activities but also the persons who are involved, goals they want to achieve, results of their actions as well as rules and norms explicit or implicit in the activities. Yamagata-lynch (2010) claimed that Engeström’s activity system helps researchers extract the essence of complex data sets in a graphic model and compare the data set of one activity with another, to draw systematic implications.

Engeström’s contributions to the development of activity theory were not limited to his depiction of the activity system model. His understanding of the influences of different cultures and viewpoints on the networks between activity systems led to the formation of third-generation activity theory. An expanded model, which includes a minimum of two interacting activity systems, is presented in Figure 3.
Figure 3 shows two activity systems networking in the same or different contexts. The components (i.e., subject, object, tools, division of labour, community and rules) of the two systems are not necessarily the same. With the interactions between the two systems continue, the object of each system can change from object 1, the primary state of “unreflected, situationally given raw material”, to a “collective” object 2, and to a “potentially shared or jointly constructed” object 3 when the communication continues (Engeström, 2001, p. 136). Finally, the evolvement of the factors of the activity systems leads to expansive learning. Engeström (2001) further summarized five principles of third-generation activity theory to make the analytical model transparent to more researchers and to promote its application in empirical research.

Five principles. Engeström’s summary of the principles of activity theory evolved, similarly to his development of activity theory. Three principles were initially proposed by Engeström (1996) to guide researchers’ analysis and interpretation of individuals’
discourses. The three principles are an entire activity system, which gives context and meaning to a random event, as the unit of analysis, historicity as the basis of classifications, and inner contradictions as the source of change and development. The three principles reflect the influence of Leont’ev’s (1981) second-generation activity theory on Engeström’s concepts of activity theory at this stage. Five years later, Engeström (2001) examined activity theory and its principles and increased the number of principles from three to five to facilitate his understanding of the expansive learning across organisations and contexts, beyond what was happening in a single collective activity system.

The first principle addresses “a collective, artefact-mediated and object-oriented activity system, seen in its network relations to other activity systems” (Engeström, 2001, p. 136) as a basic unit of analysis. In other words, at least two interrelated activity systems should be included in a unit of analysis when researchers use third-generation activity theory as a lens to explore individual and group activities. The number of activity systems in an analytical unit also invites researchers to explore not only the internal challenges and opportunities in a system but also those external ones between systems and across contexts.

The second principle, “multi-voicedness” (Engeström, 2001, p. 136), has roots in the culturally diverse community and the community members’ various divisions of labour in activity systems. The community members’ unique interests, experiences and perspectives, originating in their individual history and backgrounds, impact the way they understand rules and employ tools in the activity systems, and further influence the roles each member play and produce multi-voices in the activity systems. Interpretations, understandings and negotiations between the members may occur as the activity continues, which may lead to challenges and innovations of the activity systems.
The third principle focuses on the historicity of activity systems. Engeström (1996) pointed out that an activity system is dynamic and contains “sediments of earlier historical modes, as well as buds or shoots for its possible future” (p. 68). The mode refers to how an activity is organised and carried out by the subject and other participants at various time and stages. Change and development are continuously going on in and among the components of an activity. For instance, a subject (e.g., a child) may not only observe but also reflect, refine and reformulate the utilization of the tool (e.g., a brush) to achieve his or her object (e.g., painting a picture). Studying the historical moments of an activity in the past, thus, supports researchers’ understanding of the developing process of the activity now and in the future.

The fourth principle concentrates on the critical role of contradictions as sources of change and development. More than problems and conflicts, contradictions are defined as “historically accumulating, structural tensions within and between activity systems” (Engeström, 2001, p. 137). According to Engeström (2001), primary contradictions can occur in a dynamic activity system as the system incorporates multiple components, which contain crises and transformations at different time and pace. Secondary contradictions, happening between activity systems when some elements of one system collide with those of the other, can be the driving force of innovations behind both systems. While both levels of contradictions may bring crises to activity systems and lead to a discontinuous life of an activity, they may also work as the stimulus for the expansive transformation of activity systems.

The fifth principle of activity theory highlights the possibility of expansive transformation in activity systems, and thereby qualitative development of an activity. The variations and contradictions in and between the activity systems may provoke the questions from the participants, which directly influence their engagement in the activity.
The change may spread to other components of the activity systems. The signal of the completion of expansive transformation is the subject’s reconceptualization of the object and motive of the activity to “embrace a radically wider horizon of possibilities than in previous mode of the activity” (Engeström, 2001, p. 137).

In summary, third-generation activity theory provides researchers with both horizontal and vertical directions to study a specific activity through “data-driven historical and empirical analyses” (Engeström, 1996, p. 72). In the horizontal direction, researchers can investigate the expansive learning between participants of different organisations by identifying the interconnecting activity systems that share or partially share objects. In the vertical direction, researchers can examine the development of individuals (e.g., young children) by understanding various factors, such as their subjectivity, experience, identity and commitment. The two directions are inseparable and require researchers to bridge and integrate them in theoretical and empirical studies (Engeström, 2015).

**Application of third-generation activity theory in empirical research.** Since its formation, third-generation activity theory has had a remarkable impact on empirical research (Yu, 2011). Engeström (2001) used the theory in his investigations of expansive learning between different healthcare organisations. Other researchers (e.g., Anning, 2009; Ekundayo, 2012; Gedera; 2016; Greig, Entwistle, & Beech, 2012; Guo, 2010; Murphy & Rodriguez-Manzanares, 2008; Reaves, 2014) also applied the theory in diverse fields (e.g., healthcare, technology, and blended courses in higher education, and professional learning and children’s learning experiences in ECE). Reviewing and reflecting on the pioneers’ work informs the use of the theory in this research.

**Engeström’s (2001) study.** Engeström (2001) examined how expansive learning was challenged and developed among different caregiver organisations (e.g., hospital
physicians and practitioners from primary care health centres) of children’s healthcare in the Helsinki area, Finland. In the investigation, two activity systems were identified when a particular patient case was transferred between a children’s hospital and a primary care health centre. In the activity system of the children’s hospital, “the subject” was hospital physicians, who used “critical pathways” (Engeström, 2001, p. 143) to guide their practices. In the activity system of the health centre, “the subject” was general practitioners, who used “care relationships” (Engeström, 2001, p. 143) to mediate their practices. The original “objects” of both activity systems, however, were the same (i.e., object 1; a child patient moving between the two settings). When the hospital physicians and general practitioners met in the “Boundary Crossing Laboratory” (Engeström, 2001, p. 139) designed by the researcher, discussion occurred between the two groups and a secondary object (i.e., object 2; the patient representing a sample of a disease category) arose in both activity systems. With continuing discussion, a new object (i.e., object 3; learning about the patient care plan from each other) was produced. As a result, the communication and coordination between care providers solved the critical structural issue of overusing the high-end hospital services in Helsinki. Engeström (2001) concluded that the application of third-generation activity theory helps researchers understand that learning can be depicted in a horizontal direction in addition to a vertical process.

Engeström’s (2001) research provided feasible solutions to three issues that might arise in work with third-generation activity theory. The three issues are: (a) How to identify the interconnecting activity systems as a unit of analysis? (b) What are the six components of each activity system? (b) What is the origin and function of the contradictions?
Firstly, two interconnecting activity systems, based on different organisations or settings, are identified as a minimal constellation. In the child-patient case, an activity system was generated from each organisation, the children’s hospital and the primary care health centre. Secondly, the six influential factors in the two activity systems may or may not be the same. In the study, four components varied across the two systems. In the hospital activity system, the subject was the hospital physician; the cultural tool was critical pathways; the community included hospital staff, who divided labour between professions and specialities. In the health centre system, the subject was the general practitioner; the cultural tool was care relationships; and the community included nurse and health centre staff, who divided labour between professions. Rules in the two systems were the same: providing cost-effective care. The two systems interrelated with each other through the shared object: learning about the child-patients who moved between primary care and hospital.

Thirdly, contradictions, which may be internally generated in an activity system or externally generated across systems, triggered changes or innovations of individuals and organisations. For instance, one of the primary internal contradictions in the hospital system was between the critical pathways (i.e., the cultural tool) and the patients with multiple illnesses (i.e., object) that might belong to many critical pathways. The secondary external contradictions across the hospital and health centre systems included diverse healthcare model and document guides (i.e., the cultural tools). The primary contradiction urged the hospital physician to learn more about the patient and the secondary contradictions led to the expansive understanding and learning between the two healthcare organisations.

Engeström’s insightful depiction of the analytical model, clarification of the principles, and application of the theory in his empirical research inspired other
researchers to explore various phenomena with a lens of third-generation activity theory. Greig, Entwistle and Beech (2012) applied third-generation activity theory investigation of the challenges of addressing complicated healthcare problems across different levels and diverse settings. The researchers argued that healthcare stakeholders (i.e., practitioners, managers, and policy makers) should understand that knowledge is dynamic and entwined with practices in healthcare activities rather than transferred between different levels and that there is no single best practice in healthcare services.

The two described studies examined information and knowledge expanding among different healthcare organisations. Individuals’ learning developed as the interactions between the activity systems of different organisations continued. The research, however, focused on the issues in the healthcare field. Reviewing the empirical research in educational fields is needed to provide more relevant supports to the application of the third-generation activity theory in this study.

**Application of the theory in educational research.** Third-generation activity theory has been frequently used by educational researchers. Some researchers highlighted the utilization of the principle of contradictions, the “motive force of change and development (Engeström, Miettinen, & Punamäki, 1999, p. 9) and “guiding principle” (Engeström, 2001, p.135) of activity theory, in their investigations into the use of technology in education. Murphy and Rodriguez-Manzanares (2008) reviewed a tradition of research between 2001 and 2008 that focused on the use of Information and Communications Technology (ICT) in educational contexts and utilisation of activity theory as a framework with the contradictions as the foci. The researchers found that the research presented and discussed contradictions at either a microscopic (i.e., an element or between elements of an activity system) or a macroscopic (i.e., between the interacting activity systems) level. The authors found that these contradictions did not always lead to
change and development at either the individual or institutional level. The researchers argued that the lens of third-generation activity theory and contradictions provided a versatile tool to understand individual and institutional perspectives on the use of ICT and how expansive transformation may occur in educational contexts.

Similarly, Ekundayo (2012) investigated the use of ICT in overcrowded classrooms in three universities in Nigeria with the perspective of activity theory and contradictions. The researcher found that with computers, mobile phones, and the internet as the most common forms, the Nigerian students and lecturers’ goals of and access to ICT varied in the universities. The complex and contextual issues, such as poor power supply, bandwidth, technophobia, perceptions, cost, and institutional support, created not only internal but also systemic tensions, which challenged the use of ICT in the universities.

Gedera (2016) also applied third-generation activity theory in her examination of students’ engagement in a university blended learning course, which included lectures, class presentations and an online discussion. The research reported contradictions occurring in three aspects: community, participant roles, and physical and virtual classes. Students’ expectations and disappointments in the course delivery were also evidenced in the study. More opportunities for interactions and linkage between the physical and virtual classes were suggested by the researcher to promote students’ engagement in learning.

In conclusion, the studies concentrated on the application of third-generation activity theory and its principles, especially the principle of contradictions, in identifying issues and providing solutions in higher education research, such as the use of ICT and the efficiency of blended learning course. The studies extended the application of activity theory by illustrating how the specific principles or concepts of the theory can be used in empirical research within educational contexts. The use of a collective, culture-mediated,
object-oriented activity system as a prime unit of analysis and contradictions as a key principle in the exemplified research informs on the present study. In the next section, the application of third-generation activity theory in ECE will be reviewed.

**Application of the theory in ECE research.** Studies with third-generation activity theory as a theoretical framework are prolific across the ECE fields, such as professional learning and curriculum design (Anning, 2009), cultural tool mediation in literacy learning (Reaves, 2014), and Chinese children’s experiences in learning and development (Guo, 2010). In her 18-month project of creating an informed community of practice with 20 ECE practitioners from three local authorities in the United Kingdom, Anning (2009) highlighted the application of third-generation activity theory in understanding the complexity of professional learning in early childhood settings. Several features of the theory were specifically clarified and applied, including the influential factors in an early childhood setting, complexity of human behaviours in specific social groups and contexts, the multiple meanings of the same tool in different cultural contexts, cultural tool mediation, and knowledge sharing through boundary crossing (Engeström, Y., Engeström, R., & Karkkainen, 1995) among different activity systems. The three groups of the preschool practitioners, working as a team, reflected on their everyday working lives, developed a language to share their reflections and conflicts, and finally created an innovative curriculum model for birth-to-5-year-old children. Anning’s (2009) research demonstrated the feasibility of utilizing third-generation activity theory in ECE research.

Reaves (2014) explored children’s multiple pathways to early literacy in the US based on the concepts of third-generation activity theory (i.e., cultural tool mediation, dialogical structured activity systems, contradictions in activity systems and the systems’ constant transformation). The researcher examined the role of children’s effective investments, which she defined as children’s interest in domains of knowledge (e.g.,
princesses and dinosaurs) and domain-specific activities (e.g., role-play with friends or family), in the early literacy learning of five 3- to 5-years-old preschool children from three classes in an early childhood centre. Multiple data sources were accessed through observations, discussions and interviews with children, their families and teachers across home and school settings in a year, using a combination method of multiple- and single-case study.

Reaves (2014) found that children’s effective investment in domains of knowledge and activities served as cultural tools and mediated their literacy learning in both home and early childhood centre activity systems. Three essential components, including social and cultural links through investment-based tools, spontaneous learning within everyday activities, and transformations, were identified in children’s effective investment-based experiences. The researcher also reported five functions of children’s effective investments, including multimodal repertoire expansion, intrinsic motivation, social positioning, relationship building and curriculum-building. The research, however, was conducted in the United States and the participants were English speakers. Change of the contexts and participants, who speak English as a second language, may lead to different findings.

Guo (2010) used concepts of third-generation activity theory (i.e., interactions of activity systems, mediation of cultural tools, and expansive learning) as part of the theoretical framework of her research, which focused on the learning experiences of 8 preschool Chinese immigrant children, aged between 3 to 5 in 6 New Zealand early childcare centres. Data were accessed through field observations in the early childhood centres, and interviews with the children, their parents and teachers. Guo found the learning context of the children could be regarded as a “web” (p. 251), in which children interacted with other people and the contextual cultural tools, and “boundary zones” (p.
which were connected through the interactions and coordination of the activity systems (i.e., home and early childhood centres) towards common goals. The researcher also identified four features of children’s learning: (a) on-going and evolving; (b) distributed but closely influencing history, social practices and values of a particular cultural community; (c) associated with the use of cultural tools from the community; and (d) displaying agency while interacting with others. Furthermore, Guo reported that the two sets of cultural tools (e.g., children’s home culture and mainstream culture in the centres) led to opportunities when the two sets were brought together, and challenges when the home culture could not be located, in Chinese children’s learning in the centres. The researcher suggested more opportunities and educational support were needed for the Chinese immigrant children to use different sets of cultural tools for positive learning experiences in the centres. Guo’s (2010) research conclusion was based on interviews (i.e., parents, teachers, and children) and observations in ECE centres. Observations at children’s homes may contribute to a deeper understanding of children’s expansive learning between the two settings.

The application of third-generation activity theory and its critical concepts in empirical studies have been reviewed in this section. The concepts, such as object-driven, collective, and interconnected systems as the unit of analysis, cultural tool mediation, contradictions as the source of change and development, and expansive learning, provided a theoretical base for the researchers to investigate phenomena in multiple disciplines. Based on these studies, third-generation activity theory has been used to guide my examination of the observable process of Chinese immigrant children’s literacy learning in routine activities across settings and over time. The factors that influence children’s engagement in routine activities can be captured, based on the existence of the six components of a collective activity system. Children’s learning process can be systematically depicted through the object-driven, interconnecting activity systems. The
concept of cultural tool mediation provides a basis for understanding the function of children’s experiences in new learning opportunities. The contradictions, as the source of change and development, helps understand the outcome of children’s learning through their engagement in routine activities.

This section has discussed the three lineages of activity theory and the five principles of third-generation activity theory. The application of the theory and its principles in empirical studies have also been discussed. The theory serves as the conceptual framework to support my exploration of the dynamics of Chinese children’s literacy learning at home and in kindergarten in Aotearoa New Zealand. The following section reviews existing literature on children’s literacy learning at home and in kindergarten.

**Literacy Learning in the Early Years**

Children’s early literacy learning has been extensively studied in the past decades. Some researchers have focused on the topics, such as children’s multiple pathways to literacy learning by participating and engaging in routine activities (e.g., spontaneous talking, singing, role playing, and storybook reading). Other researchers explored children’s congruent and incongruent learning experiences across different settings (e.g., home and early education centres), as the classrooms become increasingly diverse with children from different backgrounds (Trawick-Smith, 2014, p. iv). A review of the literature on these topics provides a fundamental understanding of children’s literacy learning in the early years.

**Multiple pathways to literacy.** Children may connect with early literacy from different paths and achieve common outcomes (Clay, 1998). According to *Te Whāriki* (2017c), children communicate with others to express their feelings and ideas. The
process of communication may involve children’s using oral language and a range of materials, gestures, and movements. Children may also hear, tell and create stories, and recognise and use print symbols and concepts to entertain and make sense in communication. Children’s community for communication at home and in early childhood settings includes their parents, siblings, teachers, and peers. Accordingly, studies on children’s multiple pathways to literacy when they engage in everyday activities, including spontaneous conversation, pretend play, early drawing and writing, early reading and storytelling, singing, and electronic game, in home and early childhood settings are discussed in the following sections.

Spontaneous conversation. A number of researchers argue that children’s early literacy development is inseparable from language learning and talking, during which children enhance their thinking and meaning-making (Elias, 2006) and build on subsequent academic success (Clay, 1998; Hart & Risley, 1995). According to Wells (2009), children not only learn to talk in the early years but talk to learn “a great many other things” (p. 59). Through spontaneous and unplanned conversations in daily settings, children talk to connect with people, participate in activities, share their understandings and interests, and obtain what they want. The mature talking partners contribute to children’s learning by supporting their efforts and sustaining the conversation. Realising the importance of spontaneous conversation in children’s learning, researchers examined children’s early talking experiences at home and in childcare settings.

Clay (1998) pointed out that home conversational experiences are irreplaceable for preschool children. One-to-one parental intimacy is significant for young children but lacking in the care and educational settings outside the home. Parents’ attitudes to children’s partially wrong words or sentences, which are often ignored and patiently
replaced by the repetition of the right ones. Clay (1998) described a brief conversation between a child and a mother:

Child: When daddy comes home?

Mother: Daddy will come home soon when it gets dark. (p. 8)

In the two-turn conversation, the mother did not correct the child’s question but responded in a more complete form. From the mother’s response, the child not only knew the answer to his or her when-question but was given an opportunity to learn a more elaborated sentence, although the mother did not ask the child to repeat the right sentence, nor did the child do that. Clay suggested that the child would likely use a more precise sentence form the next day, such as “Daddy will come home soon?” or “Will Daddy come home soon?”. Children do not gain literacy experiences by simply imitating others’ language; instead, they learn to communicate “by talking to people who talk to them and understanding what they are trying to say” (Clay, 1998, p. 8).

In addition to the sentence structures, children’s other literacy experiences and learning can be also founded in researchers’ reports of children’s home conversations. Callanan and Oakes (1992) explored 30 preschool children’s casual questions (e.g., “why things happen and how things work” p. 228) and their parents’ corresponding explanations in everyday conversations. After tracking the questions during daily activities (e.g., eating meals, riding in a car, and going to and from childcare centres) for two weeks, the researchers classified the questions into six categories. The children asked about natural phenomena, biological questions, physical mechanisms, motivation and behaviour, cultural and social conventions, and other questions (e.g., word definition). These questions reflected children’s curiosity, interest and motivation of early learning. Moreover, the children developed knowledge of specific domains and learned about the
nature of explanation (e.g., beginning with either prior cause or consequence), which reflected the cultural context, via their parents’ explanations to their questions.

Tizard and Hughes (2002) studied 30 four-year-old English-speaking children’s spontaneous conversations with their mother in daily activities, such as cooking, shopping, observing neighbours, storytelling, mealtime talking, and watching TV. The researchers suggested that the conversations served as a window to see the potential for the children to understand the general knowledge of the social and cultural world, especially the early stages of literacy (e.g., asking questions, arguing for their viewpoints, and learning new words and spellings). These everyday experiences via conversations, thus, are valuable learning experiences for the children.

Focusing specifically on children’s spontaneous talking while eating, Beals (2001) examined 160 mealtime conversations between preschool children, 3- to 5-year-old, and their family. The conversations were categorized into two types: narrative, whose topic was a past or future event; and explanatory, in which logical connections between objects, events, concepts or conclusions were made. Beals found a positive relationship between narrative and explanatory talk during mealtime and children’s learning outcomes (i.e., vocabulary, word-picture connection, and listening comprehension).

Based on these studies, daily conversations at home provide venues for the children to connect with literacy. Meanwhile, researchers investigated the nature of spontaneous conversation in early childcare settings, such as kindergarten—another nurturing place for preschool children. Paley (1981) described the conversations and stories of Wally, a 5-year-old boy, and his similar-age peers in a kindergarten classroom. The conversations between Wally and other children, occurring in kindergarten routines (e.g., spontaneous conversation, painting, role play, and storytelling), illustrated who these children were (e.g., early logical thinker and language user) and what they were interested in (e.g.,
friendship, family, security, and fairness) in the early years. Similarly, Ramani, Zippert, Schweitzer, and Pan (2014) examined 76 preschool children’s joint block building and their spontaneous talking with their peers during the construction. The researchers found that these 3- to 5-year-old children built their communication skills (e.g., understanding and creating shared meaning among peers) by discussing the design of the building and symbolic presentations of the blocks in the activity.

Dickinson and Smith (1991) audiotaped and analysed the conversations of a group of children and their teachers during free play, small and large group time, and seatwork, to identify the patterns of teacher-child interaction in early childhood classrooms. The morning-long observation involved 25 three-year-old children in the first school visit. In the second school visit, which was one year after the first, 12 more children were added as participants, which led to 37 four-year-olds being observed. The conversations were categorised into 10 types, including pretending (e.g., fantasy-oriented), non-present (e.g., past or future events), conceptual focus (e.g., language and world knowledge), book reading, engaged talk (e.g., talk about toys from home or any other topics not captured by other category), didactic (e.g., instructions and explanations), skill routines (e.g., naming and labelling, reciting letters and numbers, and singing), print skills (e.g., decoding and spelling practice), control talk (e.g., managerial in tone with behaviour as the primary target) and non-language (e.g., activity unaccompanied by talk less than 5 seconds). The researchers found that children usually engaged in pretend talk with peers, whereas their conversations with their teachers often linked to skills-related issues (e.g., print skills and skill routines). The four-year-olds, in the two succeeding years, spent much less time talking with their teachers while their interactions with their peers were essentially the same. Moreover, the researchers depicted profiles of three children from three different classrooms and claimed that “striking differences” (p. 28) existed among the children’s
experiences (e.g., variety of activities, language and time usage) in classrooms and the types of talk (e.g., didactic and print-related) fostered within them.

McInnes, Howard, Crowley, and Miles (2013) explored the nature of oral interactions between children and adults in two English early years settings. The researchers observed the engagement of the eight children, aged between 4.5 to 5.2 years old, in multiple types of activities (e.g., whole class, child-initiated, small group, and adult-initiated). The researchers found that children initiated oral interactions to tell the adults what they were doing, gain attention, ask questions to further their understanding, and ask to go to another activity. Sustained interactions between adults and children, which facilitated problem solving, were only possible when mutual understandings were constructed and control was shared between the participants. Furthermore, adults’ open questions and statements (e.g., “how can we make it stronger” and “have a think”) to encourage, challenge, support and praise children’s thinking could extend the interactions between them.

In summary, spontaneous conversation between children and other individuals, such as parents, teachers, and peers, happens in routine activities (e.g., free play, mealtime, shopping, role play, and construction) in home-childcare settings. None of the described research focused on the home-kindergarten experiences of Chinese immigrant children in spontaneous conversation. Children’s literacy learning, such as understanding words, sentences, environments and events and expressing themselves according to the conversational partner’s response, can be extended by initiating and participating in the conversations. Differences, however, exist in individual children’s experiences. Clay (1998) argued that if children are not offered enough opportunities for communication through listening and speaking in activities in preschool settings, the learning will be left to formal schooling and lead to a delay in children’s communication with others. To
understand more about children’s pathways to literacy, studies, focusing on children’s engagement in pretend play, early reading and storytelling, early drawing and writing, singing and electronic games, are discussed next.

**Pretend play.** Play is the fundamental requirement of children. Researchers have reported that children’s play facilitates their learning of language and culture (Vygotsky & Luria, 1994) and integrates with literacy in the early years (Gillen, 2002; Roskos & Christie, 2011, Vincent, 2014). *Te Whariki* (2017c) values young children’s play in routines, as children can “use play opportunities, talking about and trying out ideas with others, and their imaginations to explore their own and others’ cultures and identities” (p. 15).

Children’s pretend play, which mirrors their real experiences (Vygotsky, 1978), is the leading activity for children’s development in preschool years and a precursor to early reading and writing (Wohlwend, 2011). Pretend play happens when children impose meaning onto objects and characters, create meaningful play situation or use symbols in the play (Lewis, Boucher, & Astell, 1992). Children deepen their understandings of the real world by applying information, such as knowledge and rules, in their pretend world. Researchers suggested that children can escape the here-and-now constraints (Gillen, 2002) and “make decisions and do something” (Theobald et al., 2015, p. 351) in pretend play, and gradually enrich their communication experiences (e.g., assigning roles and negotiating with others) in make-believe contexts (Fellows & Oakley, 2010).

Farver (1992) investigated the creation of shared meaning of 40 young children, aged between two to five years old, in pretend play with a fantasy toy, Fisher-Price camping set, in a childcare centre. The children were divided into 20 pairs and children’s ages in each pair were similar. The researcher found that children were able to use seven
communicative acts (e.g., paralinguistic cues, descriptions of action, repetitions, semantic 
tying, calls for attention, directives, and tags) to construct shared meaning in the play. 
The communication between a pair of children was developed based on the children’s 
everyday conventional knowledge of the world, which they brought into the camping 
situation. Moreover, children were able to respond to and build on their partner’s ideas 
and actions and construct systems of meaning that were jointly understood as the play 
unfolded.

Gillen (2002) explored a group of three- and four-year-old children’s discourses in 
pretend telephone play. The researcher found that the telephone provided a contemporary 
but meaningful context for children to escape the here-and-now constraints and develop 
literacy skills, such as pre-planning spoken message, producing speech with specific 
linguistic features to make a distant audience understand, and combining the use of 
different media (e.g., print in message pads and directories). The researcher concluded 
that children’s oral practices should be conceptualized within an understanding of 
symbolic meaning-making communication, related to literacy, rather than a separate 
domain activity.

Similarly, Wohlwend (2011) explored a boy’s experiences in a pretend telephone 
play in a kindergarten classroom. A vignette of the play follows:

Amy bounces past the girls and nestles under the small wooden kitchen table in the 
house-keeping corner. She tucks her legs up under her chin and pulls a crocheted 
blanket over herself, tousled clumps of her dark blond hair poking through the yarn. 
She whimpers-loudly. Colin, a tall boy with straight white-blond hair, instantly 
recognises Amy as a sick child in his pretend family. He cradles the red plastic toy 
phone in one arm as he talks solemnly to an imaginary receptionist. “Hello, I’m 
calling for Amanda. (pause) Yes. (pause) Is there a check-in for that? (pause) Oh,
there is? There is? (surprised) Well, could I just wait a while?” After a few seconds “on holds.” Colin leaves a message for the doctor on voice mail. “I really don’t know what’s going to happen and I wanted to know if you could come over here, Dr. Barton, ’cause Amy, she has ammonia and she has the flu, and so yeah, if you could call back here-. My number is 555-3861. And my cell phone number is 555-555-888-s-oops, 880, I’m sorry. Thank you.” (p. 1)

Colin and Amy created a meaningful context in the scenario (Wohlwend, 2011). They combined their imaginations and lived experiences with their passions and expertise in the pretend play, which let them escape the here-and-now realities and adult gaze (Mooney & Balckburn, 2003; Rogers & Evans, 2006). Furthermore, although no writing or reading happened, Colin consolidated his oral language experiences by negotiating, informing, explaining, suggesting, describing, directing and instructing for the purpose of communication and problem-solving. Colin’s solemn talks also gave Amy an experience of using language to communicate with others.

Vincent (2014) observed a group of 4- to 5-year-old boys playing “building sites” during free play. Different roles were assigned by one boy, the boss, to the rest of the group who were busy negotiating about what their roles entail. Once every child agreed on the roles, the work started. The workers used tools, such as spades, forks and buckets in the construction. Some children even used string to cordon off the area so that the building site was safe, and no casual passers walked by. The boss decided to make a note of his worker’s job, so everyone could get paid when the work finished. A teacher noticed the discussion between the boss and one of his workers. After understanding the situation, the teacher made use of the learning opportunity and helped the boss note down the initial letter sound of each worker’s name. With a clipboard defining the boy as the boss, he was able to tick or cross the name of a worker who needed to be paid. More
children went to search for a clipboard so that they can join in the prestigious role.

Vincent (2014) concluded that the construction of building sites provided the boys’ opportunities to physically play out their internal thoughts and fit new knowledge into their existing mental frameworks. Meanwhile, children’s interests, intrinsically motivated the building activity (David, 1999), attracted the teacher’s support and contributions to their literacy learning.

The studies described here have demonstrated that children’s engagement in pretend play contributes to their early literacy learning in the early years. Children have opportunities to explore and play with language in a meaningful context (Schiller, 2001). By playing different roles and employing tools and symbols in the pretend play, children have opportunities to develop their social skills by resolving conflicts and problems and literacy competence with non-print and print capabilities in make-believe context (Bergen, 2002; Corsaro, 1997; Rogers & Evans, 2006; Trawick-Smith, 2014). Broadhead (2004) suggested that adults become aware of the complexity of children’s pretend play to understand their learning in the early years. Bodrova (2008) addressed the need for teachers to scaffold pretend play in current social contexts through strategies, such as using toys and props in a symbolic way, developing consistent and extended play scenarios, developing and maintain play roles and rules. Nevertheless, no previous research examined Chinese immigrant children’s learning experiences in pretend play in two natural settings, home and kindergarten. This study will fill this gap.

**Shared reading.** Early shared reading, as one of the routine activities both at home and in kindergarten, increases the likelihood for children to enjoy the fun of communicating with others as well as be more confident and experienced early readers (Holdaway, 1979), in addition to conversation and play. In shared reading, young children often read a book with a more experienced reader, such as a parent, teacher or an
elder sibling. Clay (1998) suggested that while reading a book with adults, children either sit on parent’s thigh or beside a teacher on a mat, in a way that children not only can access the print and nonprint information conveyed in the book but also feel the care of all adults. The interaction and learning go beyond reading. The one-to-one form, child-parent dyad, is common for reading activities at home, with the materials used in the activity being anything the child feels interested in, such as storybooks, food packages, or instructions on a booklet. The reading activity may also happen anytime the child feels like, with the interactions and learning going beyond reading.

Phillips and McNaughton (1990) investigated shared storybook reading in 10 mainstream (Pākehā) families in New Zealand where mothers, who were the main caregivers, often read to their 3- and 4-year-old children at home. The researchers found that reading storybooks at home was a child-centred activity. The mothers read a variety of storybooks, more than three on average, to their children every day. And they often spent several minutes on each book, which constituted a substantial daily contribution to the children’s literacy learning. While reading unfamiliar but similar storybooks provided by the researchers, the meaning of the immediate text, especially the events and goals of the narrative were concentrated in the adult- and child-initiated insertions, such as a child “referring to the illustration” and saying “Crack there, crack there, crack there. Crack everywhere” (p. 205). Concepts of print and illustrations were not the mothers’ foci. Furthermore, the mothers’ practices varied from making the meaning of the story clear to their children to fostering anticipation and prompting children to infer the plot across successive readings. The researchers concluded that children, with these early reading experiences, would have some knowledge of constructing meaning from stories when they started school.
Literacy outcomes, such as oral language growth and acquisition of print skills, were related to parent-child shared reading in the early years (Bus, van IJzendoorn, & Pellegrini, 1995). Spark and Reese (2012) found that children’s interest in storybook reading was related to early literacy skills, such as print concepts and decoding skills. Early reading at home, however, included not only storybooks but other common objects with writing on in the environment.

Neumann, Hood, and Neumann (2009) described how a mother supported her preschool child’s literacy learning, such as alphabet knowledge, early writing and print motivation, by using environmental print in a multi-sensory way. For instance, the mother and child read the print on the milk bottle during breakfast. Then they named a letter in the print and sounded the letter. They shaped the letter in the air with their hands and traced the letter on the milk bottle with fingers. Through visual, auditory, kinaesthetic and tactile approaches, the mother in this example assisted the child’s literacy learning of letter name knowledge, letter shapes and letter formation.

While some researchers confirmed early reading with parents at home contributes to children’s literacy learning, other researchers focused on children’s reading experiences in early childcare classroom, where the number of participants in a shared reading experience may vary. A teacher may share a book with only one child, sitting beside her, or a big book with a group of young participants who are interested in stories.

Chaparro-Moreno, Reali, and Maldonado-Carreno (2017) compared 52 four-year-old children’s engagement in reading two types of books, wordless picture book and prototypical storybook with text, with 13 teachers in group reading. The researchers found that children produced significantly more word tokens, types and utterances when reading the wordless picture books with teachers. Children’s higher level of language mirrored teachers’ levels of lexical diversity and instructional support. The researchers
concluded that teachers’ sharing of wordless picture books with children may boost children’s language learning and production. Naqvi, Thorne, Pfittscher, Nordstokke and McKeough (2012) explored the effect of reading dual language books with 105 kindergarten children in Canada. The researchers found reading the dual language books to children who spoke the language (e.g., French, Punjabi, and Urdu), significantly benefited these children’s foundational literacy skills, such as graphophonemic knowledge and knowledge of print.

In summary, through shared reading, children enriched communication experiences with others and developed print and non-print skills. Children’s roles can vary during the reading process. According to Whitehurst and Lonigan (1998), a child may play the main role of reader, storyteller and speaker; whereas, an adult is the audience, questioner and supporter in a shared reading where dialogues occur. The child’s reading can be encouraged and supported by the adult, who raises questions that are increasingly sophisticated and more related to the child’s life to ensure their reading experiences.

**Drawing and early writing.** Drawing, initially defined as a process of ‘making marks that have meaning’ (Adams, 2002, p. 222), is a popular activity with young children. Children tell stories about themselves and their cultural environment with lines and curves. With pens, chalk and even branches of trees, children draw images existing in their mind. Get close to a child who is drawing, and he or she will tell you the story about his or her “masterpiece”: their favourite toys or food or an important moment in his or her life. Matthews (1999) added that children use drawing to explore the shape, movement and emotion in their physical and social environment. Meanwhile, other researchers have identified a communicative potential for children to make sense of the world and express their views through drawing, which sometimes could be labelled as scribbles (Matthews, 1999; Anning, 1999; Hall, 2009).
Einarsdottir, Dockett, and Perry (2009) used drawing as a research approach to explore young children’s experiences and expectations of school. They reported that the drawing of the children, aged 4- to 6-years-old, and the narratives the children produced in the process of drawing reflected children’s perceptions and understandings. Teachers and the classroom contexts were influential factors in children’s generation of drawing and narratives. The researchers highlighted the importance of regarding children’s drawing as a process, where they can verbally and visually construct and convey meaning, rather than only as a product.

Furthermore, Papandreou (2014) described three children, aged between 4- to 6-years-old, who drew pictures in a teacher-initiated reading activity, solving arithmetic problems and spontaneous drawing. The researcher found that children drew to communicate with others, and they combined drawing with other ways of meaning-making (e.g., elaboration and discussion) to promote communication. Papandreou (2014) claimed that children needed to “make genuine thinking efforts” (p. 97) in the process. Children also had opportunities to recall and express previous experiences and knowledge, produce strategies, solve problems, develop new ideas and reflect on their mental activity in drawing. Children’s drawing, a meaning-making activity in a specific sociocultural context, assisted other individuals to understand children’s communicative potential and the relationships between children’s thoughts and drawing and can be used by children as a learning approach in the early years (Papandreou, 2014).

Vygotsky (1978) viewed drawing as a critical step toward written language although the meaning sometimes is likely to be known only to the drawer/writer. Clay (1987) noted a letter written by a preschool girl Lauren and her mother to Grandma. By drawing lines and curves below mother’s words, Lauren enjoyed the experience of sending a
message to her grandma and learning about how information could be passed between different persons.

Yang and Noel (2006) assessed 17 children’s scribbles and name writing in two successive years in America. The study started when the children were four-year-old. The researchers found that scribbles, such as single vertical, horizontal and curved lines, were most commonly used by the children. Only two children, at age four, wrote their name on drawings, whereas 14 five-year-olds did this. Moreover, children, at age 5, often included the names of family members and friends in their writing. Trawick-Smith (2014) presented a series of his 4-year-old son’s early writing samples, which exhibited the evolution of the boy’s writing from drawing with scribbles to letters like adult print. Similarly, Whitehead (2009) identified the milestones of early writing as early scribbles, isolated letters and single words like children’s own names. In other words, when children started to learn to write intricate lines and curves, the basis of letters and words, they are on the way to be a writer.

Bindman, Skibbe, Hindman, Aram, and Morrison (2014) explored the relationship between 135 children’s writing semi-structured birthday-party invitation cards and the support these children received from their parents. The researchers found that the children, aged 4.5 years old on average, received variable and low-level support from their parents for approximating sound-symbol correspondence (i.e., graphophonemic knowledge) and production of letter forms (i.e., print knowledge). Similar to children’s errors in oral communication (Clay, 1998), children’s errors when writing were accepted by their parents, who did not ask for corrections. Children received higher graphophonemic support in writing their names than other words. The researcher concluded that parents’ support for their preschool children’s writing, despite being
minimal, was linked to important literacy-related outcomes (e.g., decoding and fine motor skills) in preschool.

Children’s drawing and early writing may need an integrated knowledge of early literacy. They may recall the image of the object, event or print before the drawing or writing activity, mimic the lines and curves during the activity and talk about what they have drawn and written after the activity. Repeated naming and renaming of objects during drawing helps children construct their own sentence patterns, a schema of narratives, and gain more experiences of expressing themselves fluently (Trawick-Smith, 2014). Through drawing, children increase their understanding of the combination of knowledge about early writing, including print awareness, letter knowledge, phonological awareness, and spelling competences, as well as expanded vocabulary (Bloodgood, 1999; Clay, 1998; Molfese, Beswick, Molnar, & Jacobi-Vessels, 2006). Researchers, hence, stated that children’s scribbling, drawing and early writing is related to children’s positive early literacy outcomes and further learning (Graham & Hebert, 2010).

Other pathways. Studies focusing on children’s literacy experiences and learning in spontaneous conversation, pretend play, early reading, drawing and early writing have been reviewed in this section. Children’s pathways to literacy, however, are not restricted to these activities. Their participation in storytelling and electronic game playing has been shown to open the door to the literacy world.

According to Bruner (1991), when children tell stories they engage in cognitive and social experiences to explore and understand the world. McNaughton (2002) described different styles of storytelling in a range of various cultural communities which illustrated the value of storytelling for children’s future literacy learning. Bateman, Carr, and Gunn (2017), investigating 12 children’s storytelling experiences in kindergarten in
New Zealand, reported that children’s storytelling and literacy learning was influenced by three factors: availability and engagement of people (e.g., teachers and peers), encouragement of spaces for instructional and informal storytelling, and utilization of objects (e.g., toys, story shells, iPads, swings, slide and balls). Children’s imagination was demonstrated by using the objects in their storytelling; flexibility by accommodating the actions of their partners; and complex, rapid, and dynamic decision-making by responding to unexpected interactions between the object and them.

The close relationship between children’s engagement in traditional activities, such as conversation, book reading, and drawing, and their literacy learning has been discussed and demonstrated in previous studies. Luke and Grieshaber (2003) indicated that children’s play, socialization, and ways to literacy are influenced by new technological modes of information. Researchers focused their interest on the contribution of computer playing (e.g., software in computer, iPads and apps) to children’s learning in the early years (Brooker & Siraj-Blatchford, 2002; Neumann, 2018).

Brooker and Siraj-Blatchford (2002) studied 48 three- to five-year-old children’s experiences with computers in nursery schools in the United Kingdom through interviews and observations. The researchers found that children were active learners when they were given the freedom to play with appropriate computer software. Children’s social, cognitive, and linguistic development could be identified in the play. The researchers commented that bilingual children’s play on a computer was valuable, as the computer provided visual cues and animations and exemplified the language forms, which could be frequently repeated. The computer also acted as a powerful medium for children’s on- and off-screen activities, such as role play, providing children and their peers with opportunities to solve problems through their mutually supportive collaboration.
Neumann (2018) investigated the impact of children’s using iPad and apps on their emergent literacy learning. By pre- and post-testing the literacy skills of 48 two to five years old children, equally divided into an iPad group and a waitlist control group, Neumann found that the three apps (i.e., letter matching, tracing, and drawing) significantly enhanced the iPad-group children’s letter name and sound knowledge, print concepts, and name writing skills. No difference was found for letter writing skills between the two groups. The researcher concluded that tablets facilitate children’s letter name, sound learning, and emergent writing development.

Researchers have also reported that shared music activities, singing and dancing, also contribute to children’s vocabulary- and oral-language learning in the early years (Tangaere & McNaughton, 1994; Williams, Barrett, Welch, Abad, & Broughton, 2015). Moreover, children shared family and childcare centre cultures with teachers, peers and family, when they navigated between the settings by singing and talking about the songs (Tangaere & McNaughton, 1994).

Children’s literacy learning through various pathways has been illustrated in this section. Children have opportunities to accumulate experiences and develop multiple literacy capabilities in an event, because multiple pathways may integrate in the event. Kim and Kim (2017) studied a four-year-old Korean boy’s storytelling, drawing and performing about dinosaur extinction with his six-year-old brother at home. The 13-minute interaction between the brothers was divided into four phases: constructing a story of a dinosaur, developing a story of a volcano eruption, explaining the reason, and drawing, telling, and acting the dinosaur extinction theories. The researchers found that the four-year-old used multiple and complex ways, such verbal, non-verbal and embodied actions, to make meaning in the activity process. Kim and Kim (2017) suggested that teachers understand children’s perspectives, experiences and knowledge to
support their meaning-making process, as sociocultural practices, during child-initiated
free play. Moreover, different activity forms (e.g., drawing, singing, dancing, and drama)
can be integrated into educational practices to extend children’s communication,
entertainment, and learning.

In conclusion, based on the literature, children engage in literacy learning in various
forms (Kress, 1997) and at their own pace (Clay, 1998). Home and early childcare
settings are the two critical settings for children to contact and develop literacy.
Variations in the practices of individuals, such as parents, siblings, teachers and peers,
and the cultural environments may influence children’s literacy learning in the settings.
The experiences of Chinese immigrant children, who live in a host country where the
dominant language and culture are English, in the home-kindergarten activities described
in this section, are ignored. More research needs to be conducted to understand more
about the group, who may have both congruent and incongruent across the home-
kindergarten settings, as their peers.

**Learning experiences across home-kindergarten settings.** The conventional view
that literacy learning begins at school has been changed as an awareness that literacy
begins at a child’s birth developed. While researchers have identified the positive
relationship between the support from parents and other family members and children’s
developing literacy competence (Bindman et al., 2014; Clay, 1998; Neumann at al., 2009;
Phillips & McNaughton, 1990; Tizard & Hughes, 2002), the contribution that early
childcare and educational settings make to children’s developing early literacy
competence has been acknowledged (Naqvi et al., 2012; Paley, 1981; Vincent, 2014).
Ideally, children’s prior home literacy funds are expected to increase as a result of shared
learning goals, principles and programmes in kindergarten and other preschool settings,
which, like children’s home, can be considered as a literacy nest.
Continuity in children’s literacy experiences can be found across home and kindergarten because of parents’ and teachers’ common belief that children should have chances to be introduced to the literacy world before they begin their formal schooling (Goodridge & McNaughton, 1994; McNaughton, Kempton & Turoa, 1994). The frequent communications between parents and teachers, such as during drop-off and pick-up times, increase the likelihood of parents and teachers building on literacy events across settings. Literacy activities, such as reading aloud to children, shared reading, singing nursery rhymes, telling stories, drawing or writing names, happen in both settings.

Volk and De Acosta (2001) observed the literacy learning experiences of three Puerto Rican preschoolers living in the US. They found that both similarities and differences existed in the three children’s home-school literacy experiences. The researchers suggested that teachers do not look for replication of school practices at home but for a range of literacy practices and people in children’s lives, which should be acknowledged as important and primary resources for children’s literacy learning. Interacting with family members, asking questions, listening to their perceptions, and observing their communication with children can provide teachers “with a new appreciation of network members’ skill as teachers” (Volk & De Acosta, 2001, p. 221).

Guo (2010) examined early learning experiences of eight Chinese immigrant children, aged three to five, in early childhood centres in New Zealand. Through observations, one day per week over five weeks, and parent and teacher interviews in kindergartens, Guo found that family culture greatly influenced the children’s early learning experiences in childcare settings, especially their language use and interpersonal relationships. Children’s learning was successful when the sets of cultural instruments (e.g., languages or books) in home and childcare settings were consistent and could be combined. In contrast, learning was impeded if children were unable to locate and use
their Chinese family culture in childcare contexts. Similarly, Barbarin et al. (2010), with a large sample (n=310), found that children’s readiness for school could be influenced by a home-school mismatch when children’s home culture was neglected in adults’ beliefs, support and control in preschool settings.

Schick (2014) investigated emergent literacy experiences of 127 Latino preschoolers with an average age of 4 years both at home and in Head Start preschools in the US. Through questionnaires completed by caregivers, observations of interactions between children and caregivers in wordless picture-book reading, assessment of children’s Concept About Print (Clay, 1979), narrative tasks for children and analysis of children’s discourses, Schick (2014) found that although children have rich literacy experiences, the extent to which these home and pre-school experiences were congruent varied. Schick claimed that children from middle-class families have more continuous home-kindergarten literacy experiences than their peers from low-income families because the education system in the US is grounded in middle-class European-American practice and middle-class European-American mothers teach children by eliciting information from their children, which were similar to the practices of teachers in kindergartens. Latino parents, in contrast, provide information to their children in a monologue style. Schick (2014), however, stated the discontinuity may enrich and benefit children’s literacy experiences, leading to higher emergent literacy outcomes through home-school book sharing activities. As Clay (1998) argued, children’s home literacy experiences offer teachers in kindergarten, where children continued their literate life, potential learning resources.

These studies suggested that both congruent and incongruent learning experiences occurred when children, especially bilingual children, travelled between culturally diverse home and kindergarten settings. Some ECE researchers and teachers, therefore,
argued for educational practices to bridge children’s learning experiences gap between the two settings (Barbarin et al., 2010; Guo, 2010; Reese, Spark, & Leyva, 2010; Volk & De Ascota, 2001), although Schick (2014) stated the gap also brought learning opportunities. The following studies suggest that children, in addition to teachers, can contribute to reducing the gap.

**Bridging literacy learning across the two settings.** Hill and Nichols (2009) shared a story of a preschool girl in their case study, from a sociocultural perspective, to illustrate how children engage in early literacy experiences across home and early childcare settings. Christianne, a 4-year-old English-speaking girl, gained home literacy experiences when her grandmother read Greek storybooks and sang her Greek songs, which were adapted from English songs. Christianne also liked playing a school-game, being a teacher of her dolls with the books of her 11-year-old uncle. When Christianne attended the childcare centre, the influence of her home literacy activities was obvious as she liked playing in the book corner, ‘reading’ (telling) familiar stories and copying text from books. Playing the teacher was her favourite activity at the centre, in which she could call her peers by name and hand out resources. Although she was raised by her non-English speaking grandmother, Christianne engaged in the early literacy learning at home and continued the experiences in the preschool setting.

Hill and Nichols’s (2009) research suggested that children can bring different literacy experiences from home to early childcare centres. Tangaere and McNaughton’s (1994) found that children also brought experiences from the childcare centre to home. The researchers studied the singing and talking experiences of a 4-years-old bilingual Maori girl, Rangi, in Aotearoa New Zealand. The researchers reported that Rangi showed her families what she had learned at Awh (kindergarten) by singing waiata (literally song, a major part of the formality of speech or informal greeting during special occasions in
Māori culture) in the car back and at home. Guo (2010) similarly reported that the 8 Chinese immigrant children in her study were active drivers of their own learning. The children were able to negotiate and bridge the cultural gap between their families and early childhood centres.

When children’s literacy experiences are shared across home and kindergarten settings, literacy practices in the two settings may also be affected. McNaughton (1995) told a story of his 4-year-old daughter, Talia, who brought a painting home from kindergarten with her name and a text. The text was written by the teacher based on Talia’s oral commentary. McNaughton surmised from the picture that Talia might be interested in and capable of writing her name with collaboration from parents or teachers. He became aware that he and other family members could alter home literacy practices for Talia.

Yet not all experiences of gap bridging have a successful ending. Vincent (2014) recounts an exception to the situation, in which children’s bridging literacy experiences behaviour benefits their learning. Before Francesca began Year 1, she had contacted early literacy through interactions with her parents, toys, and books at home. Her parents taught her how to write letters and her name. Francesca’s Year 1 teacher was happy to know that Francesca knew the names of upper-case letters and could write her name. Based on Francesca’s literacy funds of knowledge, the teacher was eager to see if Francesca could master the sounds of letters and write lower-case instead of upper-case letters. Francesca, however, struggled with these two tasks as they were different from what she had been taught at home. The prior experiences of writing the upper-case letters and her name, taught by her parents at home, interfered Francesca’s learning of writing the lower-case forms. According to Vincent, the pressure made Francesca unwillingness to take part in school or writing activities.
A substantial body of literature that focusing on preschool children’s multiple pathways to literacy, congruent and incongruent literacy learning experiences at home and in childcare settings, and bridging literacy learning across the two settings have been reviewed in this section. As identified in the literature, children encounter, practise and develop early literacy when learning moves back and forth between home and childcare settings. Few studies, however, focused on Chinese immigrant children’s literacy learning experiences in New Zealand.

As a pioneer and critical contributor to the research on Chinese immigrant children’s learning experiences in New Zealand, Guo’s (2010) research on Chinese immigrant children’s learning at home and in early childcare centres in New Zealand provided insights for the following researchers. Her research data, however, was only collected through parent and teacher interviews and observations in childcare centres. Home observations were not conducted in her research. Children’s developing identities, which are related to their literacy learning (Cowie & Carr, 2009), were not addressed in Guo’s study. More research needs to be conducted to increase researchers’ and teachers’ understanding of Chinese immigrant children and offer educational implications.

The proposed study, therefore, extends Guo’s research by observing Chinese immigrant children’s experiences of literacy learning both at home and in kindergarten in New Zealand. Involving with literacy learning, Chinese children’s identity construction is also investigated. In the next section, studies on children’s constructing identities (i.e., learner, lingual, and cultural) in literacy learning in the early years are discussed.

**Early Literacy and Identities**

Generally, the identity of a person is complex as it is influenced by many factors, including the person’s history, beliefs, and educational experiences. A person’s identity,
such as gender, race, nationality, and social class (Fearon, 1999), is framed by the social and cultural context (Oyserman, 2004). Gee (2000) emphasized that a person’s identity is related to a certain “kind of person” he or she is being during a given time and in a specific context, within which the person interacts. One’s identity, therefore, is unstable and fluid when the moment and context change. A person, therefore, can have multiple identities in a single occasion or event, due to the multiplicity of historical, institutional and sociocultural context (Gee, 2000). Among all the identities, however, one must have a core or predominant identity or several core identities in the occasion or event.

Barron (2007) wrote that the study of a person’s identity could either start from the individual and the internal processes or from the social and external factors. Originating in the sociocultural perspective, Engeström’s (2014) third-generation activity theory also highlights that a person’s engagement in and outcome of an activity could be vertically studied through the person’s changing identity in the activity, while horizontal exploration of the cultural contexts that the person interacts with could enrich researchers’ understandings. To provide a base to the investigation of Chinese immigrant children’s identity construction in literacy learning in and across home-kindergarten settings, literature focusing on the relationships between early literacy and children’s identities are reviewed in this section.

**Early literacy and children’s identities.** Cowie and Carr (2009) defined children’s identities as the roles children play in literacy activities and how adults position children both at home and in kindergarten. In their investigation of the consequences of documented assessment in early childhood settings in New Zealand, Cowie and Carr (2009) examined the culture of educational settings and the developmental history of the children, which have had an impact on children’s identities. They specified children’s identities as a range of sociocultural roles involving the skills, knowledge, and attitudes
in a learning community. They illustrated two identities of a child in a childcare centre: a student of the teacher and a teacher for younger peers. Cowie and Carr’s (2009) research described children’s positive participation in literacy activities, and their engagement in “identity formation-constructing a clear understanding of themselves in the early years” (Trawick-Smith, 2014, p. 452).

Children’s early identities are related to literacy activities (Cowie & Carr, 2009; Kendrick, 2005). Black et al. (2014) explored influential factors and the process of children’s identity construction by examining 6-year-old and up children’s participation in the games and activities in virtual worlds (e.g., Mattel’s Barbie Girls and Xtractaurs). The researchers analysed the artefacts, protocols and field notes collected during the process. They found that children’s discourses, based on literate and semiotic resources from the sites, influenced children’s understanding of their social roles and life opportunities available to them both in and out of the virtual worlds, which further influenced their identity construction.

From a sociocultural perspective, Cowie and Carr (2009) and Black et al. (2014) justified the rationality and feasibility of investigating children’s identity construction in literacy activities. Cowie and Carr (2009) stressed the influences of context and children’s experiences on children’s identity construction. Data collection and analysis through children’s artefacts, observation field notes, and children’s discourse in Black et al. (2014) research informed the research design of the present study. In spite of the achievements, the two studies did not define the specific identities children could build in the early literacy activities. The reciprocal influence of preschool children’s literacy experiences and identity construction need to be studied further. Rogers and Elias (2012) claimed that a young child’s identity is still “under construction as they are confronted with many different voices, narratives and discourses around literacy” (p. 261). ECE
researchers, such as Compton-Lilly (2006), Gomez-Estern, Amian, Medina, & Macaro (2010), Jones Diaz (2003, 2014), and Ferdman (1990), have explored the close link between children’s identities (i.e., learner, lingual, and cultural) and their early literacy learning. The reciprocal influence of preschool children’s literacy learning on identity construction, however, need to be studied further.

**Learner, lingual, and cultural identities.** Children are developing their learner identity when they use the acts of “planning, checking and questioning and by reflecting on experiences and tasks” (Ministry of Education, 2017c, P. 15). Compton-Lilly (2006) described how a child’s learner identity is constructed on the basis of his or her early literacy experiences. Devon, a 6-year-old African American boy in Grade 1, was attending Reading Recovery, an intervention programme to support children who are struggling with literacy learning after they begin formal schooling. As Devon’s Reading Recovery teacher, Compton-Lilly (2006) found that he neither identified himself as a successful reader or writer nor had any interest in reading at the beginning. Devon’s comments about his reading experiences in kindergarten were that it was too hard and no fun. As teaching continued, however, Compton-Lilly found that Devon came to school with rich cultural and literacy experiences from media and his home environment. Devon could tell stories of characters from popular cartoons, write sentences about sea turtles, and even apply rap rhythm to text reading, which was made use of by Compton-Lilly to develop his identity as a learner. One example was how Devon learned to write the word “wheels”. Devon wanted to write that he owned a bed with a picture of *Hot Wheels* (i.e., small toy cars) on at home but the print form of the word “wheels” was unfamiliar to him. Compton-Lilly drew a box for every letter in “wheels” and reminded Devon of having seen the word on the toy cars or packaging. After several tries, Devon successfully recorded the word “wheels”. The success inspired Devon. At the end of Reading Recovery, Devon could read more fluently and write increasingly more sentences both at
home and in school. Devon felt confident to be a reader and a writer. Devon’s mother also reported that Devon’s plans changed from being a superhero to being a reading teacher after college.

Compton-Lilly’s (2006) study reveals how school literacy learning experiences are contextualized within larger sociocultural contexts and how a child’s learner identity and literacy experiences influence each other. Teachers can successfully utilize media and cultural resources that lie outside of the traditional walls of schools to create learning experiences that are uniquely responsive to individual children and support their identities as learners. In addition to learner identity, children’s lingual identity was found to be positively connected with their early literacy learning (Jones Diaz & Harvey, 2007), when identity construction begins early (Jones Diaz, 2003).

Jones Diaz (2003) investigated the language experiences of 23 children, aged between 1 and 12 years, and their 25 families with Latin American Spanish-speaking backgrounds living in Australia. From parent questionnaires and interviews and observations of children’s language experiences at home, Jones Diaz found the distance between children’s access to Spanish in and outside of the family. The research revealed that children identified themselves as bilingual speakers, English and Spanish, while their parents identified their children as Spanish-speakers. Jones Diaz (2003) concluded that parents worry about the access of their children to learn Spanish outside of the family.

Children construct their lingual identities in daily communications with others. The possibility of this construction, however, could be constrained if the educators exclude children’s home language and insist on ‘English only’ pedagogies (Jones Diaz, 2003). Martinez-Roldan and Malave (2004) argue that when the home language is encouraged and supported in school, both home and school languages will thrive; children will not develop their English literacy at the expense of their home literacy. Once the connections
between home and school are made, children will not only have the opportunity to construct their lingual identities but also their cultural identities.

Ferdman (1990) claimed that, as a member of an ethnocultural group, a person’s identity is involved with being literate. He defined one’s cultural identity as “an image of the behaviours, beliefs, values, and norms—in short, of the culture—appropriate to members of the ethnic group(s) to which we belong” (p. 182). While a person’s cultural identity is closely linked to the social and ethnic identities to answer the question like “Who am I?” (Ferdman, 1990, p. 192); cultural identity is distinguished from the other two identities by focusing more on the cultural features of the person’s membership in a specific group.

Ferdman (1990) studied connections between children’s engagement in literacy activities and their cultural identity construction. He argued that children from the dominant culture are more likely to find a supportive continuum of literacy experiences between home and school and to build a stable way of thinking in the cultural context and construct their cultural identity as a qualified community member. In contrast, children with a minority background might be less likely to see the echoes of home in their literacy activities in school. The unparalleled literacy activities might bring the risk of chaos in children’s cultural identity construction. Ferdman (1990) stressed that children would engage less in literacy activities if those activities deny or devalue aspects of the children’s cultural identity.

Similar in vein, Gomez-Estern et al. (2010) argued that identity is created through social interactions and mediated by cultural tools. Children would tell others, especially the newcomers, about the routines in kindergarten, to familiarise them with the rules of the events that emerge in the specific context. Although young, “children are encultured–
they acquire and join in cultural events and practices, learning how to live within their community’s culture by participating” (David & Powell, 2010, p. 246).

The literature reviewed has addressed the relationship between children’s early literacy experiences and their construction of learner, lingual, and cultural identities in different contexts. Few studies (Chan, 2018), however, have focused on the reciprocal influence of preschool Chinese immigrant children’s literacy learning and identity construction in home-kindergarten activities in New Zealand. This study is designed to fill the research gap. Next, literature that investigated the experiences and perceptions of Chinese immigrant parents, who play important roles in their children’s early learning, is discussed.

Experiences and Perceptions of Chinese Immigrant Parents

The experiences and perspectives of parents of Chinese preschoolers, living in an English dominant country, such as America, Australia, and New Zealand, have also been investigated by researchers. Studies have shown that traditional Chinese beliefs and cultures about child development influenced Chinese immigrant children’s living and learning in host countries (Chan, A., 2018; Chan, E., 2004; Chen, 2001; Guo, 2010, 2012; Yu, 2014). Chan’s (2004) research reported that Chinese immigrants living in Australia try to be more Chinese even than the Chinese living in China. As Francis, Archer, and Mau (2010) reported, nationalistic pride leads Chinese immigrant parents to value their children’s Chinese language and literacy ability.

Yu (2014) examined the interplay of Chinese traditional culture and early childhood music education in America. Six Chinese immigrant parents, whose children were under 8-year-old and received music education in Philadelphia, were interviewed multiple times (i.e., six sets and three times in each set) to make their voices distinctive. Analysis
of the parents’ responses identified that four themes as central to the parents’ perceptions of child development: traditional concept of “guan” (literally control), high value of education, the function of music in Chinese culture, and value of music education as moral cultivation. The acculturation experiences of Chinese immigrant parents also reflected the tensions they confronted in their children’s music education. The tensions, rooted in the differences between traditional Chinese culture and the culture of America, included the hard work and effort versus the role of play in music education, “guan” versus independence, music education as moral cultivation versus music as a form of creative self-expression. Yu (2014) indicated that while the tensions were difficult for the parents to reconcile, an awareness of these tensions can assist both music teachers and the parents bridge the cultural gap and balance traditional Chinese culture with early childhood music education in America.

In Australia, Hu et al. (2014) examined Chinese immigrant parents’ support of and attitudes toward their children’s early bilingual development. The five children were 3- to 5-years-old and immigrated with their families from mainland China. The researchers interviewed mothers in these families and observed the interactions between the children and their family members. Similar to Chinese immigrant parents in other research (Lao, 2004; Wu, 2005; Yang, 2007; Zhang, 2004), the parents were reported to expect their children to adapt to English as quickly as possible while maintaining their home language. Hu et al. (2014) also found that practical reasons, such as future career success and communication among family members, influenced the parents’ perceptions of their children’s bilingual development. Formal and structured teaching strategies, which have been used by parents (Anderson, 1995; Wan, 2000), were not popular with the parents. Instead, the researchers indicated that the parents preferred children’s play-based learning and did not want their children to be educated using the traditional, skills-based, adult-directed teaching methods, which they had experienced as children. The researchers
suggested more opportunities should be provided for the Chinese immigrant parents to increase their understanding of bilingual development in children, such as the relationships between first and second language development and strategies to facilitate children’s learning.

Two studies have focused on Chinese immigrant parents’ experiences and perspectives when their children entered ECE in New Zealand. Guo (2012) investigated the viewpoints of 10 Chinese immigrant parents about their preschoolers’ learning experiences in childcare centres. Based on interviews with the parents, Guo reported that the parents hoped their children were being educated in a combination of Chinese and New Zealand culture. All parents believed “serious learning” (p. 6), such as words, numbers, drawing and piano, should happen both at home and in childcare centres. Some parents would “embrace the learning routines and programmes” (p. 7) of mainstream educational practices in the centres and merge these into home literacy practices. Some parents, however, were unable to raise their children in “kiwi” (p. 7) ways, which could lead to disparities between children’s learning experiences at home and in childcare.

This study also found that instead of communicating with teachers, some parents kept their dissatisfaction with their children’s learning experiences to themselves. The reasons included parents’ lack of confidence in their own knowledge, inadequate time to communicate with teachers or useless information from their interactions with the teachers. Guo concluded that developing a cross-cultural community of practice was necessary to facilitate the integration of Chinese immigrant children’s learning experiences at home with that in the early childhood centre.

Chan (2018) explored Chinese immigrant parents’ aspirations for children’s bilingual learning as their children navigated between home and early childcare centres in New Zealand. Chan analysed relative documents and interviewed the mothers from the
10 Chinese immigrant families, whose children were enrolled in three English-medium childcare centres. The researcher found that both alignments and misalignments existed between parental and institutional aspirations. On the one hand, the parents were committed to supporting their children’s bilingual learning through a range of approaches, such as daily conversations, Chinese storybooks, CDs, and television channels. On the other hand, they prioritized their children’s English learning due to their perception of the importance of English in the New Zealand context and hence risked their children’s losing their home language. Chan suggested that parents’ home practices to support children’s bilingual learning should not be dictated by the practices in childcare centres. Teachers, she suggested, can help parents enrich their understandings of bilingual education and develop strategies to facilitate children’s bilingual learning at home and early childcare centres.

Empirical research, focusing on the experiences and perceptions of Chinese immigrant parents on their children’s early learning in English speaking countries has been discussed in this section. The influence that traditional Chinese culture, and the socio and cultural context of the host countries on Chinese immigrant children’s learning, which was reflected in their parents’ practices and viewpoints, was highlighted. Although work has been done to date, more studies need to be conducted to enhance researchers’ and teachers’ understanding of Chinese immigrant families, whose preschool children learning literacy while travelling across different cultural contexts (e.g., home and kindergarten) in New Zealand. This study will add to the literature by providing evidence from multiple data sources (e.g., interviews and observations) in both settings.

**Chapter Summary**

The chapter was organised based on the research questions of this study. Previous definitions of the four key terms, such as literacy, experience, activity and identity, was
first reviewed. Contextualized definitions are given to the four terms. The literature on third-generation activity theory was discussed in the second section to provide a framework for this study. Specifically, the three lineages of the theory were presented. The critical concepts and empirical studies, which influenced the application of the theory in this study, were highlighted.

The literature on children’s multiple pathways and children’s learning experiences across home and early childcare settings were reviewed. Furthermore, children’s initiation of bridging their home-kindergarten literacy learning across settings were discussed, followed by a section of the relationship between children’s literacy learning and identity construction in the early years. Studies on children’s construction of learner, lingual, and cultural identities in literacy activities were presented. Chinese immigrant parents’ experiences and perspectives on their children’s learning in English domain countries were discussed. The parents’ expectations of their children’s development of both Chinese and English language and culture were identified in the literature.

The following chapter focuses on the empirical part of this study. First, the research design is introduced. The research settings and participants, and data collection procedure are subsequently outlined. Multiple waves of data analysis are described.
CHAPTER THREE

METHOD

This study aims to describe and explain Chinese immigrant children’s literacy learning in kindergarten and at home in New Zealand. The research takes a qualitative approach, which enables researchers to gain a specific and in-depth understanding of a problem or phenomenon (Creswell, 2013). An individual’s participation in events in natural settings can also be understood by building on the insiders’ voices in the events (Denzin & Lincoln, 2018; Maykut & Morehouse, 1994). Merriam (1998) addressed that, with a qualitative research approach, researchers can gain insights into “the meaning people have constructed”, “how they make sense of their world”, and “the experiences they have in the world” (p. 6). As the research questions concentrate on children’s living stories across multiple settings (i.e., home and kindergarten) and early learning is multifaceted, a focus on a small number of children is appropriate. According to Whitehurst and Lonigan (1998), researchers can gain an understanding of children’s early literacy and obtain a detailed picture of children’s daily learning through qualitative research, such as case study. I, therefore, used case study as the research approach to explore, describe, and explain the complexities of Chinese immigrant children’s home and kindergarten literacy experiences and learning, drawing on multiple data sources, over time.

Research Design

Case-study approaches function as a funnel (Bogdan & Biklen, 2007). Researchers begin their studies with a wide lens and, then develop a focus, formulate questions, and
narrow the scope of data collection and research activities. Data analysis starts with data collection and shapes the fieldwork (e.g., observations and interactions) that follows. The research ends with a broad discussion based on the data. Morse and Field (1995) suggested that studies with open-ended and descriptive research questions favour case-study design because the researchers can develop their understanding of an issue or phenomenon through different cases. Merriam (1998) indicated that case-study approaches can provide researchers with “an intensive, holistic description and analysis of a bounded phenomenon such as a programme, an institution, a person and a process, or a social unit” (p. xiii). Different from Merriam, who based her concept on the epistemology of constructivism, Yin (2014) indicated that case study can help researchers, who have little control over a phenomenon, answer “how” or “why” (p. 2) questions concerning the phenomenon. With these values, case study is widely used in educational domains (Yazan, 2015) and plays an important role in expanding perspectives on children’s literacy learning (Dyson, 1995).

Brooker (2002) exemplified the importance of applying “in-depth case studies” (p. 291) to explore the language and literacy learning of two 5-year-old boys with different backgrounds (i.e., English and Bangladeshi) in the United Kingdom. Through home visits, parent interviews, classroom observations, and field notes, Brooker identified the two boys’ home and classroom literacy experiences and found mismatches between home-school experiences in both cases. The English boy could compensate home disadvantages through adult support in school and parental input into schooling, which were less available to the Bangladeshi boy. Learning from the in-depth stories and thick descriptions of the two boys, Brooker (2002) called for school practitioners to re-examine their educational schemes and to increase the home-school communication to facilitate children’s literacy learning.
Other ECE researchers have applied a case-study approach with varied research foci, such as children’s ethnicities, number of participants, data sources, and contexts (Compton-Lilly, 2006; Guo, 2010; Jones Diaz, 2003; Reaves, 2014; Yu, 2014). For example, Compton-Lilly (2006) reported a 6-year-old African American boy’s learner-identity construction through early reading activities at school. Guo (2010) explored eight Chinese immigrant children’s learning experiences in six New Zealand childhood centres. Jones Diaz’s (2003) investigated six Latin American parents’ experiences of constructing bilingual identity and the influences on their children’s identity construction in Australia. Reaves (2014) examined the effective investment of cultural tools (i.e., toys and topics) of five preschool children, who came from different lingual and cultural background, in their early literacy learning in America. Yu (2014) examined six Chinese immigrant parents’ acculturation experiences when their children, aged less than eight, received music education in America. The case-study approach provided these researchers with in-depth and juicy raw data, which differed across studies, through interviews, observations, field notes, and reviews of children’s artefacts (e.g., drawing and writing). My understanding of the varieties and complexities of early childhood education has been developed based on the findings of these studies. Case-study approaches, either single- or multi-case, has facilitated researchers’ investigations into problems and phenomena in children’s early learning.

Although case-study approaches have been extensively used in early childhood education, few studies have observed the literacy experiences of Chinese immigrant children in and across home and kindergarten, two culturally diverse contexts, in New Zealand. More studies need to be conducted to identify these children’s roles in experience transferring and literacy learning as well as the factors that influence the children’s initiating, understanding, and responding in meaningful communication when
the children travel between the two settings. The children’s construction of identities, accompanying the learning process, needs to be investigated. A case-study approach is used to assist in the exploration of the phenomena in this study.

For the current research design, I opted for a multi-case study design to make my findings and arguments compelling by checking the generalisability of claims from more than one source. A multi-case study, with a small number of cases or instances (Guo, 2010), can assist researchers to understand a phenomenon through a detailed and comprehensive investigation. Yin (2014) emphasized that the benefits of multi-case study are “substantial” and “powerful” (p.64) and a selection of four to ten cases can help researchers achieve their research purpose effectively and efficiently. In this study, four Chinese immigrant children were purposefully selected as case-study children to elicit descriptive personal stories, and simultaneously, to enrich understanding of their literacy learning in the early years. Multiple data, such as interviews, narrative tasks, observations and children’s artefacts, were collected and initially analysed for each focal child. The recurring patterns of Chinese immigrant children’s literacy learning and identity construction across the four cases were synthesized. The findings of this study, therefore, are generated in the analysis of unique features and context of the individual cases and a synthesis of common patterns across the four cases.

With an overall intention of providing readers with “insight, discovery and interpretation” (Merriam, 1998, p. 28) of Chinese immigrant children’s literacy learning and identity construction in Aotearoa New Zealand, multiple data sources from the four cases helped me to seek answers to the following research questions:

1. What experiences do the Chinese immigrant children have in literacy activities at home and in kindergarten?
2. What are the reciprocal influences of the children’s home and kindergarten experiences on their literacy learning in and across kindergarten and home?

3. What is the influence of the children’s literacy learning on their identity construction in the early years?

4. What are the Chinese parents’ experiences and perspectives of their children’s early learning?

**Research Sites and Participants**

The focal children of the multi-case study were four preschool Chinese immigrant children who navigated between home and kindergarten in Aotearoa New Zealand and engaged in various activities, which involved literacy, in the two contexts. Other participants included parents, siblings, teachers and peers, who interacted with the focal children at home and in kindergarten. Access to potential participants started with the recruitment of kindergartens once I received the ethical approvals from University of Auckland Human Participants Ethics Committee (UAHPEC) with a reference number 015978 and Auckland Kindergarten Association (AKA).

I selected kindergartens as research sites rather than other types of ECE services (e.g., education and care services, home-based education and care, Te Kōhanga Reo, and playcentres) for two reasons, although all of these services were licensed or supervised by the Ministry of Education and met minimum standards of education and care to operate (Ministry of Education, 2018). Firstly, children’s enrolment in kindergarten constituted 16% of the overall enrolments in ECE services in 2014 and 2015, only second to education and care services, which was 63% in both years (Ministry of Education, 2017). Kindergartens, however, serve children between three and five years
old, while education and care services accept children from birth to primary school age. With a wider age range, identification of focal children and the required observations could be more complex in education and care services than kindergartens. Secondly, whereas kindergartens are managed by Kindergarten Association and have fully qualified and registered ECE teachers, education and care services can be privately owned and operated by a community or organisation with a specific language and cultural focus (e.g., Māori and Samoan) or teaching and learning beliefs (e.g., Montessori and Rudolph Steiner). Based on the reasons, potential kindergartens were identified and contacted. The following ethical issues were considered.

**Ethical considerations.** Participants in this study were respected as human beings “with dignity, self-esteem and the right to privacy” (Guo, 2010, p. 76), no matter how old they were and from which cultural and language background they came. Not harming any participant and ensuring their right was emphasized and observed throughout my fieldwork (i.e., participant recruitment and data collection). Documents submitted to and approved by UAHPEC and AKA included an application form, a research advertisement (Appendix B), data collection schedule (Appendix C), participant information sheet (PIS) and consent forms (CF) for teachers and parents (Appendix D-F), PIS and assent form (AF) for children (Appendix G-H), and semi-constructed interview questions for teachers and parents (Appendix I and J).

I provided detailed information about the research in the application form, such as the purpose of the study, research questions, data-sources and -collection procedures, the potential contribution of the study, and influences on the participants. The PISs informed the participants how they could engage in the research and their rights during the process, such as voluntary participation, right to withdraw and turn off the audio and video devices, confidentiality and anonymity for their privacy, and safety and future use of the
data. The PISs and CFs for head teachers and teachers were written in English, and those for parents were written in English and Chinese. Considering children’s age, both pictures and words were used in their AFs. Parents were asked to provide information and seek consent from their children using the forms. Upon the completion of data collection, focal children's teachers and parents were individually compensated 50 New Zealand dollars in cash for their time. A children's storybook was presented to each of the focal children as a gift. All the participants (i.e., teachers, parents, and children) were given a thank-you card.

**Recruitment procedure.** I followed the procedures approved by UAHPEC and AKA in the research process strictly. The identification of the research sites and participants started with my review of the online information of kindergartens in the Auckland area on the official websites of AKA and Education Review Office (ERO). Six kindergartens with a minimum number of five Chinese children were identified and targeted. More information, such as the environments, education team and programmes, and contacts (i.e., phone number, and email and physical address) of each kindergarten was obtained from the two websites. The research advertisement, highlighting the purpose and goals of the study, was emailed individually to the six kindergartens. Within two weeks, head teachers of Apple Kindergarten and Berry Kindergarten replied to the email invitation, expressing their interest in the research. A face-to-face meeting was arranged with teachers in each kindergarten. I briefly introduced the nature of the study (i.e., the purpose and procedures) and answered teachers’ questions at the meeting. Participants' rights (i.e., voluntary participation and right to withdraw, and confidentiality and anonymity, and storage and future use of data), benefits (i.e., understanding more

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¹ All names used in this study are pseudonyms.
about the Chinese immigrant children and reimbursement due to engaging in the study) and possible harms (i.e., interruption to the routines) were presented at the meeting.

After the teachers verbally expressed their willingness to participate, the following criteria for focal children were provided: (a) children are of Chinese descent and aged between 4.0 to 5.0 years old at the beginning of the study, (b) children’s first language is Mandarin, (c) children have attended Apple or Berry Kindergarten for 3 months so that they have had time to acclimatise to the kindergarten environment, and (d) at least one of the primary caregivers of the potential children speak either Mandarin or English for the sake of my communication with them. Teachers in each kindergarten indicated that more than two children met the criteria. A sealed envelope with PIS and CF was individually distributed to all teachers in both kindergartens. The teachers were reminded to sign the CF if they confirmed their participation and to return the CF in the sealed envelope the next day. All teachers, three in Apple Kindergarten and four in Berry Kindergarten, returned the CF with their signature and agreement to participate in the research.

I helped the teachers with the preparation and tidying up work in each kindergarten for one week after the teachers signed the CFs. The purpose of the warm-up week was to eliminate my interruption to the routines of the kindergartens and to increase familiarity between the participants (i.e., children, teachers and parents) and myself. I also answered questions from parents during pick-up and drop-off time during the warm-up week. The two head teachers were invited to recommend prospective case-study children. Envelopes with PISs, CFs and AFs for parents, prospective focal children and their peers were distributed to parents by the teachers at the end of the warm-up week. Parents were asked to return the CF and AF in the sealed envelope in a week.
Four Chinese children, three from Apple Kindergarten and one from Berry Kindergarten, were recruited as focal children of this study. Other participants included focal children's parents, siblings (if any), teachers, and peers. Thus, focal children's homes, in addition to their kindergarten, were also research settings for this study.

**Kindergartens and teachers.** Two kindergartens (i.e., Apple and Berry) were recruited as the research settings of this study. Both under the jurisdiction of AKA, the education programmes varied across the kindergartens. Table 2 describes the basic information of the kindergartens.

**Apple Kindergarten.** Adjacent to a reserve, Apple Kindergarten serves parents and children from one of the oldest downtown areas in Auckland. Local people, with different ethnic and cultural backgrounds, enjoy the convenience of being close to Auckland central business district (CBD) with a number of historical and cultural recourses in this area (e.g., museums, libraries, parks, and churches). Parents have choices of private and public early childcare centres, primary and secondary schools, and universities, located in or adjacent to this community. Apple Kindergarten runs a Kindergarten Day Model (ERO, 2015), which enables children, aged between 3 and 5, to attend kindergarten for 6 hours (8:30–2:30) per day, similar to school hours, and at least 20 hours per week. Teachers offer different combinations of whole day sessions to the 43 children enroled in 2016 to decrease the daily attendance number to 30 and provide personal and efficient education and care to every child.

Based on *Te Whāriki* (Ministry of Education, 1996; 2017c), the early childhood curriculum enacted by the New Zealand government, child-initiated exploring, creating and learning with various resources are supported in Apple Kindergarten. Moreover, children are encouraged to set goals, discuss processes, and evaluate outcomes for the
play-related activities (ERO, 2015). Respecting and valuing children’s home cultures and languages, Apple Kindergarten entitles every child the same rights in routine activities.

Table 2

**Basic Information: Apple and Berry Kindergartens**

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Apple</th>
<th>Berry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Urban</td>
<td>Suburb</td>
</tr>
<tr>
<td>Children</td>
<td>43</td>
<td>79</td>
</tr>
<tr>
<td>Age range</td>
<td>3 to 5 years old</td>
<td>3 to 5 years old</td>
</tr>
<tr>
<td>Chinese</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model of</td>
<td>Whole day</td>
<td>Whole day, morning,</td>
</tr>
<tr>
<td>sessions</td>
<td></td>
<td>and afternoon</td>
</tr>
<tr>
<td>Daily</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>attendance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Ratio of</td>
<td>1:10</td>
<td>1:11</td>
</tr>
<tr>
<td>staff to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>children</td>
<td>Indoor: Family corner,</td>
<td>Indoor: Family corner,</td>
</tr>
<tr>
<td></td>
<td>construction corner,</td>
<td>reading corner,</td>
</tr>
<tr>
<td></td>
<td>reading corner,</td>
<td>painting corner,</td>
</tr>
<tr>
<td></td>
<td>painting corner,</td>
<td>computer corner,</td>
</tr>
<tr>
<td></td>
<td>craft corner,</td>
<td>craft corner,</td>
</tr>
<tr>
<td></td>
<td>computer corner,</td>
<td>table games</td>
</tr>
<tr>
<td></td>
<td>table games</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outdoor: water play</td>
<td>Outdoor: water play</td>
</tr>
<tr>
<td></td>
<td>area, swing area,</td>
<td>area, swing area,</td>
</tr>
<tr>
<td></td>
<td>climbing field, sandpit</td>
<td>climbing field, sandpit</td>
</tr>
<tr>
<td></td>
<td>area, handcraft area,</td>
<td>area, handcraft area,</td>
</tr>
<tr>
<td></td>
<td>garden</td>
<td>garden</td>
</tr>
<tr>
<td></td>
<td>8:30 Drop off</td>
<td>8:45 Drop off</td>
</tr>
<tr>
<td></td>
<td>8:45 Mat time</td>
<td>12:00 Lunch</td>
</tr>
<tr>
<td></td>
<td>9:15 Free play</td>
<td>12:30 Free play</td>
</tr>
<tr>
<td></td>
<td>10:00 Morning tea</td>
<td>14:00 Mat time</td>
</tr>
<tr>
<td></td>
<td>10:30 Free play</td>
<td>14:30 Pick up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Free play and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>morning tea,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>children’s choice)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11:30 Mat time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12:00 Lunch</td>
</tr>
</tbody>
</table>
Meanwhile, the kindergarten maintains close relationships with parents, primary schools, and the local community (e.g., fire station and police station) through multiple events, such as festival celebrations and field visits. Figure 4 shows a poster of the Chinese Zodiac that was placed beside the classroom door to celebrate the 2016 Chinese Spring Festival. Corresponding Chinese and English names are written beside the cartoon image of each Zodiac. All children and parents are welcome to participate in the activities, such as making dumplings and enjoying Chinese dances performed by pupils from a nearby primary school at Apple Kindergarten. Children in Apple Kindergarten are provided with opportunities to develop various capabilities, such as literacy, numeracy, and creativity, as well as understandings of different cultures and their rules. The aim of the kindergarten is for the children to have smooth transitions between home-kindergarten and kindergarten-primary school in the continuous children-children and children-adult communication in a free and safe atmosphere.

**Teachers in Apple Kindergarten.** The care and education team consists of three qualified and registered full-time teachers: the head teacher Judy, and two other teachers, Rachel and Cherry. Table 3 presents the demographic information for the three teachers. The teachers cooperated with each other in daily work, such as preparation and tidy-up work, activities during morning and afternoon mat time, and organisation of children's morning tea and lunch. The teachers take turns being the indoor, outdoor and floating teacher\(^1\) to make sure children, who were engaging in various activities during the free play time, received timely support when it is needed. The cooperation and division of work responsibilities enable teachers to record children’s special moments, such as

\(^1\) The floating teacher may work at any area of the kindergarten to assist the indoor and outdoor teachers when they need help.
<table>
<thead>
<tr>
<th>Teacher</th>
<th>Teaching Experience (years)</th>
<th>Teaching Experiences in Apple Kindergarten (years)</th>
<th>Education Level</th>
<th>First Language(s)</th>
<th>Other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judy (Head teacher)</td>
<td>10</td>
<td>2</td>
<td>Bachelor</td>
<td>Mandarin/English</td>
<td>Maori (teaching)</td>
</tr>
<tr>
<td>Rachel</td>
<td>9</td>
<td>5</td>
<td>Bachelor</td>
<td>English</td>
<td>Maori (teaching) and Mandarin (greeting)</td>
</tr>
<tr>
<td>Cherry</td>
<td>17</td>
<td>10</td>
<td>Bachelor</td>
<td>English</td>
<td>Maori (teaching) and Mandarin (greeting)</td>
</tr>
</tbody>
</table>
painting, handcraft making, dancing, constructing, storytelling, and making new friends through notes, photographs and videos day by day.

Judy, Rachel, and Cherry usually greet children and their families at the gate of the kindergarten or the door of the classroom after children pass through the playground, garden, and sandpit. Children and their parents then sign their names on separate checklists. A locker, outside the classroom, is assigned for each child to put their school bag. To identify their bags, children select their name and photo from the photo board and stick it onto the locker. Home toys are not allowed in Apple Kindergarten and children are asked to give them back to their parents during drop-off time. When children are completing these tasks, parents can either read the information board outside the classroom, check the notice in the information pocket hung on the classroom door, or have a brief conversation with the teachers. As the communication opportunities during drop-off and pick-up time are limited, the teachers would also use Storypark¹, portfolios, emails, and phone calls to share with children’s families their children’s interest in learning and participation in special cultural events (i.e., Christmas and Chinese New Year celebrations, and field trips). Children’s special moments and progress are shared between the two parties through words, pictures, and even videos.

**Berry Kindergarten.** Berry Kindergartens is located in a suburban community with a spacious indoor and outdoor play areas, benefiting from the distance to the city centre (ERO, 2013). The community is known as a multi-cultural area with a large number of immigrant families from other countries, especially China. The arrival of immigrants boosted the multi-cultural practices in education (e.g., from early childcare centres to universities), business (e.g., restaurants and supermarkets) and leisure life (e.g., parks, parks, parks).

¹Storypark is instant communicative software, which could be downloaded to mobile phones, iPads and computers.
churches, and libraries) in the community. The rich resources available to children in Berry Kindergarten and the kindergarten’s commitment to cultural and lingual diversity have contributed to the kindergarten’s popularity among parents and children in the local community. Berry Kindergarten, a member of AKA, runs a Kindergarten Day Model (from 8:45 am to 2:45 pm) and served 79 children, aged between three to five years old. Children’s daily attendance number is restricted to 45, which is achieved by offering various combinations of morning, afternoon, and whole day sessions to children, who can attend the kindergarten at least 20 hours per week.

Based on the implementation of the early childhood curriculum *Te Whāriki* (Ministry of Education, 1996; 2017c) and the unique cultural context of the community, Berry Kindergarten is sensitive to sustaining children’s learning over time. Compared with their peers in Apple Kindergarten, children in Berry Kindergarten had more opportunities to make decisions (Rogoff et al., 2007; Smith, 2013), such as bringing and sharing home toys with kindergarten friends, having morning tea when they feel hungry, and finishing lunch either in or outside the classroom. The cultures and languages children bring from home are highly valued and encouraged in the daily communication in the kindergarten. Pictures of various cultural symbols, written languages, together with children’s artefacts (e.g., drawing, writing, and artwork) are displayed inside and outside of the classroom. Figure 5 shows a poster of a Chinese greeting song¹ that children sang during mat-time. Chinese Zodiac and papercuts surround the song. The English translation of the song is: “Hello. Hello. How are you? How are you? I am fine. I am fine. Thank you. Thank you.” Children’s social competence is fostered when their early learning in literacy, numeracy, and culture were understood and supported in the

¹ The Mandarin song was written in Pingyin—pronunciation of a Chinese character.
Teachers in Berry Kindergarten. Berry kindergarten is well-known for its professional care and education team, which consists of four qualified and registered full-time teachers. The head teacher, Joanna, and three other teachers, Sharon, Sophia, and Lisa, take turns to be inside, outside, sandpit and floating teachers each week. Table 4 provides information on the four teachers. Although working only half a year in the kindergarten, Joanna has organised several cultural events, such as St Patrick's Day, Christmas and Chinese New Year celebrations, with the support of Sharon, Sophia, and Lisa.
**Teacher Information: Berry Kindergarten**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Teaching Experience (years)</th>
<th>Teaching Experiences in Berry Kindergarten (years)</th>
<th>Education Level</th>
<th>First Language(s)</th>
<th>Other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joanna (Head teacher)</td>
<td>19</td>
<td>0.5</td>
<td>Bachelor</td>
<td>English</td>
<td>Maori (teaching) and Mandarin (greeting)</td>
</tr>
<tr>
<td>Sharon</td>
<td>13</td>
<td>6</td>
<td>Bachelor</td>
<td>Māori/English</td>
<td>Mandarin (greeting)</td>
</tr>
<tr>
<td>Sophia</td>
<td>10</td>
<td>1</td>
<td>Bachelor</td>
<td>Spanish</td>
<td>English, Russian, Maori (teaching) and Mandarin (greeting)</td>
</tr>
<tr>
<td>Lisa</td>
<td>2</td>
<td>2</td>
<td>Bachelor</td>
<td>English</td>
<td>Mandarin (greeting)</td>
</tr>
</tbody>
</table>

Children and their parents, depending on which of the three lanes they choose to arrive at the classroom, might be greeted by different teachers at drop-off time. If they wander along the left path beside the fence to enjoy the paintings hung on the fence, they might be greeted by the outside teacher at first. If they walk up the stairs to the top deck, connected to the classroom, they might meet with the classroom teacher. Children and their parents can also choose the right lane to enter the classroom after they walk through the garden and sandpit, where the sandpit teacher works. Free-play time starts once children sign their names on the attendance checklist and put away their school bags either in a locker or on a hook. If they have time, parents could walk into the classroom and check the information pocket hung on the wall. During free play, children could play inside or outside. For example, they could make handcrafts, read books, play table games and playdough, and bake cakes or cookies with a teacher. Some children may spend time on puzzles or Legos on the deck. Other children might play with the sand or draw pictures at the sandpit area. If children are tired of playing on the playground, they could...
watch the two rabbits in the garden. No matter in which activity the children are engaged, a teacher is always nearby to give them timely support when it is needed. For newcomers, especially those from other cultural and language backgrounds, immediate help might come not only from the teachers but also from children who spoke the same language and are encouraged to be a helper based on the children’s experiences in the kindergarten.

After an unstructured morning tea and free-play time, children participated in morning mat time activities, such as singing, dancing, reading, and storytelling, which are organised by the classroom teacher. The other three teachers also sit with the children on the mat, to support the classroom teacher and maintain order. After the mat time is lunch and pick-up time for children who attend only morning sessions. Brief conversations among teachers, children and parents may happen during pick-up time, at either midday or in the afternoon. Relationships between Berry Kindergarten and children’s families are built through Storypark, phone calls, emails, information pocket and children’s portfolios. Children's remarks, photographs, and videos are shared between teachers and parents from time to time to increase both parties' understanding of the children’s exciting moments and progress in the activities, which support children's further learning.

**Focal children and their family.** Four children were recruited as focal children of this multi-case study. Xiaolong, Tiantian, and Jianhao came from Apple Kindergarten. Mengmeng attended Berry Kindergarten. Table 5 presents the background information
Table 5

Focal Children and their Families

<table>
<thead>
<tr>
<th>Child</th>
<th>Age (year)</th>
<th>Gender</th>
<th>Birth country</th>
<th>Time in New Zealand (years)</th>
<th>Time in the kindergarten (year)</th>
<th>Home language</th>
<th>Kindergarten language</th>
<th>Ethnicity of main caregivers</th>
<th>Age of sibling (year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiaolong</td>
<td>4.5</td>
<td>Boy</td>
<td>China</td>
<td>1.5</td>
<td>0.25 (Monday to Friday)</td>
<td>Mandarin</td>
<td>English, Mandarin</td>
<td>Mother and father (both Chinese)</td>
<td>Baby sister (1-month-old)</td>
</tr>
<tr>
<td>Tiantian</td>
<td>4.4</td>
<td>Girl</td>
<td>China</td>
<td>0.6</td>
<td>0.25 (Monday to Thursday)</td>
<td>Mandarin</td>
<td>Mandarin, English</td>
<td>Mother and father (both Chinese)</td>
<td>No</td>
</tr>
<tr>
<td>Jianhao</td>
<td>4.7</td>
<td>Boy</td>
<td>China</td>
<td>2</td>
<td>0.75 (Monday to Friday)</td>
<td>English, Mandarin (listening¹, limited)</td>
<td>English</td>
<td>Mother (Chinese) and father (Pākehā)</td>
<td>No</td>
</tr>
<tr>
<td>Mengmeng</td>
<td>4.5</td>
<td>Girl</td>
<td>New Zealand</td>
<td>4.5</td>
<td>0.8 (Tuesday morning; Wednesday, Thursday, Friday morning)</td>
<td>Mandarin, English (talking with sister²)</td>
<td>English, Mandarin</td>
<td>Mother and father (both Chinese)</td>
<td>Feifei (sister, 7-year-old)</td>
</tr>
</tbody>
</table>

¹ Jianhao's mother reported that Jianhao could understand her Mandarin words and simple sentences in their daily conversation.

² Mengmeng's mother reported that Mengmeng often used English when communicating with Feifei.
for the four children. Each child is profiled in this section with their family composition and experiences at home and in kindergarten described. All names are pseudonyms.

**Xiaolong and his family.** Xiaolong was 4.5-years-old and had attended Apple kindergarten for three months when he was recruited as a focal child for this study. Born in the capital city of a southeast province in China, Xiaolong was mainly looked after by his mother while his father ran a trading company in Auckland, New Zealand. When Xiaolong was three, his mother brought him to Auckland to be reunited with his father. Xiaolong started preschool in a private English childcare centre and then continued schooling in Apple Kindergarten when the family moved to a community closer to his father's company. Xiaolong's father recently became his main caregiver as his mother needed to look after Xiaolong’s baby sister, who was 1-month-old at the beginning of this study.

Xiaolong was dropped off by his father at Apple Kindergarten every school-day morning, with a school bag full of necessities (e.g., water bottle, lunch, hat, and spare clothes). The father-son dyad had little time to communicate in the morning because they were busy preparing for school and work. Brief conversations, however, usually occurred when Xiaolong’s father picked up Xiaolong from kindergarten. The topic varied from what happened in kindergarten to what Xiaolong wanted to do. Xiaolong and his father used Mandarin, their first language, in the conversations and most likely at home when Xiaolong was playing Lego, figuring puzzles, reading, writing, or watching TV.

In kindergarten, English was Xiaolong’s preferred language. Occasionally, he spoke Mandarin with other children and Judy, who has a Chinese background. Xiaolong made good friends with Jim, a Pākehā boy, who was eight months younger than him. They often engaged in puzzles, swings, iPad games, and Lego constructions. Xiaolong was
open to playing with other children, which made him popular in kindergarten according to his teachers. His teachers also shared that Xiaolong liked various indoor activities, had good fine-motor skills, and understood kindergarten routines.

_Tiantian and her family._ Tiantian was 4.3-years-old at the beginning of this study and had attended Apple kindergarten for three months. She was born in a northwest city in China, where her parents completed their university education and married. Cared for by her parents, Tiantian attended a local kindergarten in the Mandarin-speaking city when she was three. Tiantian’s initial schooling finished half a year later when her father decided to pursue a higher education qualification in a New Zealand university. The family of three settled down in an urban community in Auckland. Tiantian’s mother, starting an online-trade business, became the main caregiver when Tiantian’s father participated in graduate diploma programme at the university. After awaiting a vacancy in Apple Kindergarten for several months, Tiantian continued her preschool at the kindergarten, which was convenient for the parents due to the short distance between the kindergarten and Tiantian’s home.

Although Tiantian was mainly looked after by her mother at home, she was frequently dropped off and picked up in kindergarten by both her parents from Monday to Thursday. Conversations rarely happened during the rushed time in the morning; instead, Tiantian usually talked with her parents about her kindergarten life on the way home. The conversations, always in Mandarin, would continue when they arrived home and had afternoon tea. Tiantian was eager to tell her parents about her kindergarten experiences, most of which were new to the couple. Conversations also occurred when Tiantian played with toys, watched her mother cooking, drew pictures, read storybooks, and wrote Chinese characters and English letters after afternoon tea.
At Apple Kindergarten, Tiantian participated in swinging, drawing, painting, computer games, role play, and play dough during free-play time. She also engaged in singing, dancing, storytelling, and big book reading at mat time, during which these activities were often organised by the teachers. Mandarin was Tiantian’s preferred language in kindergarten. She frequently communicated with other children and Judy who could understand and speak Mandarin. Tiantian’s parents remembered that when Tiantian started kindergarten, she made a good friend, Jason, a bilingual boy, who spoke Mandarin and English. The two children often played in the family corner and swinging area. Two months later, Jason left Apple Kindergarten for primary school, and according to Tiantian’s teachers, she was in the process of building new friendships.

**Jianhao and his family.** Jianhao was four months away from his 5th birthday at the beginning of this study. He was born in Beijing, the capital city of China. Jianhao’s mother, a native Mandarin speaker, married Jianhao’s father, a native English speaker from New Zealand, after they met and knew each other at work. Since Jianhao’s birth, Jianhao’s mother left her job to look after him when his father worked as an International English Language Testing System (IELTS) teacher in a language school. Every other month, Jianhao’s Mandarin-speaking grandparents from his mother’s side came to live with the family for a week. Jianhao gradually learned and used Mandarin and English to communicate with his parents and grandparents. When Jianhao was three, his parents decided to move to Auckland, the hometown of Jianhao’s father.

Living in an apartment near the seashore, Jianhao was mainly looked after by his mother, who worked part-time in a construction company while his father continued working as a full-time IELTS teacher in a local college. Jianhao’s mother dropped him off at Apple Kindergarten every school morning and picked him up from the kindergarten in the afternoon. Instead of directly going home after kindergarten, Jianhao
sometimes went to a nearby playground with his mother if time permitted. If his mother needed to return to work, Jianhao might also spend some time at his mother’s company; otherwise, Jianhao would play cars at home while his mother was doing housework. Jianhao had opportunities to join in his father’s computer games after the father returned from work. English was the only language used by Jianhao in home conversations although his mother would use Mandarin from time to time. Jianhao’s communication would focus on what he was doing rather than what had happened, such as his activities in kindergarten, even though his mother asked him.

According to Jianhao’s mother, Jianhao’s limited response to her questions about his kindergarten life did not mean that he was unsatisfied with it. Jianhao appeared to enjoy his kindergarten life and had a good friend, Edward, a Pākehā boy of similar age, there. This friendship started when they enrolled in the kindergarten in the same week. The two boys engaged each other in various activities, such as pretend play at sandpit and water areas, swinging, and iPad games. Jianhao and Edward spent almost every school day together. The teachers instantly knew who was absent when they saw one or the other playing alone or with other children. Jianhao used English while interacting with teachers and children in Apple Kindergarten. He was considered, by his teachers, as an experienced child in playing and learning, due to his engagement in mat time activities and self-management in free-play time.

**Mengmeng and her family.** Mengmeng was 4.5-years-old and had attended Berry Kindergarten for ten months when she was recruited as a focal child of this study. Mengmeng and her 7-years-old sister, Feifei, were born in Auckland, the second generation of a Chinese couple from Taiwan. The sisters were mainly cared for by their mother when their father worked and looked after his sick brother in Taiwan most of the year. Mandarin was the sisters’ first language, although Mengmeng and Feifei have never
been to Taiwan. Occasionally, Feifei, who had been a primary student for two years, would speak English with Mengmeng. When their father came back from Taiwan, the family of four would use Mandarin to communicate with each other.

From Tuesday to Friday, Mengmeng was dropped off by her mother at Berry Kindergarten after Feifei was dropped off at her primary school. Mengmeng would either go home after her mother picked her up from kindergarten or go to the primary school with her mother to pick up Feifei, depending on which session¹ Mengmeng attended. Mengmeng's communication with her mother was limited by her mother's busy life. Her mother needed to look after two daughters alone and work part-time in a trading company. Mengmeng's deep attachment to her mother was apparent as her mother often appeared in her drawings. Sitting in the lounge, watching cartoons and reading storybooks were Mengmeng’s options when her mother was busy in the kitchen. The mother-daughter dyad would stop their work and talk with each other from time to time. When Feifei was at home, Mengmeng would play pretend roles from cartoons, such as mermaids and butterflies, with her. The sisters would also play computer games or read storybooks in their shared bedroom. Feifei also appeared regularly in Mengmeng’s drawings and stories.

In contrast to speaking Mandarin at home, Mengmeng used English as her preferred language in kindergarten. According to her teachers, Mengmeng’s conversations often finished in one or two turns. Sometimes, she briefly told her teachers what happened in one sentence and left before the teachers responded. The teachers, however, agreed that Mengmeng’s communication with other children was frequent and continuous throughout various activities. Mengmeng's activity choices during free-play time in

¹ See Table 4 for Mengmeng’s school sessions.
kindergarten included reading storybooks, drawing pictures, playing Lego, puzzles, playdough, and Magna-tiles. Teachers in Berry Kindergarten regarded Mengmeng as a wise and "tabletop" child, who preferred and was good at the activities on tables (e.g., drawing, puzzles, and Magna-tiles). They collected Mengmeng's pictures on mermaids and jellyfish, two common themes in her drawing, and shared them with her family through Mengmeng’s portfolio and Storypark.

**Data Collection Procedure**

The multi-case study is designed to enrich understanding of Chinese immigrant children’s literacy learning and identity construction in activities in and across home-kindergarten settings in Aotearoa New Zealand. According to Creswell (2013), researchers can explore “a bounded system (a case) or multiple bounded systems (cases) over time through detailed, in-depth data collection involving multiple sources of information” (p. 73), such as observations, interviews, and audiovisual materials. Yin (2014) suggested case-study evidence can be collected from six sources, such as “documentation, archival records, interviews, direct observations, participant-observation and physical artefacts” (p. 104). As strengths and weaknesses exist in any data source (Yin, 2014), relying on one form of data is “typically not enough to develop this in-depth understanding” (Creswell, 2013, p. 98). In this study, four data sources (i.e., interviews, narrative tasks, observations, and children’s artefacts) were collected from participants (i.e., focal children, their parents and siblings, and kindergarten teachers and peers) over four months. Multiple data sources assure that “construct validity” (Yin, 2014, p. 45) has been achieved during data collection and that “the right information and interpretations have been obtained” (Stake, 2000, p. 35). Field notes, audio, video, and photograph recordings were used to enhance the reliability and validity of this study (Aubery, David,
Godfrey, & Thompson, 2000). Descriptions of data sources and their collection procedures are presented in subsequent sections.

**Interviews.** Interviews are valued sources of information to understand the lived world of participants (Kvale, 1996; Dahlberg, Drew & Nystrom, 2001). They have been commonly used in case-study research (Yin, 2014). The lives of the four focal children, aged between 4- and 5-year-old, have complex relationships with multiple socialisation agents, primarily parents at home and teachers in kindergarten (Guo, 2010). Parents and teachers were separately interviewed at home or kindergarten to understand their roles and experiences related to focal children in both socialisation contexts. Semi-structured interviews with open-ended questions were conducted in a conversational manner and lasted about an hour. Field notes were taken to identify the critical points of the interviewees' answers and to establish further questions, which followed the line of inquiry. Audio recordings were used during the interviews to ensure all information was recorded.

**Parent interviews.** In the 1-hour semi-structured interviews of focal children’s parents, questions were categorized into two parts (Appendix J). Part one focused on demographic and background information of the family. Questions in part two asked about focal children’s living and learning experiences, especially those related to early literacy at home and in kindergarten. With the research purpose in mind, I constructed the interview questions after reviewing prior studies (Guo, 2010; Senechal et al., 1998). I also referred to the Head Start and Kindergarten Parent Interview—one of Head Start Family and Child Experiences Survey (FACES) series in 2009 (Inter-university Consortium for Political and Social Research ICPSR, 2015a). Parents’ answers provided an initial understanding of the focal children's experiences and the literacy environments surrounding them. Interviews also revealed the parents' experiences and perceptions of
their children's early learning. A draft schedule for narratives tasks and observations at home were sketched out at the end of each parent interview.

**Teacher interviews.** The seven teacher participants were individually interviewed for about one hour in their respective kindergartens. Similar to those in the parent interview, questions in the teacher interviews were divided into two parts (Appendix I). Questions about the background information of each teacher were asked first, followed by inquiries about focal children's literacy experiences in the kindergarten. The source of the questions came from those in Guo’s (2010) research and the Head Start and Kindergarten Teacher Interview of FACES 2009 cohort (Inter-university Consortium for Political and Social Research ICPSR, 2015b). Through the teacher interviews, I gathered more information about the focal children, such as the events in which they were interested and engaged in the kindergarten, the children with whom they frequently played, and the communication and relationships between the kindergarten and the focal children’s family. Appropriate times and a primary schedule for kindergarten narrative tasks and observations were negotiated at the end of the interviews.

**Narrative tasks.** One week after the interviews with parents and teachers, Xiaolong, Tiantian, Jianhao, and Mengmeng took part in narrative tasks to provide information about their interests and discourses (i.e., language and behaviours) in their narratives. Gee (2009, p. 134) pointed out “as people encode what they are concerned about into the narrative, narratives of one’s own experiences are critical sense-making devices”. Schick (2014) used narrative tasks as an observational measure of children’s emergent literacy skills. In her research, children’s sharing a wordless picture book *A Boy, a Dog, a Frog and a Friend* (Mayer & Mayer, 1971) with the investigator was coded to identify children’s discourse skills, such as conversational autonomy, story
grammar, and literate language, as indicators of children’s reading readiness and school success.

In contrast to Schick’s research, no particular book was assigned to the narrative tasks in this study, as one purpose of the tasks was to uncover children’s interests. The four focal children were invited to tell me a story from one of their favourite storybooks, picture books, or their drawings in Mandarin, if the task was undertaken at home, and in English in kindergarten. To ensure the focal children completed these narrative tasks in a natural and relaxing atmosphere, they were invited: (a) between activities instead of interrupting their routines; and (b) later, if they were not ready the first time.

Prompts and encouragement in Mandarin at home and English in kindergarten, such as "你能用中文说一个你最喜欢的故事书上的故事给我听吗？[Could you please tell me a story from your favourite storybook in Mandarin?]", and "Interesting! Then what happened?", were offered when needed. There was no time limitation for the narrative tasks, considering the age of the focal children. Field notes were taken throughout the tasks. To avoid missing meaningful information, such as the focal children’s facial expressions, gestures, and actions, in their narratives, videos were recorded with a Samsung tablet.

Observations. When comparing the value of observations to closed-ended surveys and experimental designs, Marvasti (2014) argued observations allow researchers to “directly observe the many nuances and contingencies of human behaviour as they become manifest in a ‘natural’ setting (i.e., the field)” (p. 355). As this study took place in two natural settings, home and kindergarten, field observations served as a key source of evidence of the focal children’s literacy learning and identity construction in activities. According to Yin (2014), two types of field observations, direct and participant, can be
used for case-study research. In this study, direct rather than participant observations were used to minimise interruptions to routines and interactions of the focal children at home and in kindergarten. In other words, I conducted the observation as “an observer” (Creswell, 2013, p. 160), who only witnessed what was happening, instead of a participant, who played a role during the activities. After the activities, however, spontaneous chats sometimes occurred between me and the participants to verify my understanding of the participants’ discourses in the events.

**Kindergarten-home-kindergarten observation cycles.** Field observations started in the third week of data collection and continued over 10 weeks. As outlined in Table 6, I observed the four focal children’s interactions with other participants (i.e., parents, siblings, teachers, and peers) in three 3-day, kindergarten-home-kindergarten cycles, providing a total of nine observations for each child. For each observation cycle, I first observed focal children's participation in solo and group activities in kindergarten for 120 minutes. The 2-hour kindergarten observation mainly occurred during focal children’s free play for three reasons. Firstly, children spent 4.5 hours, 75% of the 6 hours in kindergarten, on different activities during free play. Secondly, the children decided what they wanted to play, with whom they wanted to play, and how they wanted to start and continue an activity. Thirdly, non-participants might be involved in the activities organized by teachers during the other 1.5 hours, such as mat time activities in the morning and afternoon, morning tea, and lunch. For the efficiency of data collection and ethical consideration, especially the rights and benefits of the non- participants,
observation only happened when the focal children were engaging in activities alone or interacting with other participants of this study.

On the second day of an observation cycle, I visited the focal child’s home and observed the child’s interaction with parents, sibling, or solo-play for 30 minutes. The home observation often started when children arrived home with their parents after kindergarten, as suggested by the parents in the interviews. Children often had afternoon tea after they arrived home and child-parent communication might happen during and after tea time.

On the third day, I went back to the kindergarten and observed focal children’s engagement in the kindergarten for 120 minutes. Considerations, such as not disturbing the normal life of all the participants, guided the observations. I did not anticipate seeing every literacy event at home and in kindergarten as they might happen at any time and in any form (i.e., oral and visual). The observation cycles, however, provided possibilities for me to see literacy events occurring across the two settings. Furthermore, the multiple, consolidated cycles of kindergarten-home-kindergarten increased the likelihood of observing literacy learning continuing across the settings.
Field notes (see Appendix K), including descriptive and reflective ones (Creswell, 2013; Guo, 2010), were taken during the observations. Information, such as time, object, participants and procedure of the activity, were written as descriptive notes, and immediate thoughts or questions about the activity were recorded as reflective notes. I initiated brief and informal chats, about 2-3 minutes, with participants after an activity to probe their thoughts about the activity in which they engaged. Any confusion about the participants’ discourses in the events was also resolved in these spontaneous chats. Open-ended questions and probes included:

- Could you tell me what this is?
- What does “______” (i.e., children’s saying, writing, and doing) mean?
- This is so interesting! How did you know ______?
- Can you tell me more about ______?

Similar to the spontaneous communication with focal children, I informally checked with parents and teachers about focal children’s experiences between observation sessions. The 3- to 5-minute entry-observation checks (Appendix L) helped me catch up with the children’s literacy experiences between and beyond the observation cycles. Sample questions included: “Was there any particular activity [CHILD] liked or participated during the past few days?” and “How did you feel about [CHILD]’s ______ during the past week?”. Brief exit-observation checks, usually 3-5 minutes, with parents and teachers occurred when my uncertainty about children’s discourse in the observations needed to be verified or clarified. Questions, such as “What does it mean when [CHILD] said/did _____?” and “Is this the first time [CHILD] said/did _____?”, were asked in the informal chats.
**Observations during drop-off and pick-up time.** Communication among focal children, parents, teachers and other children were observed during drop-off time before each kindergarten observation and pick-up time before each home observation. There were three reasons for the drop-off and pick-up observations. First, the observations were expected to supplement my understanding of the flow of literacy activities of each child across the kindergarten and home settings. Second, focal children could be observed signing their English name and commenting on the events, in which they had engaged, during these transitions. Third, drop-off and pick-up observations contributed to the triangulation of interview data related to communication between parents and teachers. I also observed the interactions between the focal child and their parent(s) on the way home when conditions permitted. For example, space was available in the car and the parents did not have any other plan. I kept my identity as a direct rather than a participant observer in these interactions to keep the experience as natural as possible. Field notes and video recordings were used in the observations, depending on the situation.

For each focal child, the observation duration during drop-off and pick-up times was between 10 to 30 minutes for each observation cycle, varying from family to family due to time available and the situation. The total drop-off and pick-up observation time was approximately 1 hour for each child. Overall, field observation time for each focal child was 14.5 hours (i.e., 1 hour during drop-off and pick-up time, 1.5 hours at home and 12 hours in kindergarten) over the three observation cycles, with a combined total of 58 hours for the four focal children (see Appendix M). For other participants (i.e., parents, sibling, teachers and peers), the observation time varied, depending on whether they were involved in the same activities as the community of the focal children.

**Children’s artefacts.** A child’s portfolio, either online or on paper, is made by teachers to share the child's learning stories, including their interest, remarks, and
learning progress, with child’s family (Black et al., 2014; Peters, Hartley, Rogers, Smith & Carr, 2009). In addition to a child’s drawings, writings, pictures, and videos, the portfolio also included thoughts and reflections from the child’s teachers and parents. Gonzalez, Moll and Amanti (2005) claimed that children’s portfolios provided important information about their sources of knowledge for parents, teachers, and researchers. Peters et al. (2009) regarded early childhood portfolios as valuable literacy artefacts because they could “empower children and enhance their identity as a learner” (p. 4). The focal children’s portfolios were pivotal sources of children’s artefacts in this study.

In each observation cycle, I reviewed focal children’s portfolios once I completed the field observations at home and in kindergarten. In other words, focal children’s portfolios were reviewed three times per week and nine times over three observation cycles. Photographs were taken as records of the information, such as stories, remarks, drawing, writing, and pictures in the portfolios. Focal children’s other artefacts, including artwork, drawing, and writing, excluded from the portfolios but related to the research topic, were also reviewed and photographed. I linked photographs of relevant artefacts, constructed before or after observation sessions, to the corresponding field notes and audio recordings. Detailed information about each photograph, such as the time, object and place of the activity, was noted to facilitate data analysis and interpretation.

In summary, data from four sources were collected over four months to provide insights to Chinese immigrant children's literacy experiences in and across home-kindergarten settings and their identity construction in literacy learning in Aotearoa New Zealand. The four data sources were: (a) initial 1-hour interviews of the four focal children's parents and teachers; (b) English and Mandarin narrative tasks for focal children; (c) field observations at focal children's kindergarten and home; and (d) focal children’s artefacts. Based on the data sources, I constructed, reviewed and shared on-
going periodic summaries with my supervisors on the gap days between the observation cycles in the 6th and 11th weeks. Specifically, I discussed my summaries and reflections with supervisors in the two intervening weeks. They asked questions about procedures for data collection, shared their insights and confirmed the processes. They also challenged my understanding of what I had observed and my interpretations. I shared a 3-minute video clip taken in kindergarten with focal children’s teachers to verify my understanding of the children’s experiences in kindergarten activities. Similarly, another 3-minute video clip taken at home was discussed between me and focal children’s parents to verify my understanding of the children’s home experiences. The remarks from teachers and parents contributed to my understanding of focal children’s discourses and learning in the activities. The discussion with supervisors were about one hour each time while the time for video-sharing with parents and teachers varied. Perspectives and suggestions from the three parties were noted and incorporated into the data collection and analysis.

**Data Transcription**

To ensure confidentiality of the data and two languages (i.e., English and Mandarin) used in data collection, I completed the data transcription for this study. The audio and video recordings were transcribed over 12 weeks. I carefully and repeatedly listened to the audio recordings from the interviews and watched the video recordings from the narrative tasks and field observations, to avoid missing any vital information, such as participants' discourses in an activity and the background information of the activity.

Gee (2011) defined the term “discourse” in two ways: little “d” (“discourse”), spoken and written language, and big “D” (“Discourse”), language and language-related behaviours, such as gestures, expressions, actions and using tools, when investigating the
relationships among language, identity, and activity. In this study, the big “D” of participants, namely language and behaviours, were highlighted in the transcription because multimodality is an essential feature of the lives of young children, who combine speech, action, drawing, and sound in their activities (Kress, 1997). Moreover, children’s primary and unique interactions with literacy and culture of a community are reflected via their language and behaviours—the big “D” discourse (Gee, 2002). Discourses of the participants, especially those of the focal children, became the foci of data transcription. The recurring audio- and video-data reviewing and interpretation facilitated recall and integration of supplementary information, such as background and environment of focal children’s activities to obtain a better sense of the data.

Different fonts were used in the transcripts to distinguish information relative to various research questions. Identifying information of the research sites and participants was replaced with pseudonyms. Folders, named for each of the four focal children, were constructed and filed in a key-protected computer. Ten transcripts, one from the narrative tasks and nine from the three 3-day observation cycles, were included in each folder. For each focal child, cumulative transcripts were about 28 to 38 pages, including three pages from the narrative tasks and the others from field observations. Field notes and photos of the same child’s artefacts were also filed in the folder. Descriptions of the artefacts were woven into the accumulative transcripts. An interview folder was constructed to contain transcripts from four parent interviews, and seven teacher interviews. A code system for sorting various data was developed in the data transcription (see Appendix N).

**Data Analysis**

Data analysis was undertaken for three purposes: a) depicting the literacy experiences of each focal child to construct a holistic picture of each case; b) drawing
each child’s experience transferring, process of learning, and identity construction in the selected activities; c) synthesizing similarities and differences across the four cases. Accordingly, data were analysed in three waves. All the transcripts, field notes, and photos of each child were re-examined and categorized into six themes to provide understandings of the activities that they were interested and engaged in during free-play time at home and kindergarten in the first wave. Seventeen episodes were purposefully selected from the cases for the second waves of analysis. The 17 episodes, some of which had shared or partially shared purposes, comprised 12 stories. A model of analysis was designed, based on the third-generation activity theory (Engeström, 2001), to understand influential factors, including the children’s previous home-kindergarten experiences, participation of other individuals, and division of labours among all the participants, of an activity. A cross-case analysis was conducted in the third wave. More information about the specific procedure of data analysis is presented in the following chapter.

**Chapter Summary**

This chapter has described the methodology of this study, which uses a qualitative research method with a multi-case study approach. Descriptions of the research sites and profiles of the participants, and ethical considerations in the preparation and conduction of my fieldwork were detailed in the second section of this chapter. Data-collection procedures were described, highlighting the application and integration of interviews, narrative tasks, observations and children’s artefacts, in which audio, video and photo records were used. My spontaneous chats with participants before and after the observations also increased my understandings of the data. The three waves of data analysis (i.e., individual case story, third-generation activity theory analysis, and cross-case synthesis) were briefly presented. Specific information about the three waves of data analysis is presented in the next chapter.
CHAPTER FOUR

THREE WAVES OF DATA ANALYSIS

Data from the fieldwork were transcribed and analysed to produce meaningful and empirically-based findings for intended audiences (i.e., ECE researchers, educators, and parents). Yin (2014, p. 133) argued that case-study analysis is “one of the least developed aspects of doing case study” due to the lack of “fixed formulas or cookbook recipes”, which are common in statistical studies. Yin advocated rigorous thinking by experienced case study researchers, presentation of sufficient evidence, and consideration of alternative interpretations in the process. To help researchers, especially novices, start the procedure and produce empirically based findings, Yin identified five components of data analysis, including “examining, categorizing, tabulating, testing, or otherwise recombining evidence” (p. 132).

General strategies (Yin, 2014), including developing a case description, relying on theoretical proposition, and working data from the “ground up” (p. 136) were sequentially used in three waves of data analysis to find answers to the research questions of this study. In the first wave, an individual case story of each focal child was depicted. Purposefully selected episodes were then analysed with third-generation activity theory, and finally a cross-case synthesis of the findings was generated. Specific techniques (Yin, 2014), including time-series analysis, pattern matching, explanation building, and cross-case synthesis, were separately or in combination used in each wave to identify empirical evidence of the findings. The three waves of data analysis are presented next.
First Wave of Data Analysis: Case Story

The first wave of data analysis was designed to provide answers to the first research question: “What experiences do the Chinese immigrant children have in literacy activities at home and in kindergarten?” Weaving the information from the transcripts, field notes, and photos, I examined, categorized and tabulated (Yin, 2014) the focal children’s literacy activities into six themes. The six themes, through which they made sense of their world and communicated with other participants, were spontaneous conversation, pretend play, early reading and storytelling, drawing and early writing, playing computer games, and singing.

A theme may include more than one episode, which starts with a focal child’s meaningful interactions with other participants, play equipment, or environments in an activity, and finishes with the child leaving or finishing the activity, or a non-participant appearing in the scene. Episodes of focal children’s activities, which had a shared or partially shared object, were classified into the same category. For example, Xiaolong’s working on a dragon and castle puzzle with Armstrong in kindergarten, figuring out a vehicle puzzle with Jim at another time in kindergarten, and his solo-engagement in a vehicle puzzle at home represents three episodes under the theme of spontaneous conversation. As puzzles were used by Xiaolong in the activities, the three episodes were included in a sub-theme with a title of “puzzle”. The spontaneous conversation theme in Xiaolong’s case included sub-themes, including swing, construction, and home chat, in addition to puzzle. Xiaolong’s oral communication with other participants was immediate, frequent, natural, and sometimes beyond the tools (e.g., toys or other equipment) that he employed in the activities. Table 7 shows the 20 episodes under five themes in Xiaolong’s case.
Table 7

*Activity Themes and Episodes in Xiaolong’s Case*

<table>
<thead>
<tr>
<th>Activity Themes</th>
<th>Episodes</th>
<th>Other Participants</th>
<th>Setting</th>
<th>Time Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous conversation (puzzle)</td>
<td>Dragon and castle</td>
<td>Armstrong</td>
<td>Kindergarten</td>
<td>8m10s</td>
</tr>
<tr>
<td></td>
<td>Vehicles</td>
<td>Jim</td>
<td>Kindergarten</td>
<td>10m13s</td>
</tr>
<tr>
<td></td>
<td>Vehicles</td>
<td>None</td>
<td>Home</td>
<td>8m15s</td>
</tr>
<tr>
<td>Spontaneous conversation (swing)</td>
<td>Jump from the Sky Tower</td>
<td>Caesar</td>
<td>kindergarten</td>
<td>7m30s</td>
</tr>
<tr>
<td>Spontaneous conversation (construction)</td>
<td>My rescue robot</td>
<td>Jim, Jianhao</td>
<td>Kindergarten</td>
<td>6m</td>
</tr>
<tr>
<td></td>
<td>Trailer station</td>
<td>None</td>
<td>Home</td>
<td>7m</td>
</tr>
<tr>
<td></td>
<td>I know you speak</td>
<td>Bambi</td>
<td>Kindergarten</td>
<td>30s</td>
</tr>
<tr>
<td></td>
<td>Mandarin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneous conversation (home chat)</td>
<td>Zhenzhen’s language</td>
<td>Father</td>
<td>Home</td>
<td>2m14s</td>
</tr>
<tr>
<td></td>
<td>Baby sister’s cradle</td>
<td>Father</td>
<td>Home</td>
<td>5m30s</td>
</tr>
<tr>
<td></td>
<td>You are late today.</td>
<td>Father</td>
<td>Home</td>
<td>2m</td>
</tr>
<tr>
<td>Pretend play</td>
<td>Doctor-patient</td>
<td>Tiantian and Eva</td>
<td>Kindergarten</td>
<td>6m30s</td>
</tr>
<tr>
<td></td>
<td>Police officer</td>
<td>Jim</td>
<td>Kindergarten</td>
<td>7m</td>
</tr>
<tr>
<td></td>
<td>Car park</td>
<td>Mack</td>
<td>Kindergarten</td>
<td>5m30s</td>
</tr>
<tr>
<td>Early reading and storytelling</td>
<td>Do-whacky-do</td>
<td>None</td>
<td>Kindergarten</td>
<td>3m15s</td>
</tr>
<tr>
<td></td>
<td><em>The Little Horse Crosses River</em></td>
<td>Father</td>
<td>Home</td>
<td>7m42s</td>
</tr>
<tr>
<td></td>
<td>Words on a model car</td>
<td>Armstrong</td>
<td>Kindergarten</td>
<td>6m</td>
</tr>
<tr>
<td>Drawing and early writing</td>
<td>How to write “Bo”?</td>
<td>Father</td>
<td>Home</td>
<td>6m32s</td>
</tr>
<tr>
<td></td>
<td>Birthday card for Jim</td>
<td>Father</td>
<td>Home</td>
<td>9m12s</td>
</tr>
<tr>
<td>Playing computer games</td>
<td>T-Rex</td>
<td>Jim</td>
<td>Kindergarten</td>
<td>6m</td>
</tr>
<tr>
<td></td>
<td>This haven’t beeped yet</td>
<td>Jim and Tiantian</td>
<td>Kindergarten</td>
<td>5m</td>
</tr>
</tbody>
</table>

In total, 20 episodes under five themes were recorded in Xiaolong’s case.

Note: “m” refers to “minute” and “s” refers to “second” in time duration.
Following the identification and categorization of 20 episodes in Xiaolong’s case, similar procedures were completed for the other three cases. As a result, 18 episodes under five themes in Tiantian’s case (see Table 8), 14 episodes under five themes in

Table 8

*Activity Themes and Episodes in Tiantian’s Case*

<table>
<thead>
<tr>
<th>Activity Themes</th>
<th>Episodes</th>
<th>Other Participants</th>
<th>Setting</th>
<th>Time Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous conversation (table game)</td>
<td>Pushpins and a plastic board</td>
<td>Vincent</td>
<td>Kindergarten</td>
<td>2m10s</td>
</tr>
<tr>
<td></td>
<td>Playdough</td>
<td>Edda</td>
<td>Kindergarten</td>
<td>3m45s</td>
</tr>
<tr>
<td>Spontaneous conversation (swing)</td>
<td>I have a good friend who speaks Mandarin.</td>
<td>Jayesh</td>
<td>kindergarten</td>
<td>2m30s</td>
</tr>
<tr>
<td></td>
<td>See, I ran faster.</td>
<td>Xiaolong</td>
<td>Kindergarten</td>
<td>4m</td>
</tr>
<tr>
<td>Spontaneous conversation (home chat)</td>
<td>But the rule is girls run first and then boys run Mum, look, gratal. We have monkey bar</td>
<td>Mother</td>
<td>Home</td>
<td>6m40s</td>
</tr>
<tr>
<td>Pretend play</td>
<td>I need to lull my baby to sleep</td>
<td>Jim</td>
<td>Kindergarten</td>
<td>6m17s</td>
</tr>
<tr>
<td>Early reading and storytelling</td>
<td><em>Do-whacky-do</em></td>
<td>None</td>
<td>Kindergarten</td>
<td>1m21s</td>
</tr>
<tr>
<td></td>
<td><em>Clifford’s Birthday Party First Pictures</em></td>
<td>None</td>
<td>Home</td>
<td>6m13s</td>
</tr>
<tr>
<td></td>
<td><em>The very hungry caterpillar</em></td>
<td>The researcher</td>
<td>Kindergarten</td>
<td>2m</td>
</tr>
<tr>
<td></td>
<td><em>Do-whacky-do</em></td>
<td>Father</td>
<td>Home</td>
<td>3m5s</td>
</tr>
<tr>
<td>Drawing and early writing</td>
<td>I will draw a little princess</td>
<td>None</td>
<td>Kindergarten</td>
<td>1m</td>
</tr>
<tr>
<td></td>
<td>This is Bambi, my good friend</td>
<td>Mother</td>
<td>Home</td>
<td>9m15s</td>
</tr>
<tr>
<td></td>
<td>Who is Jack?</td>
<td>Mother</td>
<td>Home</td>
<td>4m</td>
</tr>
<tr>
<td>Computer playing</td>
<td>I have a flamingo at home too You need to keep pressing the beetle</td>
<td>Cherry</td>
<td>Kindergarten</td>
<td>2m43s</td>
</tr>
<tr>
<td></td>
<td>Bambi and Zhenzhen</td>
<td>Kindergarten</td>
<td>5m</td>
<td></td>
</tr>
<tr>
<td>Singing</td>
<td>Let me perform it for you</td>
<td>Parents</td>
<td>Home</td>
<td>5m21s</td>
</tr>
</tbody>
</table>

In total, 18 episodes under six themes were recorded in Tiantian’s case.

Note: “m” refers to “minute” and “s” refers to “second” in time duration.
Jianhao’s case (see Table 9), and 15 episodes under four themes in Mengmeng’s case (see Table 10) were identified, which made the total number of 67 episodes under six themes for all four cases.

Table 9

**Activity Themes and Episodes in Jianhao’s Case**

<table>
<thead>
<tr>
<th>Activity Themes</th>
<th>Episodes</th>
<th>Other Participants</th>
<th>Setting</th>
<th>Time duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous conversation (sandpit)</td>
<td>We need brick.</td>
<td>Edward</td>
<td>Kindergarten</td>
<td>8m12s</td>
</tr>
<tr>
<td></td>
<td>We don’t need this</td>
<td>Tiantian</td>
<td>Kindergarten</td>
<td>2m30s</td>
</tr>
<tr>
<td></td>
<td>We can’t play.</td>
<td>Edward and Rachel</td>
<td>Kindergarten</td>
<td>4m45s</td>
</tr>
<tr>
<td>Spontaneous conversation (home chat)</td>
<td>Mama, what are you cooking?</td>
<td>Mother</td>
<td>Home</td>
<td>40s</td>
</tr>
<tr>
<td></td>
<td>I want to play iPad.</td>
<td>Mother</td>
<td>Home</td>
<td>3m45s</td>
</tr>
<tr>
<td>Pretend play</td>
<td>It’s going to Australia.</td>
<td>Edward and Cherry</td>
<td>Kindergarten</td>
<td>6m30s</td>
</tr>
<tr>
<td></td>
<td>It’s going to Australia.</td>
<td>Mother</td>
<td>On the way home</td>
<td>6m</td>
</tr>
<tr>
<td></td>
<td>Mayday</td>
<td>Edward</td>
<td>Kindergarten</td>
<td>2m15s</td>
</tr>
<tr>
<td>Early reading and Storytelling</td>
<td><em>Do-whacky-do</em></td>
<td>None</td>
<td>Kindergarten</td>
<td>34s</td>
</tr>
<tr>
<td></td>
<td><em>Hannibal’s Noisy Day</em></td>
<td>None</td>
<td>Home</td>
<td>1m</td>
</tr>
<tr>
<td></td>
<td><em>Timo and the Kingfish</em></td>
<td>None</td>
<td>Kindergarten</td>
<td>2m15s</td>
</tr>
<tr>
<td>Drawing and early writing</td>
<td>This is my map.</td>
<td>Vincent</td>
<td>Kindergarten</td>
<td>4m50s</td>
</tr>
<tr>
<td>Playing computer games</td>
<td>Pachyrhinosauris.</td>
<td>Edward</td>
<td>Kindergarten</td>
<td>5m</td>
</tr>
<tr>
<td></td>
<td>Mayday</td>
<td>Father</td>
<td>Home</td>
<td>10m12s</td>
</tr>
</tbody>
</table>

In total, 14 episodes under five themes were recorded in Jianhao’s case.

Note: “m” refers to “minute” and “s” refers to “second” in time duration.
### Activity Themes and Episodes in Mengmeng’s Case

<table>
<thead>
<tr>
<th>Activity Themes</th>
<th>Episodes</th>
<th>Other Participants</th>
<th>Setting</th>
<th>Time duration (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous conversation (sandpit)</td>
<td>A fairy, and a horse</td>
<td>Sharon</td>
<td>Kindergarten</td>
<td>2m45s</td>
</tr>
<tr>
<td>Spontaneous conversation (table game)</td>
<td>Crazy chef</td>
<td>Amy, Sam, Tim, and Sharon</td>
<td>kindergarten</td>
<td>10m12s</td>
</tr>
<tr>
<td>Spontaneous conversation (construction)</td>
<td>Do you like Hello Kitty?</td>
<td>Eva</td>
<td>Kindergarten</td>
<td>2m15s</td>
</tr>
<tr>
<td>Spontaneous conversation (home chat)</td>
<td>I want Hello Kitty. Spider. Is she hiding now?</td>
<td>Feifei</td>
<td>Home</td>
<td>7m12s</td>
</tr>
<tr>
<td>Pretend play</td>
<td>You are mummy and you are baby.</td>
<td>Amy</td>
<td>Kindergarten</td>
<td>2m15s</td>
</tr>
<tr>
<td>Early reading and Storytelling</td>
<td>One day, there are two mermaids</td>
<td>None</td>
<td>Kindergarten</td>
<td>2m</td>
</tr>
<tr>
<td></td>
<td>Ask Nicely</td>
<td>Cindy, Ivy, Daniel, Yiling, and Lisa</td>
<td>Kindergarten</td>
<td>8m30s</td>
</tr>
<tr>
<td></td>
<td>The Paper Dolls</td>
<td>Lisa</td>
<td>Kindergarten</td>
<td>7m43s</td>
</tr>
<tr>
<td></td>
<td>Monkey Puzzle</td>
<td>None</td>
<td>Kindergarten</td>
<td>15m20s</td>
</tr>
<tr>
<td></td>
<td>How Maui Found the Secret of Fire</td>
<td>None</td>
<td>Kindergarten</td>
<td>5m23s</td>
</tr>
<tr>
<td></td>
<td>Seashells, Crabs and Sea Stars</td>
<td>Feifei</td>
<td>Home</td>
<td>3m14s</td>
</tr>
<tr>
<td>Drawing and early writing</td>
<td>Mermaids</td>
<td>None</td>
<td>kindergarten</td>
<td>6m</td>
</tr>
<tr>
<td></td>
<td>Carrot is on the ‘C’</td>
<td>Mother</td>
<td>Home</td>
<td>5m30s</td>
</tr>
<tr>
<td></td>
<td>Name writing</td>
<td>Mother</td>
<td>Kindergarten</td>
<td>2m45s</td>
</tr>
</tbody>
</table>

In total, 15 episodes under four themes were recorded in Mengmeng’s case.

Note: “m” refers to “minute” and “s” refers to “second” in time duration.

A 30- to 35-page case story was constructed for each of the four focal children.

Children’s demographic information and their previous experiences related to early
literacy, which was primarily based on parent and teacher interviews, was presented as
the first part of each story. Episodes of children’s engagement in different literacy
activities were then described under various themes in a chronological sequence. My
initial interpretations of children's experiences and learning in the activities followed the
descriptions of the episodes.

Once the first case story of Xiaolong was complete, I shared it with my supervisors.
Multiple rounds of discussions and modifications occurred based on the supervisors’
feedback. The same construction cycle applied to Tiantian’s case story. The case stories
of Jianhao and Mengmeng were also discussed at supervision meetings. Sample episodes
from each case were also shared with research groups for the consideration of alternative
interpretations and explanations (Yin, 2014). Xiaolong’s case story is presented in
Appendix O as an example of the process.

Details from the case stories have been incorporated into subsequent waves of
analysis and, therefore, have not been included to avoid duplication. A general
introduction to focal children’s literacy experiences based on the parent and teacher
interviews, and multiple purposefully selected episodes of the children’s engagement in
narrative tasks and observations are described in the second wave of data analysis to
provide a meaningful context for analysis with third-generation activity theory. Focal
children’s artefacts are presented in the corresponding activities. Furthermore, samples
were selected from each case story to construct a synthesis of recurring patterns in the
cross-case analysis.
Second Wave of Data Analysis: Third-generation Activity Theory

The first wave of data analysis was designed to contribute to answering the first research question, regarding Chinese immigrant children’s experiences in literacy activities in kindergarten and at home. Correspondingly, the second wave of data analysis was designed to answer the second research question: “What are the reciprocal influences of the children’s home and kindergarten experiences on their literacy learning in and across kindergarten and home?”, and the third research question: “What is the influence of the children’s literacy learning on their identity construction in the early years?” To answer the two questions, the process of the focal children’s engagement in literacy activities was examined. I revisited the 67 episodes across the four cases to complete a pattern matching (Yin, 2014), based on the theoretical proposition of third-generation activity theory (Engeström, 2001).

An analytical model (see Figure 6), originating in the activity system triangle (Engeström, 1987) and the five principles of third-generation activity theory (Engeström, 2001), was designed to illustrate the on-going process of the focal children’s literacy learning and identity construction. Specific factors (i.e., object, cultural tools, community, and division of labour), which influence focal children’s engagement, were captured in each activity system. The five principles of the theory assisted me to identify the complex relationships among the multiple factors of a single activity system and between different activity systems, which evolved from a previous one. Consequently, the focal children’s on-going literacy learning and identity construction were depicted through presenting and comparing the data sets of the activity systems with the graphic model.
The model was developed from the activity system triangle (Engeström, 1987) and five principles (Engeström, 2001) of activity theory. A focal child, the subject, engaged in an activity with a stable or slight changed object (e.g., figuring out a puzzle or singing a song) across the three activity systems. The other components (e.g., cultural tools, division of labour and community) may change with the variation of the play areas and settings (i.e., home and kindergarten). As most of the activities occurred during free-play time in kindergarten and at home, rules of activities were not discussed in this study. Primary contradictions, in dashes, may happen between any two components (e.g., the cultural tools and object) in the process and see the change of the focal children. Changing components, in italic, may influence focal children’s outcome in each individual system and children’s development may be built on the outcomes across the systems. Finally, a prediction of the child’s future literacy learning could be made based on the experience.
Seventeen of the 67 episodes were purposefully selected across the four cases to complete this wave of analysis with activity theory. Based on the analytical model, episode-selection criteria included: (a) the activity in the episode occurred more than once or could be linked to other activities, at different times or settings, through a shared or partially shared object; (b) primary contradictions, happening between components of one activity system, occurred in the activity; (c) if the activity happened only once, changing factors could be identified as the activity unfolded; and (d) meaningful and understandable communication occurred between focal children and other participants. A total of 17 episodes (i.e., three episodes from Xiaolong's case, five from Tiantian's case, six from Jianhao's case and three from Mengmeng’s case) were systematically analysed.

Among the 17 episodes, nine episodes were reorganised into 4 stories to fit the analytical model, because the activities in the episodes happened at different times or in different settings but shared or partially shared an object. The other eight episodes recorded focal children’s engagement in eight different activities so that they were included as eight individual stories. The eight episodes fit the analytical model because influential factors (e.g., cultural tools, community and division of labour) changed as the activity unfolded.

Some episodes do not fit the analytical model because: (a) focal children engaged in an activity without verbally communicating with other participants; (b) no contradiction could be identified in an activity; and (c) the activity only happened once and was not related to any other activity. An episode that satisfied any of the three episodes was not included in this wave of analysis with the model, although literacy learning might have happened. For instance, Mengmeng’s participation in a storybook reading activity with her teacher, Lisa, and two peers was recorded in one episode. No verbal communication
or contradiction occurred between Mengmeng and other participants during the activity. Mengmeng sat quietly and was not involved in the discussion between Lisa and other children. I could not assess what she was thinking and learning in the activity through the model, although she made eye contacts and used facial expressions. That the activity happened only once in kindergarten and no other activity could be linked to this one through a shared or partially shared object also increased the difficulty to evaluate Mengmeng’s learning.

**Third Wave of Data Analysis: Cross-case Synthesis**

The third wave of data analysis was designed to achieve two aims. The first aim was to connect the dots to portray a holistic picture of the answers to the first three research questions. Recurring patterns, including the children’s literacy learning opportunities in activities, the role of their previous home-kindergarten experiences in the process, and their identity construction in the activities, were identified across cases to reveal their similarities. Miles and Huberman (1994) proposed that advanced descriptions and vigorous explanations can be developed based on the identification of the commonalities and differences across cases. A shared category, “ground up” (Yin, 2014, p. 136) from data across the four cases, was created after relevant descriptive texts were accumulated. For example, the four focal children had literacy opportunities through involvement in spontaneous conversation, one of the categories, although their topics varied. A cross-case file for spontaneous conversations was developed, and relative data from individual cases were then reorganised to contribute to the cross-case interpretation process.

The second aim of the analysis was to trace the critical voices of parents in the four families, who represented the role of community in home activities and contributed to their children’s literacy events, as the sting of the tail (i.e., last but crucial finding) of this
study. I provided examples of their experiences and perceptions of their children’s early literacy learning. The analysis uncovered the dilemmas and successes the parents had when the family culture and practices collided and reconciled with the kindergarten culture and practices. The foci of this analysis centred on the parents’ experiences and views of their children’s English and Chinese language and culture learning as well as maintenance of the communication between home and kindergarten.

**Chapter Summary**

The three waves of data analysis (i.e., individual case story, third-generation activity theory analysis, and cross-case synthesis) were specifically presented in this chapter to offer alternative interpretations of the focal children’s literacy learning and identity construction. Subsequently, these steps, designed and conducted to provide responses to the four research questions, prepared raw but juicy materials for the following two chapters. Specifically, findings from the 12 stories, analysed with the model, are presented in Chapter 5. Cross-case findings are synthesized and depicted in Chapter 6.
CHAPTER FIVE

FINDINGS FROM TWELVE STORIES

If we considered children's every literacy voyage in and across the two harbours, home and kindergarten, as them drawing a route on a literacy map, what would the map look like? What information would be highlighted on the map? Would children show their interest in some resources at one harbour, take them with him or her, and process the resources at the other harbour? If yes, what would be the resources and how would they process them? What benefits would the children have in the process? What would be the influences on other individuals at the harbour?

Four Chinese immigrant children’s literacy voyages in Aotearoa New Zealand will be presented and discussed in the following two chapters, to answer to the following four research questions:

1. What experiences do the Chinese immigrant children have in literacy activities at home and in kindergarten?

2. What are the reciprocal influences of the children’s home and kindergarten experiences on their literacy learning in and across kindergarten and home?

3. What is the influence of the children’s literacy learning on their identity construction in the early years?

4. What are the Chinese parents’ experiences and perspectives of their children’s early learning?
The findings from this study are presented in two chapters to parallel how I analysed the data. This chapter concentrates on 12 stories from the four 4- to 5-year-old Chinese immigrant children, Xiaolong, Tiantian, Jianhao, and Mengmeng, living and learning in and across home-kindergarten settings. Four sections, a section per focal child, are included in this chapter.

Each section moves from whole-to-part to provide answers to the first three research question. Each section starts with a general introduction to each child’s literacy experiences by integrating the information from parent and teacher interviews, narrative tasks, field observations, and children’s artefacts reviews. Individual stories of each child’s engagement in various home-kindergarten activities, during which meaningful communication occurred, follow the general introduction to illustrate “what was happening” in the two settings. Seventeen episodes are included in the 12 stories, because some episodes, which shared or partially shared an object, are categorized into the same story. In other words, focal children carried resources from one setting and processed them in the other. Finally, I zoom in on every story, with a lens of third-generation activity theory and the analysis model, to understand the relationships among the influential factors of an activity system and across activity systems. Answers to the second and third research questions, which focus on children’s literacy experiences and identity construction in literacy learning, are provided following each story.

Xiaolong’s Stories

In the initial parent interview, Xiaolong’s father reported that Xiaolong liked puzzles and Lego construction both in kindergarten and at home and was encouraged to
be active and participate in all kindergarten activities (PI\textsuperscript{1}, Xiaolong’s father, 23\textsuperscript{rd} February 2016). Xiaolong’s teacher said Xiaolong was “quite social” (TI\textsuperscript{2}, Judy, 16\textsuperscript{th} February 2016), had “fine motor skill”, and understood “everything in kindergarten” (TI, Cherry, 16\textsuperscript{th} February 2016). In the narrative tasks, Xiaolong was fluent and competent while retelling the story of *Do Whacky Do* in English in kindergarten (KNT\textsuperscript{3}, Xiaolong, 23\textsuperscript{rd} February 2016). At home, however, Xiaolong was hesitant and frequently sought his father’s help when telling the story from 《小马过河》 [*The Little Horse Crosses River*] in Mandarin (HNT\textsuperscript{4}, Xiaolong, 1\textsuperscript{st} March 2016). The story ended with Xiaolong repeating his father’s account sentence by sentence. Possible reasons for his hesitation may be gleaned from the initial parent interview that Xiaolong had not read home storybooks, most of which were in Chinese, with his parents for a few weeks since Xiaolong’s baby sister was born. Opportunities for Xiaolong to listen to and read stories in Chinese were limited in kindergarten although several storybooks did have English and Chinese versions (i.e., *The Speed Boat* and 快艇 and *Who Ate the Banana?* and 是谁吃了香蕉?). Judy was the only teacher in Apple Kindergarten who had a Chinese background and would read the Chinese versions to children at their request. Xiaolong was not observed to ask for any kindergarten storybooks to be read in Chinese throughout the research.

Literacy, however, includes more beyond storybook reading and storytelling. Any meaningful communication between Xiaolong and other participants is regarded as literacy in this study. The following three stories illustrated how Xiaolong understood

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\textsuperscript{1} PI is short for a parent interview. Please see Appendix N Codes of Data Sources.

\textsuperscript{2} TI is short for a teacher interview. Please see Appendix N Codes of Data Sources.

\textsuperscript{3} KNT is short for a kindergarten narrative task. Please see Appendix N Codes of Data Sources.

\textsuperscript{4} HNT is short for a home narrative task. Please see Appendix N Codes of Data Sources.
other participants and accordingly responded to them in spontaneous conversations happening in a puzzle and swinging in kindergarten and early writing at home.

**Story 1 “What is a pattern?”** Figuring out puzzles was Xiaolong’s usual choice during free-play time in kindergarten. He would independently complete puzzles and rarely ask for others’ help. According to Rachel, one of the teachers in Apple kindergarten, Xiaolong had tried most of the puzzles in the kindergarten and was "good at it" (TI, Rachel, 16th February 2016). Xiaolong’s engagement in the puzzles sometimes attracted his kindergarten peers’ interest. Spontaneous conversations occurred between them. When Armstrong, a 4-year-old English-speaking boy, joined Xiaolong in making a knight and dragon puzzle, Xiaolong clarified that the picture on the puzzle box could guide them to identify and locate individual pieces (KO, Xiaolong, 7th March 2016). He insisted that he and Armstrong should check the picture from time to time, especially when they could not decide a piece, to guarantee their final success.

Xiaolong had a unique experience during another puzzle time with his best friend Jim, a 3.9-year-old English-speaking boy. From time to time, giggles and hoorays could be heard when the two boys cheered for progress. Cherry, the indoor teacher, walked out of the office and stopped by Fred and Daniel, two 4-year-old English-speaking boys, playing Lego cars next to Xiaolong and Jim.

Cherry: “Oh, I love the pattern you’ve made, boys.”

(Cherry walked away. Xiaolong stopped searching for the puzzle pieces. He looked at Jim, who was wondering which piece he should use.)¹

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¹ The sentence in parentheses is the descriptions of participants’ body language, such as gestures, facial expressions, and actions.
Xiaolong: “What is a pattern?”

(Jim was focusing on his part of the puzzle.)

Jim: “I don't know what’s a pattern.”

(Xiaolong silently continued his puzzle for a few seconds. He then walked to Fred and Daniel’s Lego area and observed their playing.)

Xiaolong: “Pattern is black, black, red, black, black, red, black, black, red.”

(Fred and Daniel looked at Xiaolong without saying anything. Xiaolong then arranged nine cars in different colours in a row.)

Daniel: “It’s the pattern.”

(Daniel pointed to Xiaolong’s cars.)

Xiaolong: “Yes. Blue, yellow, red, blue, yellow, red, blue, yellow, red.”

Fred: “Yellow, red. Oh, I mean blue, yellow.”

Xiaolong: “Red.”

Fred: “Red.”

(The boys giggled. Xiaolong soon walked back to continue his puzzle.) (KO, Xiaolong, 9th March 2016)

Xiaolong’s primary interest in the puzzle was momentarily overtaken by his curiosity, piqued by Cherry's acknowledgment of Fred and Daniel's work with a special “pattern”. Driven by the immediate desire for understanding “pattern”, the very thing that won the teacher’s appreciation, Xiaolong initiated a two-turn conversation with Jim, his direct playmate in the puzzle, who might not have heard Cherry’s comment. He failed to find an answer to his question through the conversation. Xiaolong’s alertness to the
unfamiliar vocabulary from Cherry, who was the stimulus and part of the literacy environment (Farran et al., 2006), mediated his thinking and acting and brought him an opportunity to sustain learning through independent exploration.

Failure of the first trial did not frustrate Xiaolong, who continued his answer-seeking journey by leaving his puzzle area, in which he felt comfortable and confident, to enter Fred and Daniel’s Lego area, which was still fresh to him. Xiaolong’s further exploration by observing Fred and Daniel’s playing provided evidence that he was learning actively and independently rather than “waiting passively for things to happen to them” (Smith, 2013, p. 59) in this event. Xiaolong’s learning did not finish when he figured out the meaning of “pattern” in his observation. He created his sample of “pattern” by rearranging the Lego cars and even better verbally described his pattern with Fred and Daniel. Xiaolong’s understanding of “pattern” was received by Fred and Daniel. The learning was consequently shared between Xiaolong and his peers.

The analysis model, originating in the activity system triangle (Engeström, 1987) and the five principles of third-generation activity theory (Engeström, 2001), is used to transparentise Xiaolong’s learning process and draw a systematic conclusion of the influence of the changing factors on his literacy learning outcome in the activity. To understand the outcome, six influential factors, including subject, object, cultural tools, rule, community, and division of labour of each activity system, are described. A detailed explanation of the model was presented in the second wave of data analysis in the previous chapter. Xiaolong’s literacy learning process in the kindergarten spontaneous conversation, starting from his engagement in puzzle making, is depicted in Figure 7.

The three, individual activity system triangles in Figure 7 show Xiaolong’s engagement in the puzzle, his primary conversation about “pattern” with Jim, and his
Contradiction between his blank prior experience and intention of meaning-making.

**Xiaolong’s Experiences of Figuring out “Pattern”**

Outcomes:

- **Enjoying the puzzles**
- **Playing puzzles while trying to figure out “pattern”**
- **Further exploration**
  - Xiaolong moved to observe others’ playing.
  - Oral language, Lego cars
- **Figuring out the meaning of “pattern”**

When similar contradictions appear, Xiaolong may again make and create meanings of new vocabulary with the help of cultural tools and community in kindergarten.

Figure 7 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Xiaolong’s future literacy opportunities.
further exploration of the meaning of “pattern” at Fred and Daniel’s Lego playing scene. When the subject (i.e., Xiaolong) and the rule (i.e., free play) were the same, the other four influential factors varied across the three activity systems. The object (i.e., Xiaolong’s immediate desire or intention) gradually changed from entertaining with the puzzle in the first activity system triangle to entertaining with puzzles while thinking about “pattern” in the second triangle. Simultaneously, the cultural tools, which mediated Xiaolong’s discourse, differed from the puzzle to Cherry’s comment and puzzle across the two systems. A contradiction was generated between Xiaolong’s lack of prior experience with the word “pattern” and his urgent object to understand it when he returned to the puzzle. The object drove Xiaolong to initially seek solutions to the contradiction by moving from his puzzle area to Fred and Daniel’s playing area to study their “pattern”. In the third activity system, therefore, Xiaolong’s object focused on figuring out the meaning of “pattern”. His actions (i.e., observing and rearranging) and language (i.e., “Pattern is blue, yellow, red…”) in communication were mediated by his employment of more cultural tools, such as Lego cars and his oral language of describing the Lego cars, in the third activity system. In sum, Xiaolong’s competence of independent learning, the influence of his previous experiences, and his employment of various cultural tools became transparent through use of the model.

In addition to making the learning process transparent, the model also illustrates the contributions of Xiaolong’s changing community—from Jim to Jim and Cherry, and to Fred and Daniel—in his learning. Specifically, Jim and Xiaolong engaged with and entertained each other with the puzzle. Cherry’s oral language stimulated Xiaolong’s learning. Fred and Daniel’s playing provided a practical context for Xiaolong to explore the meaning of the vocabulary. The division of labour between Xiaolong and other participants also varied. Xiaolong’s roles developed from a puzzle player to a vocabulary meaning maker and meaning creator throughout the activity. Xiaolong’s multiple
identities, being several kinds of persons at one activity (Gee, 2000), is reflected in these changing roles (Cowie & Carr, 2009). As these roles involved Xiaolong’s questioning and exploring (Ministry of Education, 2017c) and employing cultural tools (Gomez-Estern et al., 2010), Xiaolong’s learner and cultural identities can be identified.

Overall, the outcome extended from Xiaolong’s entertaining himself with the puzzle, to his initiation of exploration of new vocabulary, to his making, creating, and sharing the meaning of “pattern” and constructing multiple identities. Based on Xiaolong’s pertinent discourse in the activity, a prediction can be made that Xiaolong’s experience of making use of cultural tools and community to serve his literacy learning can reoccur in kindergarten.

**Story 2 “This is how we jump from the Sky Tower.”** Conversations often happened when children were playing on the swings. The topics initiated by Xiaolong varied from what he saw and heard outside of kindergarten to what he felt and used in the kindergarten. While playing with Jim on the swings, Xiaolong pretended to be a policeman who was driving a police car and wearing a police camera, which was a piece of round wood tied to a leather string (KO, Xiaolong, 7th March 2016). The two boys discussed when a policeman needed a camera, how fast the police car was and what the siren sounded like. In the conversation, Xiaolong and Jim shared knowledge and personal perspectives of being a policeman. At another time while swinging, Xiaolong showed Caesar, a 4.5-year-old Pākehā boy, his experience of watching bungee jump from the Sky Tower. The conversation started with the two boys’ unique ways of playing with the swing.

Xiaolong: “Can you do this?”
(Xiaolong sat on the swing with his legs separately on each side of the seat, like riding a horse. Caesar watched Xiaolong’s actions.)


Caesar: “No. I can't do that. Guess what I can do?”

Xiaolong: “Yea?”

Caesar: “I am twisting. And then.”

(Caesar twisted the ropes of the swing and suddenly let the swing go. When his hands were tightly holding the ropes, the toes of his left foot tipped the floor, and his right foot rested on the left one. Caesar's body quickly spun with the swing.)

Xiaolong: “I can do that too.”

(Xiaolong changed the way of sitting and put his legs on the same side. He twisted the swing and suddenly let it go. He spun with the swing, too.)

Xiaolong: “Ahh…”

(Xiaolong shouted out. Soon, he repeated the actions. After he finished the second spinning, he kept quiet for a second.)

Xiaolong: “This is how we jump from the Sky Tower. You know.”

(Caesar silently stopped swinging, looked and smiled at Xiaolong, who stopped swinging too. After a few seconds thinking, Xiaolong continued.)

Xiaolong: “If you jump down from there, you need this kind.”

(Xiaolong pointed to the rope and then the top of the swing.)

Xiaolong: “And then you hook it up here.”
(Xiaolong pointed to the rope over his head.)

Xiaolong: “And then you let it go. And then you jump down from here. And then you jump down like that from the Sky Tower.”

(With his hands tightly holding the ropes, Xiaolong jumped from the swing onto the ground.)

Xiaolong: “And then you ‘Ahh…’ . You know.”

(Caesar silently shook his head. Both boys continued swinging.)

Caesar: “You have been there?”

Xiaolong: “Yes. I jumped down.”

Caesar: “Really?”

Xiaolong: “And then I landed on something soft.”

Caesar: Really?

(Caesar stopped swinging and looked at Xiaolong.)

Xiaolong: "I will when I am five." (KO, Xiaolong, 30th March 2016)

The spontaneous conversation, originating in both boys’ unusual ways of swinging, illustrated Xiaolong’s carefully observing, making connections between a current playing scene and real life, and enthusiastically sharing an experience with his peer, Caesar. Xiaolong’s reflection on his actions (i.e., holding the rope, twisting the swing, shouting and spinning) contributed to the linkage between swinging, the momentary activity, and bungee jumping, the activity that he watched with his father several weeks ago. Xiaolong’s claim of the similarity between the two events created a meaningful play situation and make-believe context (Fellows & Oakley, 2010), which immediately attracted Caesar's attention. Although Xiaolong received no verbal response from Caesar,
Caesar’s body language (i.e., stopping swinging, looking at Xiaolong and smiling at him) suggested his interest in the new topic. Receiving the silent request from Caesar, Xiaolong continued sharing his experience through exemplification of how people jump from the Sky Tower. Caesar’s continuous silence, on the other hand, suggested that he might be unfamiliar with bungee jumping. Xiaolong used his swing as a model and gradually increased details (i.e., how to prepare the bungee jump, what people do during the jumping and where people land) through his verbal and body language, to create a shared meaning (Farver, 1992; Ramani et al., 2014) between Caesar and him. Finally, the gap between Xiaolong’s observations and Caesar’s lack of information about the sport was narrowed. Caesar might not be surprised if he saw Xiaolong doing bungee jumping from the Sky Tower one day.

Xiaolong’s illustration of bungee jumping impressed me, with his careful observation and accurate memory of many details of the sport at the age of 4 and half. The dramatic ending of the conversation, however, indicated that Xiaolong kept an interest in the sport and may try it in the future. He may share more stories after his updated experience with bungee jumping.

Figure 8 presents the on-going process of Xiaolong and Caesar’s discussion during the kindergarten swinging. The spontaneous conversation began with the boys playing with the swings and ended with Xiaolong’s sharing his experience of bungee jumping with Caesar. Three influential components were constant across the three activity systems: the subject (i.e., Xiaolong), the rule (i.e., free play), and the community (i.e., Caesar). The other three components, however, changed.

Xiaolong’s object varied from entertaining with the swing to engaging Caesar into his new topic of bungee jump and convincing Caesar of his previous experience. Xiaolong’s
Xiaolong’s experience of watching bungee jump from the Sky Tower was shared with Caesar through his verbal and body language at the kindergarten swinging scene.

Outcome
Experience sharing
Xiaolong’s experience of watching bungee jump from the Sky Tower was shared with Caesar through his verbal and body language at the kindergarten swinging scene.

Outcome
Linkage between swinging to bungee jumping from the Sky Tower
Swings, experiences with his father, oral language, actions

Outcome
Information increasing
By using the swing as model, Xiaolong increased the details of bungee jumping to engage Caesar into the topic.

Contradictions
Among Xiaolong’s prior experience of bungee jumping, Caesar’s little experience of the sport, and Xiaolong’s instant desire for engaging Caesar into the topic

Engaging Caesar into the new topic
New topic initiator
Swings, oral language, actions

Figure 8 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Xiaolong’s future literacy opportunities.
previous experience of observing bungee jumping with his father worked as cultural tools and mediated his language and actions in the second and third activity system, although other cultural tools, such as the swings and the boys’ oral language and actions, were used across the three activity systems. Moreover, contradictions were generated when Xiaolong recalled the experience and made connections between swinging and bungee jumping. The contradictions among Xiaolong’s experience, Caesar’s lack of experience of the sport, and Xiaolong’s varying object of engaging Caesar into the new topic and convincing Caesar of his experience needed to be solved. Xiaolong’s solution was to increase details in his descriptions through language and actions, which led to the satisfying outcome step by step. Xiaolong’s multiple identities, reflected in his role shifting from a swing player, to a new topic initiator, and to a skilful narrator and persuader, were distinguished in the activity. As Xiaolong reflected on his experiences and used cultural tools, such as swing, language, and actions, to express his meaning in the procedure of the activity, the roles can be summarised into learner and cultural identities, which were the “core” (Gee, 2000, p.99) ones, at the given time and context. Finally, the experience was efficiently shared between Xiaolong and Caesar. A prediction could be made that when linkages and contradictions arise, Xiaolong, with his careful observations, numerous details, and skilful descriptions, would be ready to share his experiences with his peers in kindergarten.

Story 3 “Happy birthday, Jim.” While swinging with Jim in kindergarten, Jim told Xiaolong that he was going to be four years old and invited Xiaolong to his upcoming birthday party (KO, Xiaolong, 30th March 2017). On the way home, Xiaolong told his father about the invitation: “我真的很想去。[I really want to go.]” Xiaolong’s father agreed. His father asked him what birthday gift he would prepare for Jim. Xiaolong decided to give Jim a birthday card, “因为幼儿园的小朋友在去小学之前都
会收到生日贺卡。[Because kindergarten children will receive a birthday card before they go to primary school.]” Xiaolong and his father stopped on the way and bought a card in a shop. After arriving home, Xiaolong’s father gave him some biscuits. Xiaolong took the biscuits to the coffee table. While Xiaolong was eating, his father looked at him and continued the conversation about the birthday card.

Father: “你要在卡片上写什么呢？” [“What are you going to write on the card?”]  
Xiaolong: “Happy birthday, Jim.”

Father: “你知道怎么写吗？” [“Do you know how to write it?”]

Xiaolong: “我知道的。” [“I know.”]  

(Xiaolong thought for a few seconds.)

Xiaolong: “爸爸, ‘Happy’ 的第一个字母是什么？” [“Dad, what is the first letter of ‘Happy’?”]

Father: “‘H’. 你要先写 Jim 的名字。” [“You need to write Jim’s name first.”]

Xiaolong: “Ok. Jim 的名字是哪个字母开头的？” [“Which letter Jim’s name starts with?”]

Father: “‘J’. 等一下，现在不要写到卡片上。写到这里。” [“Wait, don’t write it on the card yet. Write it here.”]

(Xiaolong’s father took a piece of paper from the coffee table and wrote Jim’s name on it. He passed it to Xiaolong, who then copied the father’s writing letter by letter. While writing, Xiaolong named the letters aloud.)

Xiaolong: “J, i, m.”

(Xiaolong wrote the last letter several times.)
Xiaolong: “然后呢？” [“And then?”]

Father: “然后写 ‘Happy Birthday’ 啊。” [“Then you write ‘Happy Birthday’.”]

Xiaolong: “你能帮我写一个吗？” [“Can you write one for me?”]

(Xiaolong’s father wrote “Happy Birthday” on the piece of paper and then started working on his laptop on the dinner table not far away from Xiaolong. Xiaolong copied the letters, one by one. He finished the letters in “Happy” and read the word several times. He did not write the letters of “Birthday”.)

Xiaolong: “然后呢？” [“Then?”]

Father: “然后你要写你自己的名字啊。” [“Then you need to write your name.”]

Xiaolong: “这个我会。” [“I can write it.”]

(Xiaolong wrote his English name and put down the pen.)

Father: “我看一下。” [“Let me have a look.”]

(Xiaolong passed the paper to his father and leaned against him.)

Father: “你还没有写 ‘Birthday’.” [“You haven’t written ‘Birthday’ yet.”]

Xiaolong: “等一下再写啦。然后呢？” [“I will write later. What is next?”]

Father: “然后就没有啦。” [“That is it.”]

(Xiaolong jumped back to the coffee table, left the piece of paper on it, and started Lego construction on the carpet.) (HO¹, Xiaolong, 30th March 2017).

This episode exemplified Xiaolong’s engagement in early writing at home.

Originating in the birthday party invitation from Jim, Xiaolong selected a birthday card

¹ HO means home observation. See Appendix N for more information.
as a gift for Jim. Xiaolong's choice was influenced by his experience of a kindergarten practice that teachers often gave and read a birthday card, written by all the teachers, to a child during mat time on his or her fifth birthday before the child left for primary school. The kindergarten experience appeared to contribute to Xiaolong’s construction of the conceptual knowledge of the function of print (Puranik & Lonigan, 2014), such as expressing what people wanted to say, which was implicitly referred to in the home writing event. During his practice of writing the birthday card, Xiaolong also developed procedure knowledge about writing (Puranik & Lonigan, 2014), by identifying letters in an unfamiliar word (e.g., “what is the first letter of ‘Happy’” and “which letter Jim’s name starts with”) and writing the word letter by letter (e.g., “Jim” and “Happy”) with support from his father. The task of writing the birthday card also provided an opportunity for Xiaolong to write his own name in a real-life context, which may consolidate his sense of the print. As a bonus, Xiaolong’s concept of the genre of writing a birthday card was identified (e.g., “Happy birthday, Jim”) and sustained (i.e., “You need to write Jim’s name first” and “Then you need to write your name”) in his interactions with his father.

Figure 9 represents the initiation and development of Xiaolong literacy learning in the early writing activity. Xiaolong’s birthday card writing was initiated in the kindergarten swinging when Xiaolong, the subject, was orally invited to the birthday party of Jim, the community. After Xiaolong accepted Jim’s invitation, his idea about the birthday gift was mediated by his kindergarten experience of celebrating a child’s birthday by giving and reading a birthday card. Xiaolong’s object, therefore, changed from swinging to writing a birthday card for Jim in the second and third activity systems. A contradiction, which appeared between Xiaolong’s limited writing experience and his
Xiaolong’s knowledge and practice of early writing (e.g., letter identification, word writing, and genre) was developed by talking about and writing the birthday card. Xiaolong’s learning of early writing might again be triggered by similar contradictions and developed with advanced writers’ support.

Figure 9 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Xiaolong’s future literacy opportunities.
immediate desire for writing the birthday card, led to Xiaolong’s writing learning from his father, the community, at home. The genre of writing a birthday card, as a rule in the activity systems, influenced the father’s teaching and son’s learning in the process. Finally, Xiaolong may develop his knowledge of early writing (e.g., letter identification, word writing, and genre) through the home writing episode. Xiaolong’s learner identity, reflected in his questions to his father, bilingual identity, illustrated in his utilization of Mandarin and English in the conversation, and cultural identity, exemplified in the using various cultural tools and changing roles from experience narrator to developing English writer, were distinguished in the activity. Xiaolong’s learning of early writing may be triggered by similar contradictions in real-life tasks and sustained with his father’s support.

**Tiantian’s Stories**

In the initial parent interview, Tiantian’s parents revealed their concerns about Tiantian’s communication with others outside of the family, as Mandarin was her first language (PI, Tiantian’s parents, 18th February 2016). The couple more frequently talked with Tiantian about her kindergarten experiences than any other activities at home. Tiantian’s teachers reported Tiantian predominantly spoke Mandarin in kindergarten and suggested she might need time to adapt to the English environment (TI, Judy, 16th February 2016; TI, Rachel, 16th February 2016).

Tiantian’s preference for Mandarin over English was first observed in the narrative tasks. She chose a storybook *Do Whacky Do* but hesitated twice before starting the kindergarten narrative task, in which she was expected to tell me the story of *Do Whacky Do* in English (KNT, Tiantian, 23rd February 2016). The third time, Tiantian finished her storytelling in one sentence: “Ten clown did, do-whacky-do. 我不想讲额。[I don’t want
Comparatively, Tiantian enthusiastically told two stories in Mandarin at home with picture books: *Clifford’s Birthday Party* and *First Pictures* (HNT, Tiantian, 4th March 2016). She included rich information (i.e., plot and roles) from each story in her narratives. Tiantian’s language preference, however, did not stop her from enjoying playing and learning in kindergarten. Teachers considered her “delightful” and “versatile” in singing, dancing, role play, play dough, and craftwork (TI, Cherry, 16th February 2016). The following four stories exemplified communication between Tiantian and her parents in singing, afternoon tea conversation and early reading, and the interaction between her and a kindergarten peer in role play.

**Story 1 “让我给你演示一下。” [“Let me perform it for you.”]** As an important part of the routine activities during afternoon mat time, teachers and children in Apple kindergarten always sang a farewell song to each other before they finished the day. The song was sung in two languages, Māori and English. Children also used hand gestures while they were singing. The song was so popular with Tiantian that she would raise her hand high when a teacher asked: “Who wants to perform the song today?” Unfortunately, the opportunity to be selected was rare for children, due to the number of children in the kindergarten. After being picked up from kindergarten, Tiantian started crooning the melody of the farewell song in the car. Tiantian’s mother stopped talking with Tiantian’s father when she heard Tiantian's singing. Once Tiantian finished the tune, the mother started a conversation.

Mother: “今天唱歌了?” [“You sang songs today?”]

(Tiantian did not respond. Tiantian’s father started the melody that Tiantian just finished. The tune, however, was different from Tiantian’s singing. Tiantian made a face and stopped her father.)

Tiantian: “我给你演示一下。” [“I perform this for you.”]
(Tiantian began singing the song with language and gestures that she used in kindergarten.)

Tiantian: “Ta kite, ta kite, ta kite a no; we’ll see you, we’ll see you, we’ll see you again. 好不好?” [“Ta kite, ta kite, ta kite a no; we’ll see you, we’ll see you, we’ll see you again. Did I perform it well?”]

Mother: “好。真不错。” [“Good. Very good.”]

Tiantian: “吃午饭的时候也有。Ka ku ka kura, mo te ni ka kjura, 什么的。” ["We also have one at lunchtime. Ka ku ka kura, mo te ni ka kjura, and so on.”]

Mother: “你能再说一遍吗？” [“Can you say it again?”]

(Tiantian’s mother looked confused at Tiantian’s new song.)

Father: “她说的是毛利语。” [“She said it in Māori.”]

Tiantian: “对呀。” [“Yes.”]

Mother: “那你能再说一遍吗？” [“Can you say it again?”]

Tiantian: “Te na ka su ka kura, mo te ni ka kjura.”

(Tiantian’s mother smiled at Tiantian’s father.)

Mother: “虽然不知道什么意思，但是你闺女说的挺好听的。” [“Although I don't know what it means, your daughter beautifully sang it.”]

Father: “‘Ka kite’应该是 ‘I’ll see you’的意思。” [“‘Ka kite’ should mean ‘I'll see you’.”]

Tiantian: “‘Ka kite’跟那个不一样。” [“‘Ka kite’ is different from that.”] (HO, Tiantian, 9th March 2016)
Tiantian’s performance in the car illuminated her fondness of singing songs, which was regarded as a feature of her culture (Tangaere & McNaughton, 1994), even though the song was written in Māori and English. The singing was initiated by Tiantian’s spontaneous singing and the question from her mother. Tiantian’s confidence and familiarity with the song encouraged her to perform a standard kindergarten song with language and gestures to her parents after her father made mistakes with the tune. Tiantian’s proficiency and ease in singing the bilingual farewell song and the positive response she received from her parents inspired her tossing another Māori song, which is traditionally sung at lunch time. Consequently, the English and Māori language and culture (i.e., singing at farewell and lunch time to express people’s good wish and pray), carried by the songs, was passed from Tiantian to her parents, who became more familiar with Tiantian’s kindergarten experience and culture.

Figure 10 depicts Tiantian’s experience of bringing kindergarten learning home. Tiantian, the subject, primarily learned the farewell and lunch songs, the cultural tools, with teachers and peers, the community, during the singing time in kindergarten, to say goodbye to each other and pray before lunch. Due to Tiantian’s familiarity with the songs, a contradiction was generated in the difference between Tiantian’s kindergarten singing and her father’s version. Tiantian’s singing mediated her discourses (i.e., singing, language, and gestures) and urged her to perform a standard farewell song to her parents, the immediate community. The positive outcome stimulated Tiantian to continue sharing the lunch song with her parents. The overall outcome of the singing activity was the transition of the language and culture from Tiantian to her parents. Tiantian also illustrated her literacy and culture learning in the kindergarten by sharing the songs with her parents. As Tiantian’s role varied from a primary bilingual song learner and singer in kindergarten, to monolingual Mandarin speaker in the home conversation, and to a developing bilingual singer and culture transmitter, Tiantian’s bilingual and cultural
Tiantian’s Experience of Singing Kindergarten Songs

**Outcome**

**Language and culture transition**
The language and culture, carried by the songs, were transferred from Tiantian to her parents, who also deepened their understanding of Tiantian’s early learning in kindergarten.

**Contradiction**

between Tiantian’s kindergarten experience of the farewell song and her father’s singing.

**Outcome**

Receiving positive response from her parents

**Outcome**

Kindergarten experience of the lunch song

Sharing the kindergarten lunch song with her parents

**Outcome**

More language and culture transition may happen if Tiantian continues learning and sharing her learning with people in home-kindergarten settings.

Figure 10 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Tiantian’s future literacy opportunities.
identities can be distinguished in the activity. A prediction can be made that more experience transitions will happen if Tiantian continues learning and sharing her learning with people in home-kindergarten settings.

**Story 2** “我要哄孩子睡觉了。 [I need to lull my baby to sleep.]” At the family corner, Tiantian was sitting on a sofa and putting a dress on her baby, a doll with black hair, lying on her thighs. Not far from her, there was a mini coffee table and two beds of different sizes, one for children and a smaller one for dolls. On the wall beside the beds were several pictures of children playing at the family corner, including one of Tiantian holding a doll in her arms. While Tiantian was gently holding and patting the baby and murmuring some unknown music in a low voice, Jim walked into the family corner and sat beside Tiantian. Tiantian looked at Jim and held her baby a little bit higher.

Tiantian: "我要哄孩子睡觉了哦。” [“I need to lull my baby to sleep.”]

(Jim did not reply. Quickly, he picked up a plastic biscuit on the coffee table and pretended to eat it.)

Jim: “Yummy.”

(Jim showed Tiantian the biscuit. Tiantian grabbed another one from the table and silently pretended to eat it. Jim smiled at Tiantian. Tiantian put her biscuit onto the table and started looking around with her baby in arms. She suddenly pointed to one of the children’s pictures on the wall.)

Tiantian: “看墙上的照片。那个 Hungry¹就是我的好朋友。” [“Look at the pictures on the wall. That Hungry is my good friend.”]

¹ Tiantian called “Henry”, a peer’s English name, “Hungry”.
(Following her finger, Jim looked at the picture for a second. Jim soon turned to the other pictures. At the same time, Tiantian put her baby in the doll's bed and lay in the children's bed, covered with a duvet. A few seconds later, Jim joined her and lay beside her.)

Jim: “It’s time for bed.”

Tiantian: “Ok.”

(Tiantian moved to make more room for Jim. Both children giggled. After a while, Tiantian got up from the bed. The duvet on her side looked messy.)

Jim: “Don’t be funny.”

(Tiantian nicely put the duvet on Jim.)

Jim: “Pretend it’s night, ok?”

Tiantian: “Ok.”

(Tiantian noticed that a corner at the bottom of the duvet was not even. She walked over, smoothened the duvet and adjusted its position to make it cover Jim’s feet.)

Jim: “It’s really funny.” (KO, Tiantian, 30th March 2016)

The communication between Tiantian and Jim started with language mismatch, due to their different first languages, and ended with information exchanged, thanks to Tiantian’s adventure of using English and body language in the pretend play. Tiantian initially intended to direct Jim into her script of “looking after a baby” by action (i.e., holding the baby higher) and language (i.e., “我要哄孩子睡觉了哦” [“I need to lull my baby to sleep”]). The meaningful context Tiantian created did not influence Jim because he did not understand Mandarin, the language Tiantian used to convey her intention. As her initial communication failed, Tiantian tried to mimic Jim’s action (i.e., grabbing
another biscuit and pretending to eat it), to create shared meaning (Farver, 1992; Ramani et al., 2014) between Jim and her. Tiantian’s cooperative attitude was received by Jim, who gave a smile as feedback. Building on Jim’s response, Tiantian put forward a second invitation. She started a new topic (i.e., “看墙上的照片” [“look at the pictures on the wall”]) to attract Jim’s attention. Jim looked at the pictures as Tianitan expected, but no verbal comment following his action. Building on Jim’s response, Tiantian then used more actions (i.e., turning to the bed and pretending to have a rest on it), which finally led Jim to join her in the pretend play.

Tiantian managed to speak Jim’s first language, using simple but effective words, to respond to Jim’s remarks and show her cooperating, understanding and caring responses, as the play unfolded. Timely actions were used by Tiantian to create a make-believe context. Both children illustrated their understanding of the meaningful context they co-created (i.e., looking after someone at bedtime) and their individual roles (i.e., Tiantian as a caregiver and Jim as a care receiver) in the process. Consequently, the communication failure, caused by language mismatch, was replaced by effective information exchange, shared meaning creation and enjoyment, although no precise suggestion could be made on how much Tiantian, who spoke Mandarin as the first language both in kindergarten and at home, could understand Jim’s language, based on her brief verbal answers (i.e., “OK”). Tiantian may try to use a second language and a body language to facilitate understanding between her and her playmates and to respond to and build on her playmates’ ideas in pretend play and further extend her communication with people beyond her family.

The dynamic communication between Tiantian and Jim in the pretend play is illustrated in Figure 11. The subject of the activity (i.e., Tiantian), object (i.e., inviting
Oral language, doll, biscuit, actions

**Contradiction** between her and Jim’s spoken language in kindergarten

Tiantian

Inviting Jim to participate in the pretend play

Free play

Pretend play initiator, first language speaker

Oral language *photos, actions*

**Contradiction** between her and Jim’s spoken language in kindergarten

Tiantian

Inviting Jim to participate in the pretend play

Free play

Pretend play initiator, first language speaker

**Outcome**

Information transition failed from Tiantian to Jim.

Tiantian

Inviting Jim to participate in the pretend play

Free play

Pretend play initiator, first language speaker

**Outcome**

Enjoyment and development

Tiantian’s proper response, in second and body language, to Jim’s discourses led to the cooperation between the two children. They individually acted a role based on their understanding and entertained themselves in the pretend play.

If playing with other children whose kindergarten language was not Mandarin, Tiantian may again try the strategies to make successful communication.

**Figure 11** Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Tiantian’s future literacy opportunities.
Jim to participate in the pretend play), community (i.e., Jim), and rule (i.e., free play) were the same across the three systems. To achieve the object, Tiantian applied various cultural tools (i.e., first language, toys, photos, second language, body language, and play equipment) as the activity unfolded. The utilization of multiple cultural tools (e.g., second language, other language, and play equipment) helped Tiantian solve the contradictions, generated from the first language mismatch between her and Jim. Tiantian, finally, created a shared play situation and enjoyed the pretend play with Jim. Tiantian’s role changed from a pretend-play initiator to a caregiver, the role she wanted to play, and Tiantian and Jim’s engagement and enjoyment were sustained with the meaningful communication effectively flowing between the two children in the pretend play. Meanwhile, her cultural, learner and bilingual identities were constructed when she used the multiple cultural tools, reflecting on Jim’s response, and speaking both Mandarin and English in the activity.

**Story 3 “Nine baggy clown want going to town.”** Tiantian’s preference for listening to and telling stories in Mandarin was reported by her parents and teachers in the interviews and observed as she completed the narrative tasks. The kindergarten observations also recorded that she asked Judy, the head teacher, to tell her the story of The Very Hungry Caterpillar in Mandarin (KO, Tiantian, 8\(^{\text{th}}\) March 2016) and asked Xiaolong to find the Mandarin version of *The Speed Boat* at the book corner (KO, Tiantian, 10\(^{\text{th}}\) March 2016). I did not expect that Tiantian would tell stories in English, although I witnessed her listening to English stories with teachers and peers during mat time. In an informal conversation with Tiantian’s father after the second home observation, however, he shared with me a video clip of Tiantian’s storytelling at bedtime a couple of days before. The video changed my thinking. In the video, Tiantian told the story of *Do Whacky Do* in English, but the storybook she used at home was a
different wordless storybook *Ten Friendly Fish*, which is about sea creatures and numbers. Although Tiantian had little to say in the kindergarten narrative task with *Do Whacky Do* five weeks before, the story she told this time was totally different:

“Nine baggy clown want going to town. One clown sick, Do whacky do. I can’t go with you. Can’t I rest down no. (Tiantian turned to the next page.) Six, seven clown going to town. One clown sick, Do whacky do. I can’t force you. It can bo sis ri down. (She turned to the next page.) Seven clown ring going to town. One clown sick, Do whacky do. I can’t force you. How my see be go. (Tiantian turned to the next page.) Nine. 爸爸, ‘6’怎么说? [How should I say ‘six’?] (Tiantian’s father answered: “Six.” Tiantian stopped for several seconds and turned to the next page.) Six, seven clown going to town. One clown sick, Do whacky do. I can’t force you. I can’t force these three go. (Tiantian turned to the next page.) Biu. Six daddy clown going to town. One clown sick, Do whacky do. I can’t force you. It hanmai six roll. (Tiantian turned to the next page.) Four daddy clown were going to town. One clown sick, Do whacky do. I can't force you. 哦, 这船里是什么呀? 怪物。[OH, what’s in the boat? Monster.] (Tiantian turned to the next page.) Three daddy clown were going to town. One clown sick, Do whacky do. I can't force you. It jump on feet bo be di. (Tiantian turned to the next page.) Two dusk clown were going to town. One clown sick, Do whacky do. I can't force you. It wants to be boo. (Tiantian turned to the next page.) Biu. One daddy clown were going to town. One clown sick, Do whacky do. I can't force you. It jumping race to boo. (Tiantian turned to the last page.) Biu… 变出了一个房子。一个，两个，三个，四个，五个。爸爸我给你变个魔术. One, two, three, 变出了一个魔术。看，船里没人吧。 [Biu, change into a house. One, two, three, four, five. Dad, I show you magic.
One, two, three, magic. Look, nobody is in the boat!] (HO, Tiantian, 31st March 2016)

Both Tiantian’s parents and I were surprised by Tiantian’s language development, illustrated in the dialogical storytelling (Whitehurst & Lonigan, 1998), where Tiantian was the reader and storyteller; whereas, her father was the audience and supporter. The word tokens, types, and amount of her utterances rapidly increased, compared with those in her kindergarten narrative task five weeks earlier. Moreover, Tiantian managed to mimic the thymes and melody, although vague information and incorrect pronunciation existed in some sentences due to her English language level. Several reasons could be summarised to contribute to Tiantian’s progress in the storytelling: kindergarten reading experience of Do Whacky Do, similarities shared by the two storybooks (e.g., a number and equal number of animals orderly presented on each page), the natural and relaxing atmosphere at bedtime, and engagement and availability of her father (e.g., carefully listening to the story and timely answering Tiantian’s question).

Tiantian’s storytelling of Ten Friendly Fish did not finish when the story of Do Whacky Do ended. She continued the story by performing a magic trick with the foldable picture on the last page of Ten Friendly Fish. Mandarin was used by Tiantian while she was describing the picture. Tiantian’s changing the language from English to Mandarin may originate in her little English language experience with the picture, which was not included in Do Whacky Do. The language choice also reflected that Tiantian primarily used Mandarin in her narratives while she was also making progress in English learning. This story also provided evidence of Tiantian’s capability of language switching in storytelling.

Figure 12 shows Tiantian's experience of reading and telling the story of Do Whacky Do across kindergarten and home settings. The three activity systems occurred over five
weeks, during which Tiantian’s object changed from telling the story and completing the kindergarten narrative task, to enjoying and learning the story at mat time, and to sharing the story with her father at bedtime. The contradiction arose in the first activity system when Tiantian’s limited experience with Do Whacky Do influenced her discourses in the kindergarten narrative task (e.g., hesitating and finishing the story in an incomplete sentence), which was witnessed by me, as the community in the one-on-one task. In the second activity system, the storybook of Do Whacky Do and its audio record, as the cultural tools, were often shared among Tiantian and the community (i.e., her teachers and peers) in the kindergarten group reading over mat time. Tiantian, hence, had opportunities to learn about the story. In the third activity system of one-on-one reading at home, Tiantian’s kindergarten experience and the wordless storybook Ten Friendly Fish were the cultural tools and mediated Tiantian’s discourses in one-on-one reading and storytelling with her father. Tiantian’s role was also enriched from a beginning storybook reader and storyteller, to story listener and English learner, and to developing reader, storyteller and English user in across-setting storybook reading and storytelling of Do Whacky Do. Simultaneously, Tiantian’s cultural, bilingual and learner identities could be identified by her transferring the kindergarten story home, switching language between English and Mandarin, and recalling and reflecting on her kindergarten learning. As a result, Tiantian illustrated her progress in storybook reading, storytelling, and English speaking. Her parents also understand more about Tiantian’s experiences in kindergarten.
Figure 12: Tiantian’s Experiences of Telling the Story of *Do Whacky Do*

**Outcome**
- Finishing the task in an incomplete sentence

**Development**
- The word tokens and types and amount of utterance greatly developed in Tiantian’s book reading and storytelling. Her parents also updated their understanding of Tiantian’s English learning through storytelling.

Tiantian’s English learning and using may speed up if she has more opportunities for reading storybooks and telling stories in English with advanced readers.

Figure 12 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Tiantian’s future literacy opportunities.
Story 4 “但是我们有 monkey bar.” [ “But we have monkey bar.” ] Tiantian and her parents often had a formal afternoon tea after they came home from Apple Kindergarten. The family practice, unusual in Chinese culture, started when Tiantian’s parents first enrolled her in the kindergarten. Tiantian usually helped her mother prepare food (e.g., biscuits and fruits) and set the tea table. Spontaneous conversations between Tiantian and her parents on various topics often occurred once they sat at the table. In a conversation with her mother over afternoon tea time, Tiantian managed to explain kindergarten playgroup equipment to her mother.

(Tiantian’s mother put some biscuits and grapes on Tiantian’s plate and started the conversation.)

Mother: “今天在幼儿园都玩什么游戏啦?” [“What did you play in kindergarten today?”]

Tiantian: “玩了好多。” [“Played lots.”]

Mother: “那比如呢?” [“Such as?”]

Tiantian: “不记得了。” [“Can’t remember?”]

Mother: “那你想想你最喜欢玩的是什么?” [“Can you think about your favourite game?”]

Tiantian: “跳跳床啊。” [“Trampoline.”]

Mother: “你们学校有跳跳床吗?” [“Do you have a trampoline in kindergarten?”]

(Tiantian’s mother put down her teacup and looked at Tiantian with confusion.)

Tiantian: “没有。但是我们有 monkey bar.” [“No. But we have monkey bar.”]

Mother: “Monkey bar 是什么啊?” [“What is a monkey bar?”]
Tiantian: “玩的。” [“For playing.”]

Mother: “怎么玩的。” [“How do you play it?”]

(Tiantian thought for a while with a grape in hand.)

Mother: “是很多小朋友一起玩的，还是一个小朋友玩的？” [“You play it with other children or play it alone?”]

Tiantian: “很多小朋友一起玩的。哪个想玩哪个，就玩。” [“We play it together. We can choose whatever we want to play.”]

Mother: “那这个是怎么玩的呀？” [“How do you play it then?”]

Tiantian: “就是上头嘣嘣嘣呀。” [“We jump on it.”]

Mother: “跳跳床。” [“Trampoline?”]

Tiantian: “没有。就是想蹦就蹦。想要装成滑梯滑下去，就可以滑。想要装成秋千就假装成秋千。” [“No. We can jump on it if we want. We can also slide down if we take it as a slide. We can swing if we take it as a swing.”]

(Tiantian’s mother was still confused but interested.)

Mother: “你说的是哪一个？” [“Which one you are talking about?”]

Tiantian: “就是我去上学的时候可以看到。” [“When I go to school, you can see it.”]

Mother: “是那个木头小房子，可以往上爬的那一个?” [“Is it the little wooden house, which you can climb?”]
Tiantian: “木头小房子可以爬到那边的那个，那个就是 monkey bar.” [“The one that you can climb from the wooden house. That is the monkey bar.”]

Mother: “哦。知道了。” [“Ok. I see.”] (HO, Tiantian, 14th April 2016)

In the conversation, Tiantian managed to introduce the monkey bar, a piece of kindergarten playgroup equipment (see Figure 13), to her mother over 10 dialogical turns. The conversation began with Tiantian’s mother’s general questions about Tiantian’s daily kindergarten experience. Trampoline, Tiantian’s favourite activity in the Chinese kindergarten that she previously attended, was mentioned as a result of her mother’s verbal hint (i.e., “favourite game”). Realising there was no trampoline in Apple Kindergarten, Tiantian justified her expression to the monkey bar, on which she could jump, as a trampoline. To help her mother understand the equipment, Tiantian briefly introduced its function (i.e., “for playing”) at first. The answer, however, did not help her mother fully understand the equipment. The name of the equipment, monkey bar, might not have been familiar to Tiantian’s mother, although she passed by it every time she dropped off and picked up Tiantian. The mother, hence, asked more questions. Accordingly, Tiantian added more details into her explanation of the equipment (e.g., different playing ways and its position), which consequently led to her mother’s understanding of the equipment. Tiantian’s expertise with the monkey bar, part of the kindergarten culture, was illuminated through her clarifications and justifications in the conversation.
Figure 14 depicts Tiantian and her mother’s conversation about the monkey bar during afternoon tea time. Three activity systems were used to present Tiantian’s prior experience of playing on the monkey bar in kindergarten and her subsequent talking with her mother about the equipment at home. The subject (i.e., Tiantian) and the rule (i.e., free play and chat) were the same across the three activity systems. The other influential components varied.

Different from the monkey bar as a physical cultural tool in kindergarten, Tiantian’s kindergarten experience of the equipment and questions from the mother, as conceptual cultural tools, mediated the conversation from the beginning. Tiantian’s intention also varied from entertaining with the monkey bar to introducing and helping her mother understand the equipment in their conversation. A contradiction happened between Tiantian’s initially brief introduction and her mother’s limited knowledge about the equipment. As a result, Tiantian needed to provide more and more information to help her understand it, which Tiantian finally achieved. Together with the changes in the
Tiantian’s Experiences of Discussing the Monkey Bar with her Mother

**Outcome**
Entertaining herself with monkey bar

**Contradiction**
Between her brief introduction and her mother’s understanding of the monkey bar

**Introduction**
Introducing the monkey bar to her mother

**Outcome**
Detailed information needed to help her mother’s understanding

By exemplifying the function, ways of playing and position of the monkey bar, Tiantian successfully helped her mother understand the equipment, which, otherwise, her mother might understand nowhere. Meanwhile, Tiantian had an experience of introducing something that she was familiar with and sharing the kindergarten culture with her parent.

More information flowing between Tiantian’s kindergarten and home might be initiated by Tiantian when conversations with proper topics are triggered.

Figure 14 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Tiantian’s future literacy opportunities.
community, from Tiantian’s peers to her mother, the role Tiantian played across the settings changed. She was a playmate while playing on the monkey bar with other children in kindergarten but an equipment describer and kindergarten culture introducer in the home conversation. Based on the overall outcome of the activity, a prediction could be made that Tiantian might again transfer her home-kindergarten experiences across the two settings once a proper topic is initiated. The transferring might not only contribute to Tiantian’s refreshing her experiences in meaningful communication but also assist people in one setting to understand her experiences and learning in the other setting.

**Jianhao’s Stories**

Jianhao was said to be deeply attached to his mother as he always followed her at home and would share anything that he had with her (PI, Jianhao’s mother, 23rd February 2016). Jianhao also enjoyed his father’s computer games and storytelling. Although Jianhao was born in China and stayed there for two years, his mother’s first language, Mandarin, was no longer used by Jianhao in daily communication in Auckland. He spoke English, the mother tongue of his father both at home and in kindergarten. According to Judy, Jianhao’s teacher, Jianhao liked “making volcanoes in sandpit” and was “good at construction in block area” (TI, Judy, 16th February 2016). Jianhao always played with his best friend, Edward, an English-speaking boy of a similar age, and was “used to the kindergarten routines” (TI, Rachel, 16th February 2016). Both his mother and teachers, however, noticed that Jianhao rarely initiated to describe his experiences. Her mother explained that Jianhao “only focused on what he was doing” and “the school stuff finished at school”, so he needed to “carry on with the next one”.

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Jianhao rejected my invitations to participate in the English narrative task with a kindergarten storybook three times as he “wanted to rest”. He told me an English story from *Hannibal’s Noisy Day* when I asked for a Mandarin story from a home storybook. Jianhao’s decision reinforced that reading was not his choice during free-play time in kindergarten (TI, Cherry, 16th February 2016) and that English was preferred in home storytelling (PI, Jianhao’s mother, 23rd February 2016). To understand more about Jianhao’s experience and literacy learning in both settings, three stories of Jianhao’s engagement in pretend play and computer game are described and analysed in the following paragraphs.

**Story 1 “We need brick.”** Jianhao and Edward were playing in the sandpit area. They dug a hole in the sand and put a water pipe at the edge of the hole. Not far from them, several dinosaur toys lay on the sand. The water from the hose gradually filled the hole and then overflowed.

Jianhao: “No. No. Volcano. We are dying.”

(The boys pushed sand into the hole to stop the water coming out. Nevertheless, the water kept flowing out of the hole. Edward grabbed a dinosaur and used it to push more sand into the hole. Jianhao grabbed another dinosaur.)

Jianhao: “This comes to backup.”

(Edward groaned some words with a whisper sound.)

Jianhao: “What did you say?”

Edward: “Lava.”

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1 Jianhao’s mother reported that they’ve recently visited the Auckland Museum and Jianhao was interested in the exhibition about earthquake and volcanoes.
Jianhao gently tapped the water with his dinosaur’s legs.

Jianhao: “Oh, no.”

(He threw the dinosaur away and pushed more sand into the hole.)

Jianhao: “Let’s get off lava.”

(Edward looked at him and put his dinosaur into the water.)

Jianhao: “Oh, you dying in the lava. Help me with the lava.”

Edward: “I can’t.”

(Jianhao looked at Edward’s dinosaur which was still in the water.)

Jianhao: “You will die. Ok. Let’s go to other way.”

(Jianhao quickly dug the second hole while Edward was pushing sand into the first one. Soon, the water flowed to the new hole, which was not far away from the old one.)

Jianhao: “It’s going to water, Edward. Hi, it’s going under you. Run. Stay back, ok?”

(Edward stepped back and threw sand into the new hole.)

Edward: “Ah. Got it.”

Jianhao: “No. We need rick. We need brick.”

(Jianhao looked at Edward.)

Edward: “What’s a brick?”

Jianhao: “Brick is dry. I didn't know that lava can break everything. Ah, brick.”

(Jianhao nodded his head. Edward stood up and tried to get the sand off his hands.)
Jianhao: “Edward, can you just stay? We got to save the dinosaur.”

(Edward ran to grab more dry sand and threw it into the water, with an “Ah” from him. Jianhao also grabbed more sand and did the same action.)

Jianhao: “I know. We got it to the final fight.”

(Both of them continued throwing sand into the water, which obviously didn't stop the water.)

Jianhao: “Only chance. I need a spade.”

Edward: “Yes, spade works.”

(Both boys ran to the tool house not far from the sandpit and took out two child-size spades in children’s size.) (KO, Jianhao, 7th March 2016)

In the sandpit pretend play, Jianhao and Edward escaped the here-and-now constraints (Gillen, 2002) and created a meaningful context of saving dinosaurs from the erupting volcanoes and deadly lava through their language (e.g., “volcano” and “lava”) and behaviours (i.e., pushing sand into the hole and digging another hole). Jianhao suggested several methods to achieve the target: throwing sand to cover the volcano, digging another hole to direct the lava, using brick to stop lava, and moving more sand with spades to extinguish the lava. These ideas were not put forward at one stroke.

Instead, Jianhao refined his ideas by building on his real-life experience (e.g., a recent visit to Auckland Museum and discussion with his mother after the visit) and Edward’s response (e.g., putting his dinosaur into the water and stepping back and throwing more sand into the new hole) as the play continued. At the age of four, Jianhao exhibited his “strong” and “never-give-up” personality (TI, Rachel, 16th February 2016) by thinking about and trying out various solutions to a problem.
Jianhao’s exploring and playing with a new word “brick”, which Edward showed his unfamiliarity, was highlighted in the play. In an informal conversation during pick-up time, Jianhao’s mother suggested that Jianhao could have heard the word during his visit to the building company where she worked. The manager of the company liked Jianhao and showed him different building materials (e.g., brick and cement). The sandpit pretend play provided an opportunity for Jianhao to explicitly use his previous and internalized experience of “brick” in a make-believe but suitable occasion.

Figure 15 shows the dynamic process of Jianhao and Edward’s sandpit pretend play. With the object of saving their dinosaurs from the flowing lava, Jianhao developed the tools that he and the community, Edward, could use in the activity. Sand, tap water, and relevant language were used by the boys to create a meaningful context of volcano eruption in the first activity system. More tools, either conceptual (e.g., other way) or physical (e.g., brick and spade), were referred to by Jianhao as substitute but more efficient solutions to solve the contradiction generated by using the primary tool (i.e., hands to throw the sand) to achieve the object (i.e., stopping flowing lava). Jianhao’s verbal and body language was mediated by the continually updated ideas, which originated in his experiences. For example, he dug another hole to direct the lava when he mentioned “other way”. He self-corrected the pronunciation of “brick” and explained the reason for using it. Jianhao’s roles in the free play were gradually enriched from a dinosaur saver to solution initiator and new word user across the three activity systems. Building on the overall outcome of the activity, a prediction could be made that once the opportunities to enrich experiences are provided, Jianhao may pick up the experiences and utilize them in meaningful communication in home-kindergarten settings.
Outcome
Tools were needed to stop the flowing lava.

Outcome
New tools were needed to solve the contradiction.

Development
Jianhao created a meaningful dinosaur saving context with Edward in the pretend play, during which the two boys shared and responded to the discourses of each other. Jianhao’s previous experience, which was reflected in the updated tools, mediated his discourses in the problem-solving process of the activity.

Once the opportunities to enrich experiences are provided, Jianhao may pick up the experiences and utilize them in meaningful communication in home-kindergarten settings.

Figure 15 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Jianhao’s future literacy opportunities.
Story 2 “It’s going to Australia.” Jianhao’s engagement in make-believe play was not only witnessed in the sandpit but also in the classroom and on the way home. At the reading corner of kindergarten, Jianhao moved three child-size chairs into a straight line. Edward watched Jianhao’s actions and joined in by sitting in the first chair. Jianhao sat on the third chair, with a dinosaur in his hand.

Edward: “Tu tu, chik, chik, chik.”

(Edward pretended to blow the whistle by lifting his right hand. Jianhao smiled and waved his hand to Fenton and Mack, two boys walking by.)

Jianhao: “Where can we go? We are going somewhere.”

Cherry, a teacher, passed by the boys and heard Jianhao’s sentence.

Cherry: “Where is the car going?”

Jianhao: “It’s going to Australia.”

Cherry: “Oh, Australia.”

(The teacher walked away and the boys started looking at children’s photos at the reading corner.) (KO, Jianhao, 21st March 2016)

Jianhao’s travel did not finish in the kindergarten pretend play. On the second day, Jianhao continued the travel on the way home and engaged his mother in it. After his mother picked him up from kindergarten, Jianhao and his mother went to a playground near their home. Jianhao walked to a simplified car model, which consisted of a steel steering wheel and several steel bars fastened to a wood chassis on the ground. Jianhao stepped into the car and started spinning the steering wheel. Soon, he invited his mother to go for a ride in this immobile car.

Jianhao: “Come on, mama.”
(Jianhao’s mother walked into the car.)

Mother: “我们去哪里啊？” [“Where are we going?”]

Jianhao: “Australia.”

Mother: “Do you know the city in Australia? Sydney? Melbourne?”

Jianhao: “Melton.”

Mother: “Melbourne.”

Jianhao: “Yep.”

(Jianhao smiled at his mother and quickly spun the steering wheel.)

Mother: “Oh, don’t be too crazy.”

Jianhao: “Why?”

Mother: “Safety first. Are you a good driver or bad driver? What does a good driver do?”

(Jianhao stopped spinning the steering wheel for a while.)

Jianhao: “He stops when there’s red light.”

(Jianhao continued driving.)

Mother: “Oh, stop at the red light. Ok. You stop for the people walk on the zebra line?”

Jianhao: “Yep.”

Mother: “You give way, right?”

(Jianhao nodded and kept on driving.) (HO, Jianhao, 22nd March 2016)
Jianhao constructed a meaningful context of travelling in Australia in a continuous pretend play across kindergarten-home settings. His initial mentioning of “Australia”, a country that Jianhao had never been but was frequently referred to in his recent conversation with his father, who had been to Australia for a meeting, was triggered by Cherry’s open-ended question (i.e., “Where is the car going?”). Jianhao’s discourses in the kindergarten pretend play, which finished in a few minutes, mirrored Jianhao’s interest in Australia and his real-life experience (Vygotsky, 1978) from his talk with his father. More than language experience, Jianhao’s illustration of his understanding of travelling by imposing meaning on the chairs (i.e., train) and using body language (i.e., arranging, smiling, and waving), which was received and responded by other participants, may also deepen his understanding of the topic.

When the pretend play continued between Jianhao and his mother, Jianhao enriched his experience about travelling. New body language (i.e., stepping into the car model and spinning the steering wheel) was used by Jianhao to engage his mother in his play. Jianhao’s mother’s natural and conversational way of knowledge sharing was highlighted. For instance, she did not ask Jianhao to repeat “Melbourne” when he said “melton”. Instead, she merely repeated the word in the way of confirming Jianhao’s travelling destination. As the pretend play and conversation continued in an easy and joyful atmosphere, more common knowledge (i.e., traffic rules) was shared between the mother-son dyad.

Figure 16 illustrates Jianhao’s experience in the pretend travelling with different people across kindergarten-home settings. Three components, subject (i.e., Jianhao), object (i.e., entertaining in pretend play), and rule (i.e., free play), were the same across
Outcome
Having an experience of travelling in Australia

Jianhao

Entertaining in pretend play

Free play
Edward, Fenton, Mack, Cherry
Traveller

Kindergarten

Contradictions
Between Jianhao’s knowledge about Australia and traffic rules and his mother’s questions

Kindergarten experience, car model, oral language, actions

Jianhao

Entertaining in pretend play

Free play
Mother
Junior driver

On the way home

Outcome
Learning opportunities

Car model, oral language, actions

Jianhao

Entertaining in pretend play

Free play
Mother
Advanced driver and traveller

On the way home

Development
Jianhao came across the name of cities in Australia and was informed of more traffic rules in the activity. The valuable experience may be a source in his next pretend play of travelling

More learning opportunities might arise in Jianhao’s pretend play participated and supported by knowledgeable persons.

Figure 16 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Jianhao’s future literacy opportunities.
the activity systems. The other three components, cultural tools, community, and division of labour between the participants, varied.

In kindergarten, Jianhao’s cultural tools included chairs, relative oral and body language to construct a travelling context with his community (i.e., Edward, Fenton, Mack, and Cherry). His home experience of chatting with his father about “Australia” was highlighted as a cultural tool, which mediated his answer to Cherry’s question. In his pretend play with a different community (i.e., his mother), Jianhao updated the cultural tools (i.e., kindergarten experience, car model, oral and body language). As the interactions continued between Jianhao and his mother, a contradiction was generated between Jianhao’s existing experience of travelling and his mother’s broader understanding of the topic. Consequently, Jianhao’s further learning about Australia and traffic rules was triggered in the sustained pretend play. Jianhao’s role varied from traveller, to junior driver, and to developing traveller and driver across the three systems. By recalling and reflecting on his home-kindergarten experiences about “travelling in Australia” and employing multiple cultural tools, Jianhao established his learner and cultural identities, embodied in his changing roles throughout the pretend play. A prediction could be built on the outcome of the cross-setting pretend play that Jianhao’s literacy learning may be extended when more communication opportunities between him and other individuals with more experiences are provided.

Story 3 “Mayday. Mayday. We are going down.” Jianhao’s father was playing an electronic game of flying a helicopter on TV. Jianhao sat close to him on the sofa, with an earnest look on his face. His eyes focused on the TV screen for a long time.

Jianhao: “Who are you? Who is that guy?”

(Jianhao’s father did not answer.)
Jianhao: “What games are we playing?”

(Jianhao’s father laughed out.)

Father: “You are not playing.”

(Jianhao did not change his expression on the face but continually concentrated on the helicopter on the screen.)

Jianhao: “Is this a game? What game is it?”

Father: “Helicopter flying. Well, do you want to play?”

(Jianhao nodded his head. His father did not notice his eagerness as he was still in the game.)

Father: “You want to play?”

Jianhao: “Yep.”

(Jianhao’s father looked at Jianhao. At the same time, the helicopter started dropping with a sound “Mayday. Mayday. Mayday.” The father tried to save the helicopter but failed. The helicopter fell into the sea. Jianhao’s father laughed and passed Jianhao the game console. Jianhao started his game. The helicopter took off and flew up and down.)

Jianhao: “We’re going down. Mannda.”

Father: “Mayday.”

Jianhao: “Oh, no, Mayday. Mayday. We are going down. Where am I?”

Father: "At sea now." (HO, Jianhao, 6th April 2016)
Jianhao’s experience of helicopter flying was rooted in his interest and observation of his father’s electronic game. After expressing an interest, Jianhao was given an opportunity to fly the helicopter. Jianhao’s observation and participation in the game not only provided him with opportunities to practise his computer skills (i.e., using the console to control the helicopter), but also enriched his understanding of the culture (i.e., the signal of game start and over) and relative vocabulary (i.e., “mayday” and “we are going down”) in an enjoyable atmosphere. Benefiting from the visual cues, repeated pronunciation of the word in the game, and his father’s correction of his pronunciation, Jianhao picked up the word, which was not commonly known by pre-schoolers, in the meaningful play situation.

Jianhao’s learning outcome was observed in his off-screen Lego activity with Edward in kindergarten on the next day (KO, Jianhao, 7th April 2016). Jianhao was playing planes and boats with Edward at the Lego corner in kindergarten. When Jianhao’s space boat dropped from a table, Jianhao caught it and slowly flew it above the mat. He held the soldier in the space boat and screamed: “Mayday. Mayday. Mayday. Got start landing.” Edward listened to Jianhao screaming and watched his actions without saying anything. Hearing “Mayday” while watching Jianhao’s space boat dropping might be a fresh experience to Edward, who did not necessarily know the word before. Jianhao’s literacy learning, therefore, was sustained in the meaningful flying context, which Jianhao created in kindergarten, and his experience of the word might be passed to Edward in the activity.

Figure 17 represents Jianhao’s experience of “Mayday” in the electronic game at home and Lego activity in kindergarten. In the first activity system at home, the subject (i.e., Jianhao) started with an object of observing the electronic game of helicopter flying
Outcome

Being interested in the game

Electronic game, oral language

Jianhao

Observing his father’s electronic game

Free play Father Game observer

Home

Outcome

Making meaning of and using “Mayday” in a meaningful context

Electronic game, oral language

Jianhao

Flying the helicopter

Free play Father Game observer

Home

Outcome

Making meaning of and using “Mayday” in a meaningful context

Electronic game, oral language

Jianhao

Flying the helicopter

Free play Father Game observer

Home

Outcome

Making meaning of and using “Mayday” in a meaningful context

Electronic game, oral language

Jianhao

Entertaining with Lego

Free play Edward New vocabulary user

Kindergarten

Figure 17 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Jianhao’s future literacy opportunities.
of the community (i.e., Jianhao’s father). The interesting electronic game and the conversation between Jianhao and his father inspired Jianhao’s interest in playing the game in person. In the second activity system, Jianhao was given a turn by the community (i.e., his father) to fly the helicopter. A contradiction, however, occurred between Jianhao’s inexperience of the electronic game and his excitement to play the game. Jianhao’s language was mediated by the game and “mannda” was used by him in his playing. His father responded to his error and corrected his pronunciation, which led to Jianhao’s accurately use “Mayday” in the game. When the exciting experience was brought to kindergarten on the next day, Jianhao’s community changed to Edward, and the cultural tools varied to Lego planes and boats. The mediation of Jianhao’s home experience to his discourse in the kindergarten activity (e.g., “slowly flew it above the mat” and “Mayday. Go start landing.”) was highlighted. Jianhao’s presentation of home experience might also influence Edward, telling from Edward’s body language (i.e., watching Jianhao’s playing). Jianhao’s role varied from an electronic-game observer, to a game player, and to a new vocabulary user through the three activity systems. Simultaneously, Jianhao’s learner and cultural identities were established when he asked questions to his father, reflecting and applying home experiences in kindergarten, and using various cultural tools in the two settings. Based on his experience in the extended helicopter flying, Jianhao’s participation in other electronic games with adults’ guidance may bring more literacy learning opportunist to him. In return, Jianhao may make use of the experiences to initiate more meaningful communication in and across home-kindergarten settings.
Mengmeng’s Story

Mengmeng is the only child, of the four focal children, with an older sibling. According to her mother, 7-year-old Feifei is a good companion for Mengmeng’s playing and learning, especially when Mengmeng’ mother is not available (PI, Mengmeng’s mother, 23rd March 2016). For example, the sisters discussed their favourite roles (e.g., mermaids and butterflies) after they watched cartoons. Feifei helped Mengmeng sort out toys and books, requested by their mother. Feifei and Mengmeng used English and Mandarin to talk with each other. The two sisters’ interactions, however, were restricted by schooling. Mengmeng’s mother, who dominantly spoke Mandarin at home, turned out to be Mengmeng’s more frequent companion. Mainly speaking English in kindergarten, Mengmeng was usually “quiet” (TI, Joanna, 15th March 2016) and “reserved” (TI, Sophia, 22nd March 2016) and loved solo or one-on-one reading in kindergarten (TI, Sharon, 14th March 2016). Communication between Mengmeng and her peers and teachers, albeit infrequent, was observed when she sat down for Lego construction and play at sandpit.

In the kindergarten narrative task, Mengmeng rejected my invitation to telling a story from her favourite storybook in English. She said: “No. I can't. Because I am too young.” (KNT, Mengmeng, 24th March 2016). Instead, she fetched several books from the bookshelf and quietly read them on the sofa. The books that Mengmeng chose included The Life Cycle of the Common Frog, The Paper Dolls, No Monkey! No! and How Maui Found the Secret of Fire. The content of the books varied from common science, to story, and Māori legends. In the home narrative task in Mandarin, Mengmeng told me a story of two mermaids in a picture that she drew (see Figure 18). She asked me to write her story on the back of her drawing. Here is the story:
“有一天，有两个 mermaids, 她们是 Feifei 和 Mengmeng. 她很喜欢她的头发和尾巴。她有粉红色的头发和尾巴。我觉得两个尾巴应该是黑色。另外一个的头发是 purple. 她在海里游泳。另外一个也在海里游泳。她穿着…她有腿，还有一件公主裙。她觉得好冷。 (Mengmeng shivered.) 两个美人鱼有镜子。她有 party shoes. 她喜欢游泳 and Easter egg. She has colours, pink.”

[Translation: “One day, there are two mermaids. They are Feifei and Mengmeng. She likes her hair and tail. She has pink hair and tail. I think the two tails should be black. The other one has purple hair. She swims in the sea. The other one swims in the sea too. And she wears… she has legs and a princess’s dress. And she feels so cold. (Mengmeng shivered.) The two mermaids have mirrors. She has party shoes.
She likes swimming and Easter egg. She has colours, pink.”) (HNT, Mengmeng, 26th March 2016)

The home narrative task illuminated Mengmeng’s interest in beautiful but mysterious mermaids, which had been reported in the parent and teacher interviews. Mengmeng’s home storytelling also suggested that she dominantly spoke Mandarin at home, and she would incorporate English words into her Mandarin sentences. The following two stories illustrated Mengmeng’s engagement in early drawing and writing and her spontaneous conversation with her peer over Lego playing in both settings.

**Story 1 “Carrot is on the ‘C’.”** In kindergarten, Mengmeng was sitting at a table under the tree and drawing a picture of mermaids (KO, Mengmeng, 6th April 2016). Although noise came from children playing nearby, Mengmeng was not distracted but concentrated on her drawing. Mengmeng silently drew two mermaids on the blue piece of paper and signed her English name under the two mermaids. She stuck another white piece of paper to her picture with sellotape, which made the whole artwork look like a kite (see Figure 19). Mengmeng carefully put her artwork on the shelf for a while, which was used to dry children’s paintings, and then put it in her school bag. In the following home observation¹, I saw the artwork on the dinner table when Mengmeng was eating her unfinished lunch from kindergarten. Mengmeng’s mother took out a big picture of the English alphabet. A picture of a common object in daily life (e.g., carrot and umbrella), the name of which started with the letter, was under the capital and lower case of each of the 26 letters. For example, a picture of an apple was under letter "A" and “a”. The mother-daughter dyads started a conversation about Mengmeng’s writing on the kite.

¹ The date of the home observation was set forward to day 1 after the kindergarten observation as the mother had an urgent appointment on day 2.
Figure 19 Mengmeng’s Name Writing Experiences

Figure 19. Picture 1 and 4 were taken in kindergarten observation on day 1 and day 2. Picture 2 and 3 were taken in home observation of day 1.
(Mengmeng’s mother pointed to the letter “C”.)

Mother: “这样才是 ‘C’ 啊。你写的是这样的。” [“This is ‘C’. You wrote it like this.”]

(Mengmeng’s mother pointed to the “” Mengmeng wrote under the mermaids.)

Mother: “这样写是不对的。” [“Your writing is incorrect.”]

Mengmeng: “Carrot is on the ‘C’.”

Mother: “对呀。你写的这个是错的。‘C’ 不是这样子的。没有这个字。‘C’ 是这样的。” [“Yes. The one you wrote is incorrect. ‘C’ is not like that. No letter is like that. ‘C’ is like this.”]

(Mengmeng’s mother again pointed to “C” above a red carrot. Mengmeng used a finger to write “C” on the table. She then turned to the next letter.)

Mengmeng: “‘D’ 是这样子的。这是大的 ‘D’。这是小的 ‘d’。”

[ “‘D’ is like this. This is the capital ‘D’. This is the lowercase ‘d’.” ]

Mother: “对呀。” [“Correct.”]

(Mengmeng’s mother walked to the kitchen and Mengmeng quietly looked at the picture of the alphabet.) (KO, Mengmeng, 6th April 2016)

The story of writing the letter “C” did not end at home. The next morning, Mengmeng was dropped off at kindergarten by her mother. After Mengmeng’s mother signed her name in the parent checklist, Mengmeng found her name on the children’s attendance checklist. Slowly but confidently, Mengmeng wrote down her English name.
Mengmeng: “我今天写对了 ‘C’ 哦。” [“I correctly wrote “C” today.”]

Mother: “我看一下。今天 ‘C’ 写对了。Ok. 把笔放下。你可以去玩了。” [“Let me see. ‘C’ is correct today. OK. Put down your pen. You can go to play now.”]

Mengmeng: “OK. Bye.”

(Mengmeng walked to the classroom and her mother left the kindergarten.) (KO, Mengmeng, 7th April 2016)

Mengmeng’s interest in mermaids, earlier revealed in the home narrative task, was highlighted in the kindergarten drawing activity, which inspired her to write her English name as her signature on the picture. Once Mengmeng brought the artwork home, her early writing experience was continued in communication with her mother. The mother first pointed out the mistake in Mengmeng’s letter writing (e.g., “C”) and used the picture of the alphabet to teach Mengmeng the correct written form. Mengmeng also had opportunities to build a link between “carrot” and the letter “C”. More than identifying the letter in her English name, Mengmeng’s learning of alphabet knowledge was extended to other letters (e.g., “D”) in the picture. She also consolidated her concept of the capital form and lowercase form of letters. At last, Mengmeng’s writing experience was sustained in a real-life task, signing her name in the attendance checklist, on the second day in kindergarten.

Figure 20 shows Mengmeng’s early drawing and writing experiences across home-kindergarten settings. Mengmeng’s object varied across the three activity systems. Her intention, which was drawing mermaids, and writing her name and making artwork in the solo kindergarten activity, was changed to learning to write correct form of the letter “C” at home and correctly signing her name on the attendance checklist when she went back to kindergarten the second day. A contradiction occurred between Mengmeng’s
Mengmeng may have more opportunities to develop her writing competence if she continually shares her writing work with advanced writers and receives support from them.

Figure 20 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Mengmeng’s future literacy opportunities.
kindergarten writing experience of letter “C” and her mother’s knowledge of the letter. Fortunately, the gap was filled through the mediation of cultural tools, the oral language of her mother, and the alphabet pictures. Mengmeng learned and practised the correct formation of the letter and used her new learning in kindergarten with the mediation of the kindergarten attendance checklist. Accordingly, by transferring the kindergarten experiences home, Mengmeng received writing support from her mother. Mengmeng’s literacy learning was also mediated and facilitated by the alphabet picture and attendance checklist. Mengmeng’s role varied from an early name writer, to a developing name writer, to an advanced name writer. Mengmeng also constructed cultural identity by making use of multiple cultural tools in the name writing activity across home and kindergarten and learner identity by checking and reflecting on her kindergarten writing. A prediction could be made that Mengmeng may have more opportunities to develop her writing competence if she continually shares her writing work with advanced writers and receives support from them.

**Story 2 “I am 4 years old.”** Mengmeng’s mother reported that communication between Mengmeng and other people sometimes was uneasy (PI, Mengmeng’s mother, 23rd March 2016). The mother explained that the reasons might include Mengmeng’s self-concentration, which led to her ignoring other persons’ response, and her vague expression, which often caused others’ misunderstanding. Kindergarten teachers also noticed Mengmeng’s occasionally confused expressions and they would check Mengmeng’s meaning by repeating or explaining her sentences (e.g., “So you want…, right?” or “Oh, … happened.”), which often “worked well” (TI, Sharon, 14th March 2016). In a brief spontaneous conversation over Lego playing, Mengmeng and her talking partner, Eva, changed topics four times.
(Mengmeng took a giraffe out of a Lego box and started building her farm on a mat placed on the deck outside the classroom. Eva, a 4-year-old Pākehā girl, was building her farm next to Mengmeng.)

Mengmeng: “I am 4 years old.”

Eva: “I am 4.”

Mengmeng: “What?”

Eva: “I am four. I am four.”

(Eva pointed to herself. And then she picked up the giraffe beside Mengmeng.)

Mengmeng: “What’s that?”

(Mengmeng did not wait for Eva’s answer, as she answered the question in a robot voice.)

Mengmeng: “Oh, it is a giraffe.”

(Eva laughed out. Mengmeng laughed too.)

Mengmeng: “Do you like Hello Kitty?”

Eva: “No.”

Mengmeng: “How about mermaid?”

(Eva raised her voice. Both girls did not stop their building but kept silent for a while.)

Mengmeng: “How about…mermaid?”

Eva: “No.”

Mengmeng: “How about this?”

(Mengmeng pointed to Eva’s skirt. Eva did not directly answer. Instead, she stood up and walked closer to Mengmeng.)
Eva: “Oh, we wear purple. Purple.”

(Eva pointed to her skirt and then Mengmeng’s skirt. Mengmeng had a look at her own skirt.)

Mengmeng: “Yes. We wear purple.”

(The two girls giggled and continued building their farms. A few seconds later, Mengmeng turned to Eva.)

Mengmeng: “Excuse me, my, my sister’s daddy is Andy. His name is Andy.”

(Eva stopped her construction and looked at Mengmeng.)

Mengmeng: “You see. My sister’s name is, my sister’s daddy’s name is Andy.”

(Eva looked confused. She stood up and left the area.) (KO, Mengmeng, 12th April 2016)

Mengmeng constantly initiated and changed topics in the kindergarten conversation with Eva. The conversation started with a common and safe topic of age, which children often used to decide order (e.g., starting with the youngest) and roles (e.g., the oldest as the decision-maker) in play. A new topic about toys was put forward by Mengmeng once she and Eva understood that they were at a similar age. Following the giraffe in their Lego construction, Mengmeng’s favourite toys, Hello Kitty and mermaid, were discussed. The reasons for Mengmeng’s reference to the two toys might be that she wanted to share her interest with Eva and that she intended to build an instant friendship with Eva if more similarities, such as hobbies, could be found between them. Unfortunately, Eva offered only negative replies.

Eva’s response activated Mengmeng’s initiation of a new topic, their skirts. Realising and announcing the similar colour of their clothes rebuilt the harmony between
the two girls, in which Mengmeng tried to continue the conversation with another new topic, the name of a family member. Eva, however, seemed not to understand the information although Mengmeng repeated the information. The conversation ended with Eva’s leaving without a response. Mengmeng’s failure to communicate with Eva and sustain their conversation may have resulted from Eva’s lack of interest in the topic or Mengmeng’s indirect and confusing way (i.e., “my sister’s daddy”) of expressing the relationship between her and her father. Eva might have difficulty in understanding the relationship if she did not have a sister. On the other hand, Mengmeng’s expression reflected the important role Feifei played in Mengmeng’s life: a bridge between Mengmeng and her father, who usually lived in Taiwan to look after his sick brother and occasionally came back to Auckland to visit his wife and daughters.

Figure 21 illustrates the interactions between Mengmeng and Eva in the brief conversation over Lego construction during free play time. Mengmeng (i.e., subject) insisted to build a relationship (i.e., object) with Eva (i.e., community) by continually seeking similarities between them and engaging Eva in the conversation. Driven by the object, Mengmeng’s role (i.e., topic initiator) hardly changed through the three activity systems.
Figure 21 Mengmeng’s Experiences in Kindergarten Lego Construction

Lego, oral language

Mengmeng

Building a relationship with Eva through the conversation

Free play

Eva

Topic initiator

Outcome
Finding a similarity between their age

Lego, toys, oral language

Mengmeng

Building a relationship with Eva through the conversation

Free play

Eva

Topic initiator

Outcome
Changing topics

Lego, skirt, family member, oral language

Mengmeng

Building a relationship with Eva through the conversation

Free play

Eva

Topic initiator

Outcome
Potential development
Mengmeng had success and failure in sharing her interest and engaging Eva in the spontaneous conversation. Mengmeng’s capability of information transferring and relationship building might be developed if more conversational opportunities and guidance were provided.

Efficient communication might occur between Mengmeng and other people when the conversational opportunity and guidance is available.

Contradiction
Between Mengmeng and Eva’s interest in Hello Kitty and mermaid

Figure 27 Words in italics are the changed components in new activity systems. The sentence framed by dashes is a prediction about Mengmeng’s future literacy opportunities.
Different topics (i.e., age, toys, skirt, and name of a family member), originating in Mengmeng’s experiences, however, were used as the cultural tools in the conversation and mediated Mengmeng and Eva’s language (e.g., “I am four years old” and “I am four”) and behaviours (e.g., laughing, pointing, standing up, and leaving) as the conversation continued. Similarities (i.e., age and colour of the skirt) and difference (i.e., favourite toys) between the girls were alternatively found. A contradiction arose when Mengmeng’s interest (i.e., Hello Kitty and mermaid) was not shared by Eva, which led to Mengmeng’s immediately purposeful topic changing. Another contradiction was generated when Mengmeng’s indirect way of stating the relationship between her and her father, “my sister’s daddy” instead of “my daddy”, confused Eva. This contradiction was unsolved in the end although Mengmeng repeated the information. Eva quit the conversation with no response and left the Lego construction. If Mengmeng understands that a direct expression can help others’ understanding, which can be achieved with the support from an advanced communicator (e.g., a teacher) by checking Mengmeng’s saying and explaining it to her, Mengmeng may have more opportunities to maintain a longer conversation and establish a friendship with Eva.

Overall, both communicative success and failure could be found in Mengmeng’s endeavour in the spontaneous conversation. As Mengmeng employed various cultural tools (i.e., toys, oral language, and actions) in communication, she established a cultural identity in the conversation. Meanwhile, her learn identity was also constructed when she reflected on her own experiences and Eva’s response to her topics. A prediction could be made that efficient communication could be achieved if Mengmeng builds on the experience and engaged in more conversations with peers and adults.
Chapter Summary

Twelve stories of the four Chinese immigrant children’s engagement in meaningful communication, while they were living and learning at home and in kindergarten in New Zealand, have been presented and analysed in this chapter. With their individual lingual and cultural backgrounds, Xiaolong, Tiantian, Jianhao, and Mengmeng enriched their literacy learning by participating in various home-kindergarten activities, such as spontaneous conversation during puzzle, swing, construction, and sandpit playing. Engagement in home conversations, pretend play, early reading and storytelling, drawing and early writing, computer game playing, and singing also increased their literacy learning opportunities. Parents, either at home or on the way to/from kindergarten, were important participants and facilitators in the four children’s early literacy activities, whereas their teachers and peers as crucial partners contributed to focal children’s unique understanding and expressions in kindergarten communication.

Relationships among the influential components of each activity system and between the activity systems in each story were systematically illustrated using the analysis model, based on the third-generation activity theory. The contributions of focal children’s previous home and kindergarten experiences, which the children brought across various play areas in one setting or across the two settings, were highlighted in their meaningful interactions with various participants in each activity. The children’s multiple identities (i.e., cultural, lingual, and learner), reflected in their changing roles and varying thinking, talking, and acting, were identified in each event via the model.

A cross-case synthesis of findings of this study, based on the scattered evidence in the 12 stories and other 50 episodes, will be presented in the next chapter to depict a holistic picture of the four children’s literacy learning at home and in kindergarten. The function of focal children’s previous home-kindergarten experiences in new literacy
learning opportunities and their multiple identities construction will be summarised across the four cases. The Chinese parents’ experiences and perceptions of their children’s early learning will be discussed.
CHAPTER SIX

CROSS-CASE FINDINGS

Twelve stories of the four Chinese immigrant children’s engagement in multiple activities have been described and analysed in the previous chapter. The activities included spontaneous conversation, pretend play, early reading and storytelling, drawing and early writing, computer games, and singing. The stories illustrated that focal children’s literacy learning and identity construction happened when they initiated or participated in meaningful communication with their parents, teachers, and peers during home-kindergarten activities. Analysis of the stories with the model, based on activity system (Engeström, 1987) and third-generation activity theory (Engeström, 2001), identified the influences of multiple factors (i.e., children’s objects, cultural tools, community, and roles) on children’s understanding and responding in the activities. Consequently, focal children’s application of their previous home-kindergarten experiences in new literacy activities facilitated them to bridge and extend their learning in and across the two settings. Their cultural, learner, and bilingual identities, established in their changing roles as they varied thinking, talking, and acting across play time and context, were also highlighted via the model.

Focal children’s early literacy learning and identity construction, however, are not found in only the 17 episodes of the 12 stories. More evidence was found in the other 50 episodes of the four cases, although the home-kindergarten experience transferring was
not as transparent as those in the 17 episodes. A cross-case synthesis of the findings, based on the scattered evidence in all the episodes (N=67) and parent interviews (N=4), is needed to provide a holistic picture of the children’s literacy learning in home-kindergarten activities, as well as to understand their parents’ experiences and perceptions of the children’s learning. Moving from part-to-whole, I will zoom out of the individual case to answer the four research questions.

According to Engeström (1996), a person’s engagement in an activity is driven by his or her object, which can be “molded or transformed” (p.67) into an outcome of the activity, with the help of cultural tools and community. This chapter is divided into four sections to provide the cross-case findings, concentrating on the focal children’s objects, outcomes, multiple cultural tools, the influence of the community and following the sequence the research questions. The first section concentrates on focal children’s experiences in multiple literacy activities in home and kindergarten activities. Specifically, their objects and outcomes of initiation and participation in meaningful communication with others in the activities are highlighted. The second section summarises the influences of focal children’s application of previous home-kindergarten experiences, as critical cultural tools, on their new literacy learning opportunities in and across the two settings. The children’s cultural, learner and bilingual identities, which shaped and were shaped by their literacy learning, are discussed in the third section. The parents’ experiences and perceptions of their children’s literacy learning in the early years are identified in the last section.
Children’s Literacy Experiences in Home-Kindergarten Activities

The first research question addresses the four Chinese immigrant children’s literacy experiences in home-kindergarten activities in New Zealand. As literacy is understood in this study meaningful interactions with others through language and behaviours, focal children’s engagement in kindergarten communication during free play time and home interactions with their parents and sibling were observed. The 67 episodes from all the cases captured the “moment-to-moment interactions” (Dickson & Smith, 1991, p. 24) between focal children and other participants. Similar to the activities in the previous chapter, the other 50 episodes were categorized into six themes, including spontaneous conversation, early reading and storytelling, drawing and early writing, pretend play, computer game playing, and singing. Moreover, as spontaneous conversations occurred in multiple home-kindergarten activities, they were categorized into six sub-themes. Table 11 shows the activity themes and number of episodes per each child.

According to Table 11, all four children had experiences of spontaneous conversation at home and in kindergarten. The frequency of their talking in the observed episodes, however, varied from child to child due to their diverse interest in the activities (i.e., home chat, swing, construction, sandpit, puzzle, and table game). All focal children also engaged in activities included in three of the themes: early reading and storytelling, drawing and early writing, and pretend play either at home or in kindergarten. Not all children, however, participated in computer playing and singing during the observation. For instance, Mengmeng’s participation in computer playing either at home or in
Table 11

*Activity Themes and Number of Episodes: Cross-cases*

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
<th>Xiaolong</th>
<th>Tiantian</th>
<th>Jianhao</th>
<th>Mengmeng</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous Conversation</td>
<td>home chat</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>swing</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>construction</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>sandpit</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>puzzle</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>table games</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Early Reading and Storytelling</td>
<td></td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Drawing and Early Writing</td>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Pretend Play</td>
<td></td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Computer Playing</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Singing</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>20</td>
<td>18</td>
<td>14</td>
<td>15</td>
<td>67</td>
</tr>
</tbody>
</table>

Kindergarten was not recorded, although her mother reported that Mengmeng would play games on a tablet with her sister Feifei. Sharon, Mengmeng’s kindergarten teacher, reported that Mengmeng would occasionally sit silently beside another child and watch him or her playing computer games on a tablet. Mengmeng, however, never wrote her name on the waiting list for a computer game, as she “preferred watching to playing” (TI, Sharon, 14th March 2016). Another difference was apparent in focal children’s engagement in singing. Although all four children sang songs during morning and
afternoon mat-time, the activity was not recorded in the episodes, in consideration of the rights of non-participants. Tiantian was the only child, who sang kindergarten songs (i.e., a farewell song and a lunch song) to her parents in the car, as described in the previous chapter.

As documented in the episodes, the focal children generally had different literacy experiences in home-kindergarten activities. To provide an extensive and in-depth understanding and synthesis across the 4 cases of their experiences and learning, two important aspects of their engagement in the activities are summarised. Specifically, focal children’s objects (i.e., what drove them to initiate or participate in an activity) and the outcomes (i.e., what they used or developed) are synthesized across the four cases.

**Objects.** An object is defined as the “raw material or problem space at which the activity is directed” (Engeström, 1996, p.67). In this study, an object refers to the focal children’s purpose, intention, or desire in their activities. The focal children initiated or participated in an interaction during activities to achieve four purposes: entertaining, sharing, obtaining, and learning. Xiaolong, Tiantian, Jianhao, and Mengmeng engaged in communication in a range of activities to entertain themselves and other participants. For instance, Xiaolong started a spontaneous conversation with “Can you do this?” while swinging with Caesar. Xiaolong next showed his unique way of playing by taking the swing as a horse and riding on it, which engaged Caesar, who showed his way of playing with the swing by twisting. The smiles and giggles from the boys suggested that they entertained themselves and each other while swinging. Tiantian’s initiation of an interaction, telling Jim about what she was doing: “我要哄孩子睡觉了哦。 [I need to lull my baby to sleep.]”, originated in her intention of inviting Jim, who was walking into the family corner, to participate in her pretend play. The interactions between the two
children indicated that they enjoyed themselves in the pretend play. Jianhao moved the chairs in a line and built a train for travelling, which attracted Edward to join in the activity. Xiaolong waves his hands to his peers, who were walking by, with a smile on his face. Mengmeng joined a group game “crazy chef” and shared her laughs with her teacher and peers while identifying and claiming the corresponding ingredients of her cuisine.

The children also initiated interactions to share their curiosity, interest, and knowledge with others. In the shared dragon-castle puzzle with Armstrong, Xiaolong initiated a two-turn conversation with him: “That was a dragon. Can you see? It is not grass.” Xiaolong’s oral language and action of pointing to the picture on the puzzle box suggested that he wanted to share his knowledge with Armstrong of figuring out a puzzle by using the box cover. Tiantians’ sharing the kindergarten story of Do Whacky Do with her father at bedtime, using a different home storybook Ten Friendly Fish, appeared to be based on her increasing interest in and familiarity with the kindergarten story. She also shared her interest in home-style cake making with her teacher and peers in kindergarten through her work with play dough. Jianhao drew a map to direct his peer, Vincent, how to find a monster under the slide in the kindergarten. Jianhao’s map and the way he named a dead spider “monster” in his explanation of the map to Vincent suggested that he wanted to share his curiosity and interest about the “monster” with his peer. Similarly, Mengmeng drew and talked about mermaids at home and in kindergarten to share her interest in the imaginary creature with her mother and peers.

Initiation or participation in communication to obtain what they want (i.e., computer playing, toys keeping, and story listening in preferred language) was evident in the episodes. For example, Xiaolong, who was playing games on a kindergarten computer,
frequently told Tiantian, who was standing beside him, that she could have a turn on the computer when the clock on the computer table beeped. Xiaolong implied that he wanted to continue playing the computer game for a longer time. In a kindergarten storybook reading with her teacher Judy, Tiantian tried to persuade Judy to tell the story of *The Very Hungry Caterpillar* in Mandarin. Tiantian exemplified how Judy could start the story: “你可以这样讲。一个毛毛虫的虫卵被生在树叶上。第二天早上生出了一个毛毛虫。[You can tell the story like this. An egg of a caterpillar was born on a leaf. A caterpillar came out the next morning.]” Jianhao also asked his father a series of questions, such as “Who are you?”, “Who is that guy?”, “What games are we playing?”, “Is this a game?”, and “What game is it?”, to attract his father’s attention and to obtain opportunities for playing a computer game at home. In a home conversation with her sister Feifei, Mengmeng continuously described her attachment to fluffy toys (e.g., Hello Kitty and Donald Duck) in her bedroom to convince Feifei that the toys should stay at home instead of being donated to kindergarten.

Learning, despite low frequency, was also one of the children’s purposes to initiate communication while engaging in the activities. After Cherry praised the construction pattern of his peers, Xiaolong initiated a conversation with Jim, who was engaged in a vehicle puzzle with him, by asking “What is a pattern?” Jim’s response led to Xiaolong’s leaving their puzzle and observing his peers’ construction. Xiaolong also verbally described his understanding of “pattern” based on his peers’ work and demonstrated his own pattern by moving the Lego cars. Another example is from Tiantian, who narrated: “我需要学习一下才行。[I need to study for a while.]”. Tiantian clicked an app on a kindergarten tablet, and her finger started tracing a train running along a railway in the shape of the alphabet, including “a”, “e”, “g”, and “G”.

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In summary, the children initiated and participated in multiple activities with four objects, including entertaining themselves and others, sharing their curiosity, interest, and knowledge, obtaining what they want, and learning knowledge through communication. Their purpose in an activity may be dynamic and changeable rather than fixed, due to the variation of influential factors in the activity, as the activity unfolded. For instance, Tiantian’s singing a farewell song in the car was to entertain herself initially. When Tiantian heard her father sing the song with a different melody, her purpose of singing the song for a second time slightly changed to perform a standard kindergarten melody for her father. As her singing continued, Tiantian’s intention of singing another song appeared to share more of her experience and interest in the kindergarten songs with her parents. Tiantian’s object, therefore, changed from entertaining, to performing, and to more kindergarten experience and culture sharing in the activity.

**Outcomes.** Two types of acts and skills were identified during the focal children’s meaningful communication with other participants in various home-kindergarten activities. The children varied their communication acts to create shared meanings between them and other participants during daily interactions. They also used and developed their early literacy skills in communication.

**Communication acts.** One outcome of the Focal children’s initiation and participation in communication through various home-kindergarten activities is that they applied or developed multiple communication acts (Farver, 1992). Table 12 presents sample vignettes of the children using six acts in communication. The acts included language switching, topic changing, directing, attention calling, action describing, and repeating.
Table 12

Communication Acts Used by Focal Children

<table>
<thead>
<tr>
<th>Focal child</th>
<th>Communication</th>
<th>Context</th>
<th>Acts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiaolong</td>
<td>Tiantian: “你想要什么呢?” [“What do you want?”]</td>
<td>Xiaolong was in a pretend play with Tiantian to “buy and sell” goods at family corner. Ellen, an English-speaking girl, walked in and Xiaolong invited her to his new doctor-patient pretend play.</td>
<td>Language switching</td>
</tr>
<tr>
<td></td>
<td>Xiaolong: “唔，这个。” [“Hmm, this one.”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Xiaolong pointed to a green necklace. Tiantian gave the necklace to him. Xiaolong took the necklace, put his hand into a medicine box, a set of toys, and pay Tiantian the money he grabbed from the medicine box.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xiaolong: “给你钱。” [“Here is the money.”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Ellen walked into the family corner. Xiaolong grabbed the medicine box beside him.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xiaolong: “Are you sick? I have this.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Xiaolong waved his medicine box to Ellen. Ellen stood still and looked at him.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xiaolong: “Welcome, welcome to the doctor. Are you sick?” (KO, Xiaolong, 7th March 2016)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiantian</td>
<td>Mother: “不高兴了？怎么不高兴啊?” [“Unhappy? Why?”]</td>
<td>Tiantian looked unhappy when her parents picked her up from kindergarten. Tiantian’s parents asked about the reason in the car.</td>
<td>Topic changing</td>
</tr>
<tr>
<td></td>
<td>(Tiantian did not answer but kept playing her fingers.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Father: “和小朋友玩的不愉快了?” [“Not happy with friends?”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tiantian had a look at her father and answered with a low voice.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tiantian: “Hungry 不是我的好朋友。” [“Hungry is not my good friend.”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mother: “Harry 不叫 Hungry. Hungry 是饿的意思。” [“Harry, not Hungry. Hungry means you are starving.”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tiantian: “他就叫。” [“He is.”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mother: “那不行啊。你把朋友的名字都叫错了。比如说，人家不叫你 April，叫你 Aprila，你愿意吗?” [No, that’s incorrect. You called your friend a wrong name. What if your friends not call you April but call you Aprila? Will you like it?”]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tiantian: “不愿意。” [“No.”]</td>
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</tr>
</tbody>
</table>
Mother: “对吧，所以人家叫 Harry，你不能叫人家 Hungry。那你说‘小饿孩子，你过来。’ 那人家高兴吗？” [Right. So he is Harry. You can’t call him Hungry. When you say: ‘Come here, starving child’, will he be happy?]

(Tiantian looked at the street through the window and kept silent.)

Mother: “那是因为这个，他生你气了？” [“Because of this, he is angry with you?”]

(Tiantian shook her head.)

Mother: “那是因为这个，他生你气了？” [“Because of this, he is angry with you?”]

(Tiantian shook her head.)

(Tiantian did not answer. Instead, she giggled out.)

Tiantian: “你看垃圾桶后面藏着一只猫。” [“Look, there is a cat hiding behind the rubbish bin.”]

Father: “Don’t turn the subject please, Tiantian. 我们在说你的朋友，不要转换话题。你能跟那个 Harry 怎么呢？为什么不高兴啊？” [“Don’t turn the subject please, Tiantian. We are talking about your friend. Don’t change the topic. What happened between you and Harry? Why unhappy?”]

Tiantian: “快到家啦。” [“Nearly home now.”] (HO, Tiantian, 31st March 2016)

Jianhao (Tiantian ran to the tool house, grabbed a rake, and joined Jianhao.)

Jianhao: “We don’t need this.”

(Jianhao pointed to Tiantian’s rake. Tiantian did not say anything, only looking at him.)

Jianhao: “What we need is like this.”

(Jianhao patted his spade.)

(Tiantian kept silent and held her rake. Jianhao looked at her and then looked around.)

Jianhao: “OK, I see a red one over there. Look.”

(Jianhao pointed to a spade left by some child at the other side of the sandpit.)

Jianhao: “Go to get it.”

(Right away, Tiantian ran to the spade and took it back. She joined in Jianhao’s game of moving the sands with a smile on her face.) (KO, Jianhao, 23rd March 2016)

Mengmeng (Mengmeng turned to a page with a picture of a crab on it. Mengmeng gazed at the picture and then she looked at Feifei.)

Mengmeng: “Excuse me. Excuse me.”

(Feifei paused the cartoon programme and looked at her.)

Mengmeng: “有一天我在 sea 那里的时候，我都没有见过 sea snail。她就没有爬出来。她在 sea 里面，
One day, when I was at the seashore, I didn’t see any sea snail. She didn’t come out. She was in the sea, so I didn’t see her. And then, a crab didn’t know me. And I didn’t know the crab.”

(HO, Mengmeng, 4th May 2016)

Tiantian was drawing a princess with a piece of blackboard and chalk outside the classroom. Jay, a Korean-speaking boy, sat beside her.

Tiantian: “我要画一个小公主。先用一个粉色画她的头。然后用这个(green chalk)画她的嘴巴。然后用粉色画她的眼睛，和她的头发。这样，这样的公主。这是她的皇冠。公主一般都有翅膀。画好了。我想画一个公主。首先用粉色粉笔画她的头。然后用这个(green chalk)画她的嘴巴。然后用粉色粉笔画她的眼睛和头发。这样，这样公主。这是她的皇冠。公主一般都有翅膀。画好了。”

(Jay walked away when Tiantian finished her drawing.)

(KO, Tiantian, 31st March 2016)

Xiaolong and Mack were playing with car models on a mat.

Xiaolong: “Look at my mountain tractor.”
(Mack stopped loading stones onto his wooden truck.)
Mack: “Mountain tractor? I don’t know.”
Xiaolong: “I saw it. It says ‘mountain tractor’. I saw.”
(Xiaolong pointed to the head of his tractor.)
Mack: “Where? Can I see?”
Xiaolong: “Over here, says ‘mountain tractor’.”
(Xiaolong pointed to two words printed on the head, which says: “Samsung SG”. Mack approached closer to the tractor and had a careful look at the letters.)
Mack: “I can’t read. Only teachers can read.”
Xiaolong: “I can. I know it says mountain tractor.”

(KO, Xiaolong, 31st March 2016)
Xiaolong’s automatically switched language from Mandarin to English while interacting with different peers, Tiantian, who preferred Mandarin, and Ellen, who spoke English, in a pretend play in kindergarten. Xiaolong’s sensitivity to his peers’ languages was evident through his communication. Xiaolong initially demonstrated his capability of becoming a “competent bilingual speaker” (Ministry of Education, 2017c, p. 15).

Tiantian used the communication act of topic changing when she was trying to avoid answering her parents’ questions, which originated in Tiantian’s unhappy experience of playing with a peer in kindergarten. Tiantian changed the topic twice in the conversation, showing her unwillingness to respond to the questions and her intention of guiding her parents’ attention to other things. She succeeded as the conversation ended before they arrived home. In a conversation over Lego construction, Mengmeng also used topic changing to share her interest with Eva, her playmate in the activity, and to engage Eva in the conversation. Although Tiantian and Mengmeng had different purposes for changing topics, the act helped them achieve their intentions at a certain degree and facilitated other participants, especially Tiantian’s parents, to understand more about them. Tiantian’s parents may realise that Tiantian did have some unhappy experiences in kindergarten and another communication opportunity may be helpful for them to have a better knowledge of what happened.

Jianhao used specific directions while he was telling Tiantian how to move the sand with a proper tool. Although the first language of both Jianhao and Tiantian is Mandarin, Jianhao used only English in kindergarten, and Tiantian preferred Mandarin. Jianhao’s act of directing helped him share his meaning with Tiantian, who could not understand and use English as well as him. This meant that Tiantian had an experience of
playing with Jianhao in the sandpit, which she rarely did, and her knowledge of using various sandpit tools was extended thanks to Jianhao’s directions.

To attract her sister’s attention to her narrative story, Mengmeng used the act of attention calling during a book reading at home. The act was also used by Tiantian, who announced, “I need to lull my baby to sleep”, to involve Jim in her pretend play of babysitting in the family corner. The act of action describing was used by Tiantian in her drawing. Although the audience, English-speaking Jay, did not understand Tiantian’s description in Mandarin, Tiantian displayed her capability of planning and monitoring her activity through the description. Xiaolong applied the act of repetition when reading the words on a car model to his playmate, Mack. By repeating the two words “mountain tractor”, Xiaolong tried to convince Mack, who believed that “only teachers can read”, that he could correctly read. Although Xiaolong made mistakes, as the words were “Samsung SG” instead of “mountain tractor”, and no evidence showed that Mack was convinced, Xiaolong’s developing awareness of being a capable reader was illustrated.

In summary, the focal children used six communication acts to interact meaningfully and effectively with others at home and in kindergarten. The acts included action describing, repeating, attention calling, directing, language switching, and topic changing. The variations between children’s act utilisation in communication originated in their individual purposes. Application of the acts not only facilitated focal children to make meaning of the conversational situation and express themselves accordingly but also increased other individuals’ understandings of the children.

*Early literacy skills.* Literacy, in this study, is broadly understood as focal children’s meaningful communication with others in various ways, such as talking, reading, storytelling, drawing, writing, and singing. Focal children’s developing literacy
skills (Bindman et al., 2014; Neuman, 2014; Whitehurst & Lonigan, 1998), including letter and word knowledge, syntax structure, phonological awareness, and print knowledge, contributed to their capability to understand the world and to convey their meanings to others in home-kindergarten activities. For example, Xiaolong captured the word “pattern” in his teacher Cherry’s praise of his peers’ playing. His observing and summarizing the word meaning enriched his word knowledge and enlarged his vocabulary size in a meaningful context. Xiaolong may be able to use the word or learn new words in this way if similar situations (i.e., other persons triggering and Xiaolong exploring) happen. Through listening to the story during kindergarten mat-time, Tiantian developed the length and complexity of syntax structure in her storytelling of *Do Whacky Do*. The growth was evident when she was telling the story to her father at home.

In addition to developing word knowledge (i.e., vocabulary and its use in real-life context) and syntax structure, focal children also developed phonological awareness in routine activities. For example, Jianhao refined the phonemes of “brick” when he was using it in a sandpit playing with Edward. Jianhao started saying the word “rick”, and in a second he updated word into “brick”, which was the very word he picked up in one visit to his mother’s construction company. Another example is from Tiantian, who had a discussion with her mother about the name of the decoration at home, which is presented in Table 13.
A Conversation between Tiantian and her Mother over Afternoon Tea

Table 13

| Context | Tiantian was having afternoon tea with her mother at home after kindergarten. She glanced at the decorations in the dining room while eating a kiwi fruit. Suddenly, she pointed to the head of a deer, which was hung on the wall. |
| Conversation | Tiantian: “妈妈，你看，‘gratal’.” [“Mum, look, ‘gratal’.”]  
Mother: “‘Gratal’是什么呀?” [“What is ‘gratal’?”]  
(Tiantian’s mother stopped drinking the tea and looked at her daughter.)  
Tiantian: “你都不知道什么意思，我都说。” [“I know you don’t know the meaning.”]  
Mother: “对呀，我不知道什么意思。你给我讲一下呗。” [“Correct. I don’t know the meaning. Tell me, please.”]  
(Tiantian shook her head.)  
Tiantian: “不给你讲。” [“Don’t want to tell you.”]  
Mother: “为什么呀？” [“Why not?”]  
(Tiantian kept silent for several seconds.)  
Tiantian: “是鹿。” [“It’s a deer.”]  
Mother: “鹿？” [“Deer?”]  
Tiantian: “鹿的角叫 ‘gratal’.” [“A deer’s antler is called ‘gratal’.”]  
(Tiantian waved one hand and pointed to the deer on the wall.)  
Tiantian: “就是那个鹿。” [“That deer.”]  
Mother: “鹿的角？” [“A deer’s antler?”]  
Tiantian: “嗯。” [“Yes.”]  
Mother: “是吗？” [“Really?”]  
Tiantian: “嗯。” [“Yes.”]  
Mother: “那你再讲一遍。” [“Could you say it again?”]  
(Tiantian shook her head.)  
Mother: “为什么呀？你会这么多东西。不讲给我听听吗？好棒的。” [“Why not? You know so many things. Why not tell me? It’s so great.”]  
Tiantian: “鹿的角叫 ‘ringging’.” [“A deer’s antler is called ‘ringging’.”]  
Mother: “你刚刚不是这么说的哦。” [“You didn’t say the same word just now.”]  
(Tiantian waved both her hands and smiled.)  
Tiantian: “妈妈，我喜欢叫它 ‘ringging’.” [“Mum, I like calling it ‘ringging’.”]  
Mother: “那你刚才叫它什么呀？” [“What did you call it just now?”]  
Tiantian: “就是 ‘ringging’ 呀。” [“I called it ‘ringging’.”]  
Mother: “我怎么觉得你刚才说的不是这个词儿呢？” [“I don’t think you said the same word.”]  
(Tiantian’s mother laughed. Tiantian passed a baby kiwi fruit to her mother.)  
Tiantian: “妈妈，给你。” [“Mum, give you this.”]  
(HO, Tiantian, 14th April 2016) |
In the conversation over afternoon tea, Tiantian, a beginning English learner, named the antler of a deer, which was hung on the wall as a decoration, “gratal”. The name was produced by Tiantian. Once her mother questioned her about the name a few times, Tiantian felt she might be wrong about the pronunciation. She immediately used a word, “ringging”, which had two syllables as “antler” and “gratal”. Tiantian’s response might be based on her conversation with her teacher, Judy, in kindergarten. Judy reported that Tiantian talked about the antler, which was hunted by Tiantian’s uncle, in the conversation. Tiantian may not remember the word “antler”, which Judy told her in Mandarin and English, but her sensitivity to the syllables of the word was highlighted in the home conversation.

Evidence that the focal children were developing print conventions, such as the left-to-right and top-to-bottom sequence and difference between pictures and words, was found. In Mengmeng’s storybook reading with her teacher Lisa, they always started with the cover of the book and author page before they read the story, which was typical of big book reading at mat-time in both kindergartens. More evidence of children’s developing print convention was found when the children read storybooks alone in narrative tasks and free play time both at home and in kindergarten. For instance, in Tiantian’s storytelling of Do Whacky Do with her father at bedtime, she first identified the animals on the cover page and told the story on each page one by one, although the book she used was Ten Friendly Fish.

Focal children’s early writing abilities (i.e., letter and word naming and writing) were also developing through their participation in writing activities (i.e., birthday card writing and name writing) in both settings. Xiaolong practised writing his name and Jim’s name when he wrote a birthday card for Jim. He also traced his father’s writing of
“Happy” letter-by-letter. Moreover, Xiaolong was taught that the genre of writing a birthday card should start with the name of the person, who receives the wish, include the wish, and end with the name of a person, from whom the wish is sent. Another example was from Mengmeng, whose name writing skill advanced. Figure 22 presents the variation of Mengmeng’s name writing over 11 months.

The top picture illustrates Mengmeng’s initial writing of her English name in the portfolio when she enrolled in Berry Kindergarten. The middle picture is Mengmeng’s name writing 11 months after her enrolment when she was observed signing her name on a picture of mermaids she had drawn in kindergarten. The bottom picture shows Mengmeng’s writing of her English name in the kindergarten attendance checklist, the morning after she and her mother discussed how to write “c” at home. The changing of Mengmeng’s writing of her English name across home and kindergarten settings is evidence that her emergent writing skill was developing as she used fewer scribbles and invented letter in writing. The last picture illuminated that Mengmeng could clearly sign her English name when it was needed.

The outcomes of four focal children’s engagement in various activities during home-kindergarten activities have been presented in this section. In conclusion, the children were observed using communication acts, including language switching, topic changing, directing, attention calling, actions describing and repeating, to facilitate their interactions with other participants. Furthermore, they were observed using and developing early literacy skills, such as letter and word knowledge, syntax structure, phonological awareness, and print knowledge, which contributed to their meaningful communication in the immediate and future occasions. These reported activities such as spontaneous conversation, pretend play, early reading and storytelling, drawing and early
writing, computer game playing, and singing played important roles in the focal
children’s learning, which began before they started formal schooling (Clay, 2014).
The Influence of Home-Kindergarten Experiences on Literacy Learning

The second research question asks: "What are the reciprocal influences of the home-kindergarten literacy experiences on children’s early learning?” Children’s experience is understood as knowledge (i.e., something is the case and how to do something) in this study. The answer to this question is based on the observation of focal children’s home-kindergarten experiences in new literacy activities in both settings. Three functions of prior experiences are summarised: a) mediating the focal children’s discourse, as key cultural tools, in their meaningful communication, b) generating contradictions, which provided sources for the focal children to extend learning in and across the two settings, and c) inviting engagement of and contributions from other participants.

Home-kindergarten experiences worked as key cultural tools and mediated focal children’s discourse. Cultural tools can be conceptual or physical (Engeström, 1996). Conceptual tools used by the focal children were previous home-kindergarten experiences, oral and body language. Physical tools they used included toys, books, play equipment, and everyday objects in daily life. The mediation of various conceptual and physical tools in focal children’s productive literacy activities have been individually presented in the 12 stories described in the previous chapter. As critical cultural tools, focal children’s home-kindergarten experiences mediated their discourse in the activities in multiple ways.

Focal children illustrated their understandings of previous events by reappearing their experiences in new literacy activities. To do so, they first needed to make sense of what was happening and then linked it to what had happened. For example, Xiaolong connected his immediate activity of swinging to his previous experience of watching
bungee jumping from the Sky Tower. He used the swing as a model and shared his experience of observing bungee jumping with his peer by representing an exciting scene of the extreme sport through his language (i.e., shouts and explanations of actions) and behaviours (i.e., shouting, pointing, and holding). Xiaolong recalled a past event and represented his understanding of the event by making use of available tools in his immediate activity. He had opportunities to recall an event that happened in the past and represent his understanding by making use of available tools. More evidence could be found when Xiaolong recalled his home experience and mediated his discourses (e.g., wearing a “police camera”, driving a “police car”, and mimicking sirens) during kindergarten swing with Jim. Similarly, Tiantian linked her father’s partially wrong singing in the car on the way home to her kindergarten experiences of singing. She performed two songs to her parents and explained the meanings of the songs, which illustrated her understanding of the meaning and culture carried by the two songs.

Focal children, mediated by their previous home-kindergarten experiences, shared their interest with others in the activities. During Lego playing, Mengmeng used “Hello Kitty”, “mermaid”, and “Andy”, which came from her previous home experience, as topics to engage her kindergarten peer, Eva, in communication. Tiantian shared information about her favourite kindergarten equipment, monkey bar, with her mother in a home conversation. Tiantian illustrated her interest and practised how to describe kindergarten equipment to her mother, whereas her mother understood more about Tiantian’s kindergarten experiences.

Focal children’s prior home-kindergarten experiences mediated their problem-solving discourse in activities. When Jianhao tried to save the dinosaur from the flowing lava, he suggested using a brick to keep the sand dry. Jianhao’s idea was based
on his visits to his mother’s construction company. When asked what birthday gift he would give Jim, Xiaolong recalled in kindergarten children would receive a card on their fifth birthday. The kindergarten experience led Xiaolong to buy and write a birthday card for Jim.

While focal children’s prior home-kindergarten experiences mediated their discourse in new literacy opportunities in multiple ways, the oral and body language of focal children and other participants also influenced their participation in activities. For example, Cherry’s word “pattern” triggered Xiaolong’s exploration of the meaning of the word through interactions with different participants, including Jim, who was playing puzzle with him, and Fred and Daniel, whose “pattern” was praised by Cherry. Tiantian’s mother’s questions about Tiantian’s kindergarten experience initiated Tiantian’s description of the monkey bar at home. On the other hand, body language, such as actions, gestures and facial expressions, also mediated children’s participation in various activities. Xiaolong and Caesar’s creative play with the swing in kindergarten triggered Xiaolong’s representation of bungee jumping. Another example could be found in Tiantian and Jim’s pretend play in the family corner. Body language (e.g., pretending to eat the biscuit, lying on the children’s bed, and smoothing the duvet) was used by Tiantian and Jim in the pretend play to fill the language gap and create a shared and meaningful play situation.

In addition to the conceptual cultural tools (i.e., experiences, oral, and body language), the mediation of physical cultural tools (i.e., toys, books, play equipment, and everyday objects in daily life) in children’s engagement in literacy activities was
identified in the stories. For example, the Lego cars and swings were the essential props in Xiaolong’s exploration of the meaning of “pattern” and description of the bungee jumping in kindergarten. The kindergarten monkey bar became the topic of Tiantian’s home conversation with her mother and the home storybook of Ten Friendly Fish became the prop of Tiantian’s telling of the kindergarten story of Do Whacky do. The kindergarten Lego aircraft reminded Jianhao of his experience of “Mayday” that started in home computer playing with his father. Mengmeng's completion of the picture of the mermaids lured her into signing her English name on the picture and her name writing was then polished with the aid of the picture of alphabets. Other ordinary objects, such as the birthday card and a dead spider, also played critical roles in focal children’s participation in various literacy activities in the early years.

**Home-kindergarten experiences generated contradictions, which provided sources for children’s learning.** Engeström (2016) claimed that “qualitative change and development in activity systems, including schools and other educational organizations, is driven by contradictions” (p. vii). Because of this, contradictions (i.e., mismatch and gap) between the focal children’s prior home-kindergarten experiences and other components (e.g., the focal children’s objects and knowledge and perspectives of other participants), as well as the children’s following literate behaviours, including talking or acting to create meaningful communication, were analysed to test Engeström’s claim.

Contradictions, produced when focal children’s prior experiences were inconsistent with or inadequate for their immediate purposes, were found to trigger or catalyse their
further literacy learning in both settings. For example, when Xiaolong tried to make meaning of “pattern” after he heard Cherry praise his peers’ Lego construction with the word, a contradiction was generated between Xiaolong’s lack of prior experience with the word and his immediate purpose of understanding the word. To solve the problem, Xiaolong left his puzzle area, where he could not find the answer, and explored his peers’ Lego construction, where “pattern” occurred. Consequently, Xiaolong figured out the meaning of the word and shared it with his peers through his verbal descriptions and actions. A contradiction also occurred between Xiaolong’s lack of experiences of writing a birthday card and his intention of giving Jim a card as a birthday gift. The contradiction became the source for Xiaolong to initiate writing a birthday card at home with his father’s support. Xiaolong and his father discussed and wrote his wishes, Jim’s name, and genre of a birthday card in the activity. A contradiction was generated between Jianhao’s prior experiences of stopping the flowing lava (i.e., water) by covering it with sand or digging holes to direct it and his purpose of saving dinosaurs from the lava in a kindergarten sandpit play. The contradiction stimulated Jianhao to recall his earlier home experience about “brick”. He refined his memory about the material (i.e., from “rick” to “brick”) and shared his initial understanding about the function of the material (i.e., “Brick is dry”) with his playmate.

Contradictions, which occurred between the focal children’s prior home-kindergarten experiences and the perspectives or insights of the community in activities, also provided opportunities for the children to further their literacy learning. For instance, the contradiction between Tiantian’s kindergarten experience of the farewell song and her father’s crooning of the song with a partly correct melody
stimulated Tiantian to perform the song to her parents. She, even better, furthered the singing activity by performing another kindergarten lunch song and discussing the differences between the two songs with her parents. In Tiantian and Jim's pretend play, a contradiction happened when Tiantian's kindergarten language, Mandarin, mismatched Jim's kindergarten language, English. To solve the mismatch and engage Jim in the pretend play, Tiantian incorporated body language (e.g., pointing and smiling) into her verbal language (i.e., “ok”) to make their communication efficient. A shared play situation was eventually constructed between them. Similar in vein, Mengmeng’s prior kindergarten experience of writing “乚” in her name conflicted with her mother’s knowledge of the letter “C”. The contradiction became the source for Mengmeng to learn writing the letter and other letters in the alphabet at home.

In summary, contradictions were generated between the focal children’s previous home-kindergarten experiences and their immediate purposes, as well as other participants’ knowledge and viewpoints in an activity. With the contradictions as the triggers, both endogenous, initiated by the focal children, and exogenous mediation, initiated by other participants, produced and extended the children’s learning.

**Home-kindergarten experiences invited contributions of the community.** Focal children’s incorporation of their prior home-kindergarten literacy experiences in new literacy activities invited other participants’ contributions, either by supporting or challenging, to meaningful communication. For example, when Xiaolong was demonstrating what a bungee jump looked like, Caesar’s initial response through body language (e.g., looking and smiling at Xiaolong) and verbal language (i.e., “Really?”) encouraged Xiaolong to provide more details in his description of the sport. Tiantian's use of her home language, Mandarin, in the pretend play, was challenged by Jim, who
did not understand the language. Jim’s discourses, such as picking up a biscuit and pretending to eat, challenged Tiantian’s play situation. Tiantian, therefore, used more body language and English to express her meaning. Understanding Tiantian’s discourses, Jim contributed to the pretend play through his active responses as the activity continued.

In addition to peers, parents, siblings, and teachers were attracted to focal children’s presentation of home-kindergarten experiences in various activities. Mengmeng showed her mother a picture, which she drew in kindergarten. Mengmeng’s signature, with a letter wrong, in the picture engaged her mother to extend Mengmeng’s name writing at home. Table 14 shows two more examples from Mengmeng and Tiantian to illustrate the support from sibling and teachers when the two girls were using their previous experiences in new communication.

In Table 14, Mengmeng was confused about the appearance of Santa in the picture, as it was not Christmas when she saw the picture, and the pair of shoes, which belonged to her, was on Feifei’s feet. Feifei’s explanation of “they were mine at that time” may help Mengmeng understand that a picture may record events occurring a long time ago (i.e., “at that time”) instead of “now”. Tiantian’s speaking of her home language, Mandarin, in a kindergarten computer play was spotted by her teacher, Cherry. Tiantian happiness (i.e., saying “很好玩 [So funny.]” and clapping her hand) motivated Cherry to join in the computer play. Cherry supported Tiantian’s use of home language by naming a cat “猫[cat]” in Mandarin. Cherry’s practices received a positive response from Tiantian, who nodded her head and smiled back.

In summary, the focal children’s learning processes were fuelled by their community, consisting of parents, sibling, teachers, and peers at home and kindergarten.
Table 14

*Contributions of a Sibling and a Teacher in Focal Children’s Meaningful Communication*

<table>
<thead>
<tr>
<th>Focal child</th>
<th>Communication</th>
<th>Context</th>
</tr>
</thead>
</table>
| **Mengmeng** | Mengmeng: “Portfolio. Portfolio.”  
(Mengmeng opened the portfolio and stopped at a page where there was a picture of children and teachers dressed in Santa clothes. Mengmeng pointed to a person in the picture who was wearing a red Santa suit.)  
Mengmeng: “这是 Santa. 为什么会有 Santa 呢? [This is Santa. Why there is Santa?]”  
(Mengmeng’s murmuring did not attract Feifei’s attention, who was reading a storybook opposite Mengmeng. Mengmeng did not look at Feifei but focus on the picture.)  
Mengmeng: “为什么 Feifei 穿着我的 shoes 呢? [Why Anna was wearing my shoes?]”  
Feifei: “因为那时候是我的。[Because they were mine at that time.]” (HO, Mengmeng, 4th May 2016) | Mengmeng was reading a kindergarten portfolio of her sister, Feifei. |
| **Tiantian** | (Tiantian clicked a laptop, and then a fish.)  
The computer: “电脑 [Computer]. 动物 [Animal].”  
(Tiantian giggled. She then clicked the abacus.)  
The computer: “算盘 [Abacus].”  
(Tiantian stopped for a second and clicked twice on the abacus.)  
The computer: “算盘 [Abacus]. 算盘 [Abacus].”  
Tiantian clapped her hands  
Tiantian: “Yeah. 很好玩 [So funny].”  
(Cherry, the floating teacher on the day, watched Tiantian’s playing, with a smile on her face.)  
Cherry: “You are happy. Oh, look. What’s this one?”  
(Cherry pointed to a cat on the screen.)  
Tiantian: “Cat.”  
Cherry: “Cat. 猫 [cat]?”  
(Tiantian nodded her head and smiled back to Cherry.) (KO, Tiantian, 10th March 2016) | Tiantian was playing a computer game on a touchscreen, hung on the front wall of the classroom. The touchscreen was controlled by a teacher’s computer. When a child clicked an item or number on the touchscreen, the computer would pronounce the name of the item or number in Mandarin. |
receiving challenges and supports from the community, the children updated understandings of their experiences and furthered learning in the activities.

Children’s Identity Construction in Literacy Activities

Children’s literacy and identity are indivisible (Compton-Lilly, 2006). Literacy learning can be “conceived of as moments in identity construction and representation” (McCarthey & Moje, 2002, p. 233). Focal children constructed three types of identities in this study. They constructed their cultural identity when they were using tools from a specific social or cultural group (i.e., home or kindergarten) in their communication with others (Gomez-Estern et al., 2010). Focal children’s learner identity was constructed, when they were “planning, checking, questioning” and “reflecting on experiences and activities” (Ministry of Education, 2017c, p. 14) to acquire new interest and capabilities. Their lingual identity was constructed when they use their home language, Mandarin, and language(s) of the host country (Jones Diaz, 2003), English and Māori, at home and in kindergarten.

Cultural identity. All focal children’s interactions with other participants in home and kindergarten settings involved their construction of cultural identity. Table 15 illustrates two examples from Xiaolong and Tiantian. Xiaolong’s language and behaviours during pretend play on the swings with his peer, Jim, was based on his understanding of policemen, cameras, and police cars, and the relationships between them. Xiaolong’s spontaneous conversation with his father, after they unexpectedly saw
### Xiaolong and Tiantian Constructing Cultural Identity in Kindergarten

<table>
<thead>
<tr>
<th>Focal children</th>
<th>Communication</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Xiaolong</strong></td>
<td>Xiaolong: “I am a police officer. This is my camera.”</td>
<td>Xiaolong was wearing an unusual necklace while swinging with Jim in kindergarten.</td>
</tr>
<tr>
<td></td>
<td>(Xiaolong patted the piece of wood.)</td>
<td>The necklace was made of a leather rope, with a pendant made from a round piece of wood, as big as Xiaolong’s hand.</td>
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<tr>
<td></td>
<td>Xiaolong: “Wait. Jim, hold my swing.”</td>
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<td></td>
<td>Jim: “OK.”</td>
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<tr>
<td></td>
<td>(Xiaolong picked up another “camera” on the ground and hung it on Jim’s neck.)</td>
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</tr>
<tr>
<td></td>
<td>Xiaolong: “You forgot your camera. Sometimes we need camera; sometimes we don’t.”</td>
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<td></td>
<td>(Jim giggled at Xiaolong. Both boys continued swinging. They kept quiet for a few seconds.)</td>
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<tr>
<td></td>
<td>Xiaolong: “I saw a police with a camera. Come and go.”</td>
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<tr>
<td></td>
<td>Jim: “Yeah. So we are on our police car.”</td>
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<td></td>
<td>Xiaolong: “Over here?”</td>
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<td></td>
<td>(Xiaolong patted his swing.)</td>
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<td></td>
<td>Jim: “Yes.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xiaolong: “I am on my police car now. Whoop, whoop, whoop… This car is very fast. Whoop, whoop, whoop…”</td>
<td></td>
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<tr>
<td></td>
<td>(Xiaolong mimicked the siren from a police car. Jim joined him.)</td>
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</tr>
<tr>
<td></td>
<td>Jim: “Whoop, whoop, whoop…”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(KO, Xiaolong, 7th March 2016)</td>
<td></td>
</tr>
<tr>
<td><strong>Tiantian</strong></td>
<td>Frist, Tiantian made a ball with some blue play dough. The ball was twice the size of Tiantian’s fist. After she made the surface of the ball smooth, Tiantian pressed the ball with her hand to make it flat, like the base of a cake. Tiantian then used a heart-shaped mould to cut the edge. Finally, she plugged several chopsticks into the cake. She clapped her hands after she completed her work. (KO, Tiantian, 10th March 2016)</td>
<td>Tiantian was sitting alone at a table playing with play dough.</td>
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</table>
two policemen talking with each other outside the gate of a primary school not far from their house, was the source of his understanding of what these socially and culturally defined constructs mean in New Zealand society. Furthermore, Xiaolong’s cultural identity was explicitly expressed through his explanation and demonstration of his experiences, such as the connections between a camera, policeman, and the siren of a police car. Tiantian’s situation was similar to Xiaolong’s. Her home experience of seeing and helping her mother making a birthday cake became the source of her engagement in creating with play dough in the kindergarten. The unique shape (i.e., heart) of her cake base and the candles (i.e., chopsticks) suggested what the birthday cake Tiantian’s mother made might look like. Tiantian’s interest in making cakes in her mother’s style was also observed by the teachers, who noted Tiantian’s comment: “我喜欢做蛋糕。我做的蛋糕和妈妈的一样。”[I like making cakes. My cake is the same with my mum’s.]” in her portfolio.

Evidence of cultural identity construction can also be found in Jianhao and Mengmeng’s case. For instance, Jianhao participated in a computer game involving helicopter flying with his father at home. Through their playing and conversation, Jianhao had experience of what might happen when flying a helicopter, such as taking off and dropping into the sea. He even learned about the word “mayday”, which pilots use to call for help when life-threatening emergencies arise. Jianhao represented the cultural information contained in the computer game the next day, through Lego playing with his peer, Edward. Jianhao’s cultural identity in relation to flying aircraft was built in the transfer of home-kindergarten experience. Mengmeng’s use of “Hello Kitty” in a
conversation with her peer, Ellen, also illustrated the influence of her home culture, especially her attachment to toys from home, on her discourses in kindergarten communication.

**Learner identity.** According to *Te Whāriki* (2017), positive learners perceive themselves as being able to acquire new interests and skills. Abundant samples from focal children’s stories provided evidence of their construction of learner identity at home and in kindergarten. Through constant questioning, Xiaolong learned how to write “Happy” and “Jim” for a birthday card. Tiantian planned and checked her drawing of a princess. For example, she reminded herself that “公主一般都有翅膀。[Princesses often have wings.]” Not until wings were added to her princess did Tiantian declare that the picture was “画好了。[All done.]”.

Jianhao asked his father multiple questions while they played the computer game involving helicopter flying, such as “Who are you? Who is that guy?”, “What are we playing?”, and “Is this a game? What game is it?”. This not only revealed his interest in the game but also provided opportunities for him to play the game as a novice. When Jianhao was playing a Lego aircraft game at kindergarten with Edward, Jianhao drew on his experience of playing the computer game with his father by using the word “mayday”, as his space boat was dropping down. At home, when Mengmeng’s mother showed her a picture of the alphabet and asked her what the letter “C” looks like, Mengmeng responded: “Carrot is on the ‘C’”. Later, she furthered her learning of letter writing: “‘D’
A detailed description of these examples, including conversations and contexts, were presented in the last chapter. In sum, focal children learner identity was identified during their meaningful communication with other participants in home-kindergarten activities. The learner identity, in return, influenced their language and behaviours during communication. Their literacy learning was also extended in the process.

**Lingual identity.** Xiaolong, Tiantian, and Mengmeng used their home language and English at home and in kindergarten. The frequency of use of the two languages, however, differed from child to child, based on their proficiency levels in each language. For example, all three children spoke fluent Mandarin in their interactions with family members. English was occasionally used in Xiaolong and Tiantian’s home conversations but frequently used by Mengmeng in her communication with her sister Feifei.

In kindergarten, Xiaolong used English to communicate with his teachers and peers. When his play partners were Mandarin-speaking children, such as Tiantian and Zhenzhen, Xiaolong would automatically switch from English to Mandarin. Xiaolong’s confidence and frequency in using both languages illustrated that he was developing his bilingual identity. Mengmeng’s bilingual identity was also revealed in her utilisation of both languages at home and in kindergarten activities. Mengmeng’s teacher, Joanna, reported that when a student teacher, who could speak Mandarin, came to their kindergarten for teaching practicum before this study, Mengmeng frequently spoke Mandarin with her (TI,
Joanna, however, did not know what they talked about as neither she nor the other three teachers knew Mandarin. In the parent-teacher interviews, both groups reported that Mengmeng would talk with a Mandarin-speaking girl in kindergarten. Unfortunately, no conversation between Mengmeng and this girl was observed during this study, as the girl was overseas at the time.

Influenced by her proficiency in English, Mandarin was still Tiantian’s dominant language in kindergarten. Tiantian usually used Mandarin in conversations with her Mandarin-speaking peers, such as Xiaolong, and her teacher, Judy. She would ask Judy to read her English storybooks, such as *The Very Hungry Caterpillar*, in Mandarin. In a brief conversation with Xiaolong, Tiantian asked him to locate a Mandarin version of the English storybook *The Speed Boat*. Tiantian, however, was increasing the utilisation of English in her interactions with English-speaking peers and teachers. Tiantian spoke simple English with Jim in their pretend play and with a teacher, Cherry, while playing computers. Different from Xiaolong and Mengmeng, two bilingual speakers, Tiantian used Mandarin, English, and Māori in her home activity of singing with her parents. The evidence illustrated that Tiantian was constructing an emerging trilingual identity during home-kindergarten activities.

Xiaolong, Tiantian, and Mengmeng were developing their lingual identity when they moved between home and kindergarten settings. Jianhao’s experience, however, was different. Jianhao never used Mandarin to communicate at home or in kindergarten although he was born in China and Mandarin was his first language. Jianhao had
opportunities to listen to Mandarin from his mother at home. For example, in a brief conversation, Jianhao asked his mother: “What are you cooking?” His mother replied: “芹菜 [Celery].” When Jianhao was crying for the iPad, his mother also used Mandarin to comfort him, “别哭了，儿子[Stop crying, son].” Although Jianhao had Mandarin-speaking peers, such as Xiaolong and Tiantian, and teacher, Judy, in kindergarten, he never spoke Mandarin with them. Jianhao’s mother and Tiantian’s mother were friends who often talked in kindergarten and on the phone, but Jianhao rarely played with Tiantian even when his mother suggested. The only communication between Jianhao and Tiantian was observed in the sandpit. During the observation, Jianhao spoke English and Tiantian did not speak at all. The observations seemed to suggest that Jianhao was changing his language identity from bilingual to monolingual.

**Multiple identities.** Focal children’s cultural, learner, and lingual identities have been discussed in this sub-section. All four children established cultural and learner identities as they navigated between home-kindergarten activities. Xiaolong and Mengmeng developed their bilingual identities, while Tiantian was establishing a trilingual identity and Jianhao was changing from bilingual to monolingual. Each of the children’s cultural, learner, and lingual identities, however, was only a “core identity” (Gee, 2003, p. 99) at a given time (i.e., a few seconds while playing on the swings or engaging in pretend play) and place (i.e., swing area or family corner). Children’s identities are dynamic and vary from “time to time” and “context to context” (Gee, 2000, p. 99).
Evidence of identities variation in the focal children can be found in the sample stories analysed through the model of third-generation activity theory, in which the children changed their roles to achieve their purposes and respond to other participants. Xiaolong’s experience of making and creating meaning of “pattern” in kindergarten highlighted variation in his multiple identities. Xiaolong was initially establishing a learner identity by exploring “pattern” in his own puzzle and then his peers’ Lego construction. He was constructing a cultural identity, when he shared his understanding of “pattern”, framed by his use of cultural tools, such as Lego and language, with his peers. Moreover, when Xiaolong shared his experience of “pattern” with his peers, he used similar acts (i.e., exemplifying and clarifying) to those used by teachers to share knowledge with children, which also helped Xiaolong construct his cultural identity as a child who learns at kindergarten.

Tiantian’s singing with her parents in the car demonstrated that her identities varied across contexts. She was establishing her learner identity by learning the two songs at kindergarten, performing them in the car, and reflecting on the differences between her singing and her father’s singing. By explaining the words and meanings of the “farewell” and “lunch” songs, and singing them to her parents, Tiantian was further constructing a cultural identity, as she shared her kindergarten culture (e.g., the value attached to Te Reo Māori and routines at lunch and mat-time) with her parents. In other words, these two kindergarten songs were the cultural tools that Tiantian employed to build her cultural identity. Moreover, as three languages (i.e., Mandarin, English, and Māori) were
involved in the singing and discussion, Tiantian also demonstrated her trilingual identity in this cross-context activity.

Focal children’s multiple identities, constructed across the contexts of home and kindergarten, can be illustrated through more examples. Jianhao was establishing learner and cultural identities in his pretend play of travelling in Australia. Mengmeng’s cultural, learner, and bilingual identities were being constructed in her drawing of mermaids in kindergarten and the following name writing at home. In sum, focal children’s multiple and dynamic identities shaped, and were shaped by, their engagement in literacy activities across home and kindergarten. As children’s literacy and identity are developing through their interactions with other individuals, the contributions of the focal children’s community (i.e., other participants) were highlighted in communication. The experiences and perspectives of their parents, as the primary caregivers and educators, are presented in the next section.

Chinese Parents’ Experiences and Perceptions of Children’s Literacy Learning

In the initial parent interviews and informal conversations before or after each home observation, Xiaolong, Tiantian, Jianhao, and Mengmeng’s parents shared their experiences and perceptions of their children's early literacy learning. The parents used different literacy practices at home. They also exposed their aspirations for their children further learning, such as languages and wellbeing, and their concerns about communication with their children’s kindergarten teachers.
Home practices. Based on the interviews, informal chats, and field observations, the parents in the four families played critical roles in the focal children’s literacy learning in the early years. Home literacy practices, however, differed from family to family (See Table 16). In Table 16, the parents’ involvement in children’s “serious learning” (Guo, 2010), such as drawing, writing, or reading books, was reported in the interview, although the type, frequency, and length of the activities varied across the families. Meanwhile, the parents’ reported their engagement in children’s play (i.e., pretend play, flight chess, and computer games), which is important to early literacy development (Vygotsky, 1978). All the parents said they asked about their children’s kindergarten experiences, although the response from each child differed.

During field observation, the parents and children’s participation in serious learning was observed in three cases, such as Xiaolong writing with his father, Tiantian discussing her drawing and Chinese character writing with her mother and telling a kindergarten story to her father, and Mengmeng sharing her drawing and name writing with her mother. Jianhao, however, was never involved in such activities during home observations. The reasons might be that Jianhao was not interested in drawing or writing at the time of observation, and his father only read to him before bedtime, which took place after the observations. Jianhao, however, was the only child, who was observed engaging with his mother in pretend play (i.e., travelling in Australia)
### Table 16

*Chinese Parents’ Literacy Practices at Home*

<table>
<thead>
<tr>
<th>Child</th>
<th>Parent Interview</th>
<th>Field Observation Summary</th>
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<tr>
<td>Xiaolong</td>
<td><em>We sometimes play with toys together or other games, children’s ones, such as flight chess or Lego. … We don’t control his time on TV much, often 30 minutes or one hour per day before dinner. … I read bedtime stories to him when I am home, sometimes one story, sometimes two. … Xiaolong sometimes draws pictures and scribbles at home. We also discuss what he did in kindergarten. When we get home and ask him: “What you have done today?”</em>, he would tell us in Mandarin. (PI, Xiaolong’s father, 23rd February 2016)</td>
<td>Xiaolong’s father usually communicated with Xiaolong about his kindergarten experiences, such as mat-time activities, lunch, drawing and writing, and playing with peers, on their way home. Most of the time, Xiaolong would play Lego, do puzzles, or watch TV when they arrived home. Conversations would happen only if Xiaolong expressed his desire, such as needing his father’s support in writing. The father-son dyad, otherwise, would focus on their own work.</td>
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<tr>
<td>Tiantian</td>
<td><em>We role play, such as shopping in the supermarket and giving presents to different people. Tiantian likes physical games, such as playing on the swing better. We don’t read bedtime stories to her but sometimes play audio records of storybooks for her. She would become very excited after listening to the stories and did not want to go to sleep, so we stopped that recently. We do read storybooks for her during the day when she asks, and sometimes we teach her to write Chinese characters. But she is not interested in this either. We usually talk about her kindergarten activities at home when we are having afternoon tea or dinner.</em> (PI, Tiantian’s father, 23rd February 2016)</td>
<td>Tiantian’s parents often talked with Tiantian on the way home and during afternoon tea at home. Their conversations concentrated on Tiantian’s kindergarten experiences, such as playing and learning. Tiantian’s mother occasionally would check Tiantian’s drawing or Chinese writing only when she saw Tiantian was doing it.</td>
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<tr>
<td><strong>Jianhao</strong></td>
<td>We don’t often play with Jianhao at home. If Jianhao’s father has time and wants to relax, he will play computer games with him. While I am busy, Jianhao reads books or plays the iPad by himself. Jianhao’s father reads bedtime stories to him when he has time. I can’t do that due to my level of English. His father also tells some stories that he makes up and Jianhao likes these stories very much. When Jianhao draws pictures, he will show me and tell me what is in the picture. We rarely talk about what happened in kindergarten. Sometimes, I ask him to communicate, but he just focuses on what he is doing. (PI, Jianhao’s mother, 23rd February 2016)</td>
<td></td>
</tr>
<tr>
<td><strong>Mengmeng</strong></td>
<td>We have a rule that if she goes to bed at 8:30 pm, I can read bedtime stories for her. If she can’t make it, no story. She usually can’t make it. So, I read once a week to her, at most. She draws mermaids at home, rarely writing. Sometimes, I wanted to teach her to write, but she doesn’t listen to me. She will not follow my plan. Feifei would play games with her. For example, they would drag the chairs and pretend to ride horses. They also read books and play iPads together. Mengmeng loves watching TV at night. Every time I turn off the TV, she would cry and ask whether she can watch TV tomorrow. Mengmeng doesn’t talk much about her kindergarten experiences, only when I ask her whether she has had a good time in kindergarten or not. She briefly answers yes or not, not much to say. (PI, Mengmeng’s mother, 23rd March 2016)</td>
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The conversations between Jianhao and his parents were not often related to his kindergarten life. All of them seemed to be interested in “what is happening” and “what is going to happen next”. Jianhao was observed playing pretend play with his mother on the way back home and computer games with his father at home. When his parents were busy, Jianhao often played with Lego toys, cars, and the iPad.

Mengmeng usually communicated with her sister Feifei during my home observation. They finished chores their mother gave them, such as sorting out toys to donate to a kindergarten and putting books in a bag to return to the library. They also read books and played on iPads in their shared bedroom. Mengmeng’s mother was often busy with housework. She sometimes communicated with Mengmeng, such as teaching her to write letter “c” and discussing Mengmeng’s toys, between home routines.
All the parents asked about their children’s kindergarten experiences either on the way home or at home. Comparatively, Tiantian’s conversations with her parents, about her kindergarten experience, more frequently occurred than those of the other three children during home observations. The reasons might be that Tiantian’s parents considered afternoon tea time as important for them to understand Tiantian’s wellbeing and learning at kindergarten and “Tiantian may forget what happened in kindergarten, if you ask her later, such as at dinner time, as so many things happened after she left kindergarten and before dinner” (PI, Tiantian’s parents, 18th February 2016). Comparatively, the conversations between Xiaolong, Jianhao, Mengmeng, and their parents were shorter, as children were occupied by activities, such as constructing with Lego, playing with cars, and reading books while their parents were busy with work or household chores after they arrived home. In other words, the home observations captured some, despite not all, of the parents’ home literacy practices.

**Perceptions of children’s early learning.** All the parents valued their children’s interest and happiness in learning at home and kindergarten. Xiaolong and Tiantian were free to choose what they wanted to play, talk, read, or write about at home, as their parents in the two families regarded being interested and happy as important for the children to maintain their enthusiasm for learning. Jianhao’s mother said that she respected Jianhao’s interests instead of forcing him to learn.

“I follow Jianhao’s natural development and will not force him. I only want him to develop naturally without too much pressure. Sometimes, I ask him for communication, but he just focuses on what he is doing. Sometimes, I think we can...
talk on the way back home from kindergarten, but Jianhao does not respond.

Probably, he is thinking: ‘Ok, all the school stuff finished. I should carry on with the next thing.’ I am fine with that as I know my son will not focus on something if he is not interested in it.” (PI, Jianhao’s mother, 23rd February 2016).

Similarly, Mengmeng’s mother also expressed that she understood and respected Mengmeng’s decisions in learning:

“She always has her ideas. Sometimes, I wanted to teach her to write, but she doesn’t listen to me. She will not follow my plans. I am happy to see Mengmeng playing and talking with Feifei because Mengmeng can always learn something from her sister.” (PI, Mengmeng’s mother, 23rd March 2016).

While the parents were satisfied with the ways and the paces of their children’s literacy learning, Xiaolong, Tiantian and Jianhao’s parents shared their aspirations for their children’s future learning:

Xiaolong’s father: “I hope Xiaolong can form good habits from now on, as he is often distracted by other things when eating. Similarly, when I read to him, he always runs away for some toys.” (PI, Xiaolong’s father, 23rd February 2016)

Tiantian’s parents: “The biggest challenge for Tiantian, at the moment, is language. We are not worried about her English, as she can learn it. Tiantian is at the age of learning a language fast. We are concerned that she will gradually forget Mandarin. So we do not teach her English at home, we encourage her to speak, read, and write
Mandarin. She may need to use it in the future. Moreover, we want her to learn the right way to learn and think.” (PI, Tiantian’s parents, 18th February 2016)

Jianhao’s mother: “I am worried about Jianhao’s Mandarin and want him to learn it. He runs away every time my dad calls us from China and wants to talk with him. Jianhao seems stressed by speaking Mandarin. A few months ago, I took him back to China to visit my parents, and he did not talk to my parents at home. My dad was sad about this. I want Jianhao to pick up Mandarin again.” (PI, Jianhao’s mother, 23rd February 2016).

Mengmeng’s mother only implicitly referred to her concerns about Mengmeng establishing friendships and eating habits when she talked about her relationship with kindergarten teachers. When asked about her expectations for Mengmeng’s further development, Mengmeng’s mother briefly indicated that “she will be alright”. In sum, the parents’ expectations concentrated on their children’s wellbeing and learning habits related to bilingual learning. The parents’ viewpoints also reflected their expectations that their children learn efficiently, live a successful life, and keep contact with their Chinese families.

**Communication with kindergarten teachers.** All the teachers reported that the relationships between them and the focal children’s parents were good. Influenced by the traditional Chinese norm of “尊师重道 [honour the teacher and respect their teaching]”, the parents appreciated the teachers’ work for their children. They, however, held
different opinions when they talked about their communication with kindergarten teachers.

Xiaolong’s father: “Xiaolong likes going to kindergarten. My wife used to talk with Judy frequently.” (PI, Xiaolong’s father, 23rd February 2016)

Tiantian’s parents: “Teachers share information with us through Storypark. It helps us, who came to this country not long ago. You can also see school notices and some important information in Storypark. We often talk with Judy when we have time.” (PI, Tiantian’s parents, 18th February 2016)

Jianhao’s mother: “I believe the teachers look after every child well once the parents drop them there. They pay lots of attention to various cultures and children’s interests. I have a good relationship with Judy. We often talk when we meet in kindergarten.” (PI, Jianhao’s mother, 23rd February 2016)

Mengmeng’s mother: “Mengmeng likes playing at kindergarten.” (PI, Mengmeng’s mother, 23rd March 2016)

Xiaolong’s father indicated that his wife, who gave birth to a baby girl one month before Xiaolong took part in the study, used to talk with Judy frequently. However, he was never observed speaking with any of the kindergarten teachers. Tiantian’s parents were observed talking with Judy in Mandarin during pick-up time. Judy mentioned that Tiantian started using “Excuse me” in her conversations at kindergarten. Tiantian’s parents explained that they asked Tiantian to say these words every time she wanted to join other children’s games. At another pick-up time, Judy spoke in Mandarin with
Jianhao’s mother about the lunch she had prepared for Jianhao on that day. Judy told her that Jianhao’s lunch, which was some bread and sausage, should be cooked first. Seeing Jianhao’s mother was still confused, Judy explained how the sausage should be prepared. Jianhao’s mother appreciated Judy’s help as she had not noticed the information on the package of the sausage. She might have continued to make this mistake if Judy had not told her.

According to Xiaolong’s, Tiantian’s, and Jianhao’s parents, they frequently communicated with Judy because she shared a similar language and cultural background with them. Judy’s ability to speak Mandarin is likely to have made the parents feel comfortable and effective communication was happening between them and the teacher, who understood and supported them. The parents’ communication with other teachers, who did not speak Mandarin, was different.

Both Xiaolong’s father and Tiantian’s parents reported that they would simply greet the English-speaking teachers with “Hi” during pick-up and drop-off time. The parents never asked what happened to their children in kindergarten or talked about what was going on at home. Jianhao’s mother indicated that she rarely communicated with teachers other than Judy unless she had to seek help from them to understand the information the teachers sent her. Mengmeng’s mother reported that the relationship between her and the teachers at Berry Kindergarten, where none of the teachers could speak Mandarin for daily conversation, was “very ordinary”. They did not contact each other often except to
say “Hello” when Mengmeng’s mother dropped her off and picked her up from kindergarten.

The parents provided a few reasons for their limited communication with English-speaking teachers. Their low level of English was the major reason reported by all the parents. For example, Xiaolong’s father said he hardly communicated with teachers who spoke English due to his level of English. Some of the kindergarten information was passed on to him from other Chinese parents. He added another reason was that he was always in a rush between family and work and had little time to talk with the teachers. Mengmeng’s mother revealed the influence of different values and perspectives between her and the teachers in her explanation of the “ordinary” relationship:

“I would like to ask things like how Mengmeng’s making friends in kindergarten. Teachers often say: ‘It is ok. No problem at all.’ I have noticed that she didn’t finish her lunch several times, but I don’t communicate with teachers about this. One reason is that I can’t express what I really want to say due to my level of English. It is not easy for me to express my concern or happiness in a second language accurately. The teachers may not think what I am talking about is a serious problem. They often have a very good attitude. They say: ‘You can read this or that.’ But I feel I can’t tell anything from this or that and get what I want from them. I can predict their answers. They are so busy. I think even though I have problems, I may not get help from them.” (PI, Mengmeng’s mother, 23rd March 2016)
In sum, this section has presented the Chinese immigrant parents’ experiences and perceptions of their children’s learning at home and kindergarten. Various home experiences, such as talking, playing, drawing, writing, and reading were provided by the parents to support their children’s literacy learning. While the parents appreciated kindergarten teachers’ contributions to their children’s learning in kindergarten, they revealed their preference for communicating in Mandarin with teachers from a similar cultural background. The conversation, the parents suggested, was more efficient and made them feel more confident. The parents also believed children’s interests and happiness were critical in children’s learning and they expected that their children would pick up English and retain Mandarin in their learning.

Chapter Summary

This chapter focused on the literacy experiences and learning of Xiaolong, Tiantian, Jianhao, and Mengmeng as they engaged in everyday activities across home-kindergarten settings. Each child left a trace of a unique route on their literacy map. Based on a cross-case synthesis of evidence spread across the 67 episodes, including the 17 episodes involved in the 12 stories presented in the previous chapter, four findings have been presented.

The first cross-case finding was that the focal children initiated or participated in six types of activities (i.e., spontaneous conversation, pretend play, early reading and storytelling, early drawing and writing, singing, and computer game playing) with different purposes, including entertaining, sharing, obtaining, and learning. Their
engagement in the activities led to a range of learning outcomes as focal children used and developed communication acts (i.e., action describing, repeating, attention calling, directing, language switching, and topic changing) and early literacy skills (i.e., word knowledge, syntax structure, phonological awareness, print conventions, and writing skills) to achieve meaningful communication.

The second finding was that focal children’s previous home-kindergarten experiences played important roles in new literacy opportunities at home and kindergarten. The prior experiences functioned: a) as key conceptual tools to mediate focal children language and behaviours in the activities, b) as sources to generate contradictions and produce extended learning in and across the two settings, and c) as opportunities to invite the engagement and contributions of other participants.

The third finding focused on children’s identity construction during literacy activities. Focal children’s cultural, learner, and bilingual identities were developed through understanding and responding to other participants in meaningful communication in both settings. In addition to a core identity constructed at a time in a given context, focal children’s multiple identities, established at different time periods or contexts of an activity or activities, were identified using the analysis model.

The last finding of this study concentrated on the Chinese immigrant parents’ experiences and perceptions of their children’s literacy learning at home and kindergarten. A repertoire of strategies, such as talking about experiences, sharing children’s play, discussing drawing, teaching writing, and reading storybooks, was used by the parents to
support their children’s wellbeing and learning. While the parents valued the contributions of the kindergarten teachers to their children’s care and education, they explained their orientation of communicating more frequently with a teacher who shared their language and cultural background. Focal children’s interests and happiness were highlighted in their parents’ perceptions of learning in the early years. Mastering both English and Mandarin and forming good lifestyle habits (i.e., eating well and learning) were the expectations of these Chinese immigrant parents.

The following chapter will bring together the main research findings to conceptualise the literacy learning of the four focal children. Factors that influenced their experiences will be explained as parts of the holistic picture. The findings will be discussed to add to the existing body of knowledge about early literacy learning, identity construction, and third-generation activity theory.
CHAPTER SEVEN

DISCUSSION

A proverb from Confucius\(^1\) says “I hear and I forget. I see and I remember. I do and I understand.” The proverb reminded me of children’s real life, hands-on experiences and their capabilities of seeing, doing, understanding, and learning in meaningful interactions with others during home-kindergarten activities. This chapter discusses the key findings identified in Chapters 5 and 6, concentrating on children’s experiences, learning, and identity construction in literacy activities in the two natural settings.

My understanding of literacy throughout this research derives from emergent and sociocultural perspectives of children’s literacy development in the early years. The emergent perspective, which highlights children’s dynamic and on-going literacy learning from birth, was initially formulated by Clay (1966) and expanded by other researchers (Adams, 1990; Goodman, 1986; Ihmeideh, 2014; McNaughton, 1995; Teale & Sulzby, 1986; Whitehurst & Lonigan, 1998). The sociocultural perspective, which emphasizes the influence of cultural mediation on children’s learning, was primarily drawn by Vygotsky (1978) and extended by Barratt-Pugh (2000), Gee (2002), Reid and Comber (2002), and Rogoff (2003). These perspectives informed my theoretical base for understanding children’s literacy learning and identity construction. As such, each child

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\(^1\) Confucius was a Chinese educator, politician, and philosopher, who lived around 2000 years ago.
is a nexus of the social and cultural relations (Guo, 2010) of their family and kindergarten.

Based on the two perspectives, third-generation activity theory (Engeström, 2001) was used in this study as a generative framework to understand the process of children’s learning and identity construction, as well as the complex relationships among different factors of an activity system and different activity systems within an activity. An analytical model based on the theory was designed and applied to depict the individually diverse processes and outcomes as children engaged in multiple activities in and across home-kindergarten settings. Children’s initiation of experience transferring and the influences of other individuals (i.e., parents, siblings, teachers, and peers) and multiple cultural tools in the activities were understood through the model.

This chapter brings together the main findings of the current research to provide an overall discussion of the overarching research question: What are the reciprocal influences of the Chinese immigrant children’s home-kindergarten experiences on their literacy learning and identity construction in Aotearoa New Zealand? The findings were presented in Chapter 5 and 6 and answered the four sub-questions:

1. What experiences do the Chinese immigrant children have in literacy activities at home and in kindergarten?

2. What are the reciprocal influences of the children’s home and kindergarten experiences on their literacy learning in and across kindergarten and home?
3. What is the influence of the children’s literacy learning on their identity construction in the early years?

4. What are the Chinese parents’ experiences and perspectives of their children’s early learning?

Consistent with the theoretical expectations that previous research has shown, this study found that the focal children had different literacy experiences while engaging in multiple home-kindergarten activities. They were active drivers of their learning and constructed cultural, learner and lingual identities in the activities. The children’s parents had diverse practices and perceptions of their children’s learning.

The current study, however, adds to the previous research of children’s literacy learning and identity construction. Based on the key findings of the research, the overall argument of this study is that the focal children actively used their previous experiences (i.e., what they heard, saw, did, understood, and remembered) as critical cultural tools to mediate their interactions with parents, siblings, teachers, and peers in new literacy activities, which facilitate their literacy learning and identity construction at home and kindergartens. This chapter is organised with the following new insights that support the overall argument.

1. Discontinuity as well as continuity benefited the endogenous processes of the children, who used their previous home-kindergarten experiences as critical cultural tools in learning;
2. New communicative acts were used by the children to facilitate their meaningful interactions with others;

3. The identities constructed in a literacy activity were dynamic and changeable;

4. The parents’ experiences and perceptions of their children’s learning were mediated by kindergarten practices.

**Discontinuity and Continuity in Endogenous Process**

Literacy, in this study, is defined as children’s meaningful communication (e.g., initiating, understanding, and responding) with other individuals through oral and written language and behaviours, such as facial expressions and actions (Clay, 1998; Gee, 2002; Gillen & Hall, 2013; Kress, 1997; McNaughton, 1995). The definition goes beyond the conventional interpretation of literacy as print-related skills, such as reading and writing (Neuman, 2014; Snow, 1983; Teale & Sulzby, 1986; Wang, 2017; Whitehurst & Lonigan, 1998). My understanding of literacy led to the current study’s investigation of interactions initiated and participated by the focal children and other individuals during the free-play time at home and kindergarten. As a result, the research found that the children had rich literacy experiences during their engagement in spontaneous conversation, pretend play, drawing and early writing, early reading and storytelling, computer playing, and singing in the two settings.

**Diverse pathways to literacy.** An essential finding of the current study was that the focal children’s literacy experiences varied in and across the home and kindergarten settings. The finding provided additional support for the idea that individual differences exist in children’s literacy learning in early childcare settings (Dickinson & Smith, 1991).
This is in line with Clay’s (2014) assertion that children learn through different pathways and at their own pace. The finding lends support to the idea that differences exist between children’s home and kindergarten literacy experiences (Dolk & De Acosta, 2001; Heath, 1983; Phillips et al., 2004). These differences may be explained by parents and teachers’ diverse personal, and contextual languages and cultures that influence their beliefs, values, and practices in relation to supporting children’s literacy learning (Barbarin et al., 2010; Guo, 2010; Schick, 2014).

Much of what has been described in this section is well known. New findings and theoretical concepts were established in this study with the lens of third-generation activity theory.

This study, by contrast to the long-standing belief that continuity rather than discontinuity between home-kindergarten literacy practices benefits children’s learning (Heath, 1983), supports the view that discontinuity may facilitate children’s learning in and across home and kindergarten settings. This is because “conflict and ambiguity can itself provide a basis for learning” (Phillips et al., 2004, p. 310). Previous findings have explained that discontinuity leads to children’s exposure to a broader repertoire of literacy practices, which supported their skill development (Schick, 2014). This study, however, has provided a different interpretation of the benefits brought by discontinuity. The focal children initially used their previous experiences in immediate activities, which bridged the discontinuity and sustained their learning in and across the home-kindergarten settings.
Previous experiences in new learning. The focal children, as mentioned in the finding chapters, were active drivers of their own learning by purposefully and strategically using their previous home-kindergarten experiences (i.e., what they heard, saw, did, understood, and remembered) in the new literacy activities. The experiences, as critical cultural tools, generated contradictions and mediated the interactions between the focal children and other participants in the activities in both settings. Consequently, the focal children not only engaged other participants in the activities but also sustained their learning in and across the two settings.

Empirical evidence of the current research supports Guo’s (2010) finding that Chinese immigrant children positively drive their learning across home and early childhood centres, where language and culture differ. Cultural tools, such as language and social choices, were used by the children to bridge their learning in Guo’s (2010) research. This study, however, extended Guo’ (2010) finding by identifying the focal children’s utilisation of previous experiences as critical cultural tools in new learning in and across home-kindergarten settings.

This finding was not surprising as past work has demonstrated that children are able to transfer their literacy experiences across home-school settings (Hill & Nichols, 2009; McNaughton, 1995; Tangaere & McNaughton, 1994; Vincent, 2010). The findings can be interpreted through Vygotsky’s (1978) contemplation of the competence of human beings to structure social communication and of the influence of cultural tools on human acts. Other sociocultural researchers have also discussed children’s competence in
developing their own learning. Rogoff et al. (2007) have argued that children are competent in “selecting, rejecting and transforming multiple ways of engaging in the world” (p. 491). Smith (2013) has suggested that children gradually “come to know and understand the world through their own activities in communication with others” (p. 21). Children’s competence in using previous experience as a basis for expressing themselves and solving problems is recognised and valued in *Te Whāriki* (Ministry of Education, 2017c).

While children’s experience transferring has been recognised by previous researchers, this study attaches importance of the focal children’s use of previous experience as critical cultural tools to mediate and sustain their new learning. Contradictions, which are regarded as the “sources of change and development” (Engeström, 2001, p. 137), were generated among children’s previous experiences and other components of the activity systems, such as children’s immediate purpose of an activity and the viewpoints of other participants engaged in the same activity. To solve the contradictions, the children had to update or refresh the cultural tools they used, such as conceptual tools, including interests and language (Reaves, 2010), everyday objects, including kitchen items and musical instruments (Henning & Kirova, 2012), and literacy materials, including books, paper, and alphabet to mediate their discourse and make effective communication in the activity. As a result, children’s learning, which is “better defined as a process of development, not a requirement for children to demonstrate what they had learnt” (Ministry of Education, 2017d, p. 7), can be vertically and historically understood. Valuing the concept of contradictions to understand children’s sustained
learning in and across contexts, this study also extended the application of third-
generation activity theory in the research field of early childhood education, whereas
previously, the concept and theory had been used in research to explain the use of ICT in
universities (Ekundayo, 2012) and students’ engagement in blended learning courses
(Gedera, 2016).

The children’s use of their experiences as cultural tools not only extended their
learning but also helped other participants, especially their parents and teachers, deepen
their understanding of the children’s experiences and learning in and across the two
settings. The finding lends support to Engeström’s (2001) concept of horizontally
expansive learning among participants of different activity systems, as learning is not
merely “a one-way process from adult to child, but a reciprocal partnership where adult
and child jointly construct understanding and knowledge” (Smith, 2013, p. 21).
Furthermore, the children’s reproduction of their experiences, while interacting with
other individuals in an activity, boosted learning opportunities due to increased
understanding and engagement of both parties.

In addition to children’s active driving of their own learning, the current research
has also uncovered the influences of other participants within home-kindergarten settings
on the children’s learning process. The findings provide additional support for the idea
that children establish their understanding of their immediate world in partnership with,
and with guidance from, adults and other children (Smith, 2002). The focal children’s
parents, siblings, teachers, and peers contributed to the children’s learning by
participating in activities and providing their challenges or support. As a result, contradictions, which triggered children’s new learning, were generated in the activities.

While numerous intervention programmes have been designed to help children’s family members adopt literacy practices to align with those in the classrooms (Reese, Spark, & Leyva, 2010), providing children with opportunities to pursue self-selected goals and encouraging their input in daily interactions may provide other approaches to promote early literacy learning (Ministry of Education, 2017c). This also calls for teachers to work together with families, especially those with immigrant backgrounds, to understand children’s previous experiences and build on children’s learning, as “what one already knows is important in determining what one will come to know” (Clay, 2014, p. 1). Simultaneously, construction of responsive interactions and relationships between children and other individuals in daily settings is important to “enhance children’s agency and capacity to express their feelings and articulate their experiences” (Smith, 2013, p. 27).

The findings also suggest that meaningful, play-based experiences be offered to children for them to “make sense of the immediate and wider world through exploration, communication, and representation” (Ministry of Education, 2017c, p. 15). Opportunities for experience sharing should be afforded for children to enhance their capabilities to express themselves and process their experiences “in an increasingly complex way” (Smith, 2013, p. 34). Adult-initiated activities, based on children’s experiences and interests, should be included in educational practices to stimulate children’s new learning.
at an appropriate level. In other words, a balance between familiar and predictable experiences and experiences with surprise and uncertainty should be considered by adults, in both short- and long-term projects, for children to build on existing knowledge and expand their capabilities and learning (Ministry of Education, 2017c).

**New Communicative Acts**

The focal children, driven by individual purpose, used multiple communicative acts and literacy skills positively to process their previous experiences and make their communication partners understand and engage in an activity. As a result, their learning continued across the different play areas in one setting and across the two settings.

**Initiation communication with individual purposes.** This study found that focal children initiated communication with others to achieve diverse purpose in home-kindergarten activities. Their purposes included entertaining themselves and other participants, sharing their curiosity, interest, and knowledge, obtaining what they wanted, and learning knowledge. The findings add support to the research of Tizard and Hughes (2002), Wells (2009) and McInnes et al. (2013), who found children initiate of conversation to share, obtain, participate, and learn. The findings also contribute to the body of research that spontaneous and unplanned conversation, including talking and storytelling, is not the only way children communicate and share their understandings; they also express their thoughts through drawing, writing, and craft (Anning, 1999b; Hall, 2009; Matthews, 1999; Papandreou, 2014).
The current study has found that the focal children’s purposes of participation in one activity were dynamic rather than fixed, due to the variation of influential factors (e.g., participants and division of labour) in the activity. The analysis model, based on third-generation activity theory (Engeström, 2001), depicted children’s changing purposes across the activity systems within an activity, thereby illustrating the varying process of children’s participation in the activity. This finding suggests that the analysis model is useful for understanding the varying purposes of children in activities happening in and across home-kindergarten settings, where individuals with different language and cultural backgrounds may be involved.

**New communicative acts.** This study also identified six communicative acts used by the focal children to achieve their purposes in their interactions with others at home and kindergarten. Four of the six acts (i.e., action describing, repeating, attention calling, and directing) were identical to Farver’s (1992) findings in relation to the strategies used by forty 2- to 5-years-old to create shared meaning with their peers during pretend play.

The fifth act, language switching, is a relatively new one found in ECE settings and may reflect children’s bilingual development. The act of language switching was also found in Guo’s (2010) research of Chinese immigrant children establishing relationships with peers during free-play activities in New Zealand early childcare centres. The sixth act of topic changing was initially found in this study as no prior research has identified children’s application of this act in communication. The act was used by two focal children to achieve their specific communicative purposes (i.e., sharing information and establishing a friendship). The differences between children’s act use in communication
may originate from their various purposes, which drive them to think, talk, and behave differently (Farver, 1992).

Overall, the study established that the children were capable of using multiple communicative acts to understand meaning of the immediate conversational situations and express themselves accordingly in communication. Their strategic ways of meaning-making increased other individual’s understanding of the children and inspired others’ response and engagement in the interaction. The extensiveness of learning, hence, can be sustained even in a kindergarten context, where the language and culture are different from those at home, and vice versa.

**Literacy skills in communication.** The current study added support for the children’s developing literacy skills (Bindman et al., 2014; Nauman, 2014; Whitehurst & Lonigan, 1998), such as letter and word knowledge, syntax structure, phonological awareness, and print knowledge, in their communication with other individuals during the free-play time in the two settings. The finding further supports the idea that, in addition to learning in kindergarten, home literacy environments have a significant effect on the development of children’s literacy skills (Westerveld et al., 2015), which helps them to understand their immediate world and create meaning in communication. The finding lends support to the suggestions made by the Ministry of Education (2017c) that “play and playfulness are valued” (p. 18) in teachers’ everyday practices, and that “every ECE curriculum will value and build on the knowledge and experiences that children bring with them to the setting” (p. 20).
Clay (2014) has pointed out that “remarkable learning has already occurred” (p. 2) before children start formal schooling and that they “initiate, construct, and actively consolidate their learning” (p. 3) through their daily interactions with their specific world. Clay’s view was confirmed by the findings of this study that the children, driven by different purposes and using multiple acts and skills, positively sustained their learning in and across home-kindergarten settings. Based on the analytical model, a conclusion can be generated that the children’s learning, rather than an all-a-sudden phenomenon, is built on diverse and gradually developed acts and skills, the outcomes of the activity systems of an activity. The learning process, influenced by multiple factors in an activity, was driven and dominantly charged by the children, who made use of their previous experiences as critical cultural tools to mediate their communication in new learning.

Multiple and Dynamic Identities

The current research found that the focal children’s cultural, learner, and lingual identities were being established and influenced when they communicated with other individuals in a variety of literacy activities at home and kindergarten. The findings provided additional support for the concepts that identity is framed by social and cultural context (Gee, 2009; Oyserman, 2004) and that children’s identity intertwines with their learning (Cowie & Carr, 2009; Trawick-Smith, 2014). As “all learning, especially literacy learning, in particular, can be conceived of as moments in identity construction and representation” (McCarthy & Moje, 2002, p. 233), the study also contributes to body
of empirical research that provides evidence for the important and deep connection between children’s identity and literacy learning (Compton-Lilly, 2006; Compton-Lilly et al., 2017; Kendrick, 2005; Martinez-Roldan & Malave, 2004; Rogers & Elias, 2012).

**Multiple identities.** The bi-directional relationships between children’s literacy learning and cultural identity construction were identified. This finding is not surprising, as literacy in this study has been defined as the meaningful communication between the focal children and others. Ferdman (1990) has indicated that literacy as a person’s interactions with other individuals across time and space and argued that “not only will cultural identity mediate the acquisition and expression of literacy, but literacy education will also influence and mould the individual’s cultural identity” (p. 198). Furthermore, the finding also provides empirical evidence for the practicability of investigating an individual’s cultural identity by exploring his or her utilisation of cultural tools (Gomez-Estern et al., 2010), such as social languages and symbols, in the person’s communication with others in diverse settings.

The current study further extends Gomez-Estern at al.’s (2010) research by adding preschool Chinese immigrant children to the investigation group. Moreover, the children’s previous home-kindergarten experiences were added to the cultural tools group and regarded as the critical mediators in communication, through which the children’s cultural identity was established. This study reminded ECE teachers of the importance of children’s cultural identity and consider it in literacy education (Ferdman, 1990).
The identification of the focal children’s use of home cultural tools (i.e.,
experiences, language, and stories) in kindergarten highlights the importance of teachers
valuing and learning about children’s family culture. As Jordan (2010) has stated, “A
baby born anywhere in the world learns his or her family's way of thinking, of being and
doing and playing” (p. 96). The children’s family culture influences their engagement in
learning (Guo, 2010; Henning & Kirova, 2012; Phillips et al., 2004). Moreover, as the
focal children’s home experiences differed from child to child, this study suggests that
teachers consider a child’s cultural identity as a source of individual variation and
provide literacy experiences that are connected to the source (Ministry of Education,
2017c), instead of generalising the Chinese group to an individual child (Ferdman, 1990).

As the focal children planned, questioned, monitored, and reflected on their
experiences and learning, they were establishing their learner identity (Ministry of
Education, 2017c). That the children constructed their own opportunities to learn and
made learning transition between settings was evident in the research. There are the key
points that Carr and Lee (2012) consider as important when viewing a child as a learner.
As children’s learner identity is inseparable from their agency (i.e., taking on an
authorising role in an activity; Carr & Lee, 2012) and is “enhanced when children’s
home languages and cultures are valued in educational settings” (Ministry of Education,
2017c, p. 12), this study suggests that teachers provide opportunities for children to act
with agency and include children’s home language and culture in educational practices.
The focal children’s construction of lingual identity was identified when they used Mandarin, English, or Māori in their communication with other participants during literacy activities. The finding is consistent with the reports of previous research that children, who are emerging bilinguals with little English, start picking up and using English within a few months of arrival at an early childhood centre (Jones Diaz, 2013), and that they use their home language for communication in home and kindergarten settings (Anandh et al., 2016; Hartley at al., 2016). This study, however, extends the previous investigations by providing evidence that the outcomes of lingual identity establishing differ from child to child, even when they share a bilingual background.

Xiaolong and Mengmeng were confident bilingual users (i.e., English and Mandarin) at home and kindergarten, as they frequently and naturally switched between the two languages when necessary. While Xiaolong picked up Mandarin at home and English at kindergarten; Mengmeng, who was usually quiet at kindergarten, seemed to pick up and use both languages more at home with support from her mother and elder sister. Tiantian used English and Māori in home conversations with her parents, even though Mandarin was their first and preferred language. Jianhao’s situation was different from the other three children. He seemed to change from being a bilingual speaker to a monolingual speaker, as he used only English to communicate with his parents, teachers, and peers. Although language backgrounds may impact the children’s establishment of their lingual identity, parents’ attitudes to language use in everyday life and the language environment in kindergarten (Chan, 2018; Guo, 2010) may also influence children’s lingual identity construction.
In this study, Mandarin is the first language of the focal children. Tiantian’s parents were open and happy to engage Tiantian in activities where multiple languages were used. Tiantian often played with Mandarin-speaking friends at kindergarten. Jianhao mostly listened to English conversations and stories, and his mother only used Mandarin occasionally after they moved to New Zealand from China. Jianhao always played with English-speaking friends at kindergarten. Mandarin seemed unnecessary for him to communicate with others despite his mother’s expectation for him to be bilingual. The variation of Jianhao’s mother’s language use and the change of the language environment, from Mandarin to English, interfered with Jianhao’s use of Mandarin. Consequently, his lingual identity seemed to change from emerging bilingual to monolingual. To solve the issue of language loss and to encourage children’s bilingual or multilingual identity construction, teachers are suggested to help children and their parents to understand the importance of home language and culture and affirm their power of language choice in activities (Jones Diaz, 2014; Harvey et al., 2016).

**Dynamic identities.** In addition to a core identity being established at a given time and context (Gee, 2000), the analytical model led to the identification of variation of cultural tools the focal children used and the roles they played in an activity and illustrated the children’s construction of multiple identities (i.e., cultural, learner, and lingual), as an activity unfolded. The finding lends empirical support to the application of the third-generation activity theory as a lens for analysing the construction of a person’s identity or identities (Engeström, 2014) in literacy learning. The findings suggest that adults should regard teaching literacy as acts of “supporting and challenging learners'
identities and providing spaces for learners to explore how their identities are hybrid” (McCarthy & Moje, 2002, p. 233). Adults, as more experienced cultural tool-users (Jordan, 2010), should also provide opportunities for responsive interactions with children to promote children’s competence in using cultural tools and enhance the possibilities for them to be positive learners and successful bilingual speakers. As children’s literacy and identity develop through their interactions with other individuals, the experiences and aspirations of their parents, who are the prime care and education providers and essential communicators, are discussed in the next section.

Parents’ Experiences and Perceptions of Early Learning

Interviews with the focal children’s parents and observations of communication between the children and their parents illustrated that the parents valued their children’s learning experiences both at home and in kindergarten. They provided their children with a range of opportunities to sustain learning at home. The parents prioritised their children’s interest and preferred play-based activities (Hu et al., 2014). They engaged in their children’s play, share their kindergarten experiences, and discussed their drawing and writing, instead of using formal and structured teaching strategies (Anderson, 1995; Wan, 2000; Zhang, 2004). The parents’ confidence in their children’s competence in relation to knowledge learning may explain their respect and value of children’s interest as central to their learning. Meanwhile, “serious learning” (Guo, 2010, p. 118), including English vocabulary learning, Chinese character or number writing, and piano playing, was not popular with the parents of this study, who indicated that their children’s health
and happiness were their prime considerations. They followed their children’s natural
development rather than pressuring them to learn. These findings suggest that Chinese
immigrants are updating their beliefs in and approaches to child rearing and education to
embrace the concepts (e.g., valuing play-based experiences, enabling children’s agency,
and providing responsive communication) of mainstream education culture in New
Zealand (Ministry of Education, 2017c).

The parents in the current study shared their expectations, concerns, and practices,
about their children’s language learning. All the parents expected their children to retain
their bilingual competence in Mandarin and English and regarded supporting the
children’s Mandarin learning as their commitment. Two mothers explicitly expressed
their concerns about the possible home language loss of their children. The findings
contributed to the body of research that reported the Chinese immigrant parents’
extpectations of their children’s bilingual learning (Chan, 2018; Guo, 2010; Hu et al.,
2014; Wu, 2005; Zhang, 2004). The parents addressed two practical reasons, preparing
their children for future life and maintaining family connections (Chan, 2018; Guo, 2010;
Hu et al., 2014; Zhang; 2004), for their aspiration. Diverse approaches, such as daily
interactions in Mandarin and sharing Chinese storybooks, either brought from China or
borrowed from local libraries, were used by the parents to maintain their children’s home
language, whereas the frequency of the activities differed from family to family. Sending
their children to Chinese schools, as reported in previous research (Wu, 2005; Zhang,
2004), was not a choice for the parents in this study. The aspirations and practices of the
parents aligned with the ECE curriculum, which indicates that “the languages and
symbols of children’s own and other cultures” (Ministry of Education, 2017c, p. 41) should be promoted and protected.

In addition to language and culture acquisition, the focal children’s wellbeing (e.g., forming healthy eating habits, building friendships, and learning the right ways to learn and think) was mentioned by the parents as important learning at kindergartens. The findings were different from Chan’s (2018) report that Chinese parents identified “English language acquisition as the most important learning for their children in education settings” (p. 8).

The parents demonstrated an accepting attitude of their children’s experiences at kindergartens and appreciated the kindergarten teachers’ devotion and care to their children’s education. They, however, voiced their diverse experiences of communicating with different teachers. The parents from Apple Kindergarten highly valued the help they received from the Mandarin-speaking teacher, Judy, who the parents believed understood not only their language but also their culture. This view aligned with the findings from previous research that immigrant parents feel more comfortable and confident to talk with teachers, who speak their language (Guo, 2010). The parents from both kindergartens indicated that most of their communication with English-speaking teachers was limited to greetings during drop-off and pick-up time. They provided a few reasons for their reserved attitude, including lack of confidence in English, lack of time for conversations, and scepticism about the effectiveness of the information provided by the teachers on specific issues (e.g., children’s eating habits and friendships in kindergarten).
Similar reasons were highlighted in Guo’s (2010) investigation of Chinese immigrant parents holding back their opinions from English-speaking teachers. The findings of this study suggest that effective measures need to be taken to help Chinese immigrant parents navigate this dilemma.

The parents’ views on their relationships with the teachers differed from those of the teachers, who commented that they had good relationships with the parents. All the teachers expressed their gratitude for the help they received from the Chinese immigrant parents during specific events, such as cultural celebrations and field trips. The teachers also believed that communication between the parents and themselves was effective as useful information was shared via multiple sources (i.e., Storypark, emails, calls, notices), which compensated for the lack of opportunities for face-to-face conversations with every parent.

The difference between the parents and teachers’ interpretations of their relationships suggests that actions need to be taken to increase understandings between the two parties. The ECE teachers should understand that there is no “one size fits all” approach to communicating with parents due to their individual and changing needs and preferences. For example, some parents may expect immediate and efficient face-to-face conversations about specific issues rather than the general information for every parent. Meanwhile, teachers’ explicitly sharing inclusive bi/multilingual and bi/multicultural curriculum (Ministry of Education, 2017c) and their interests in and positive attitudes to any issue raised by the parents during routines may strengthen the parents’ sense of
belonging in the kindergarten and confidence in relation to communicating with the
teachers. The findings also highlight the importance of multilingual and multicultural
teachers, who can act as a link to support the parents from immigrant backgrounds to
understand their role within culturally different mainstream educational settings, assist
their participation in the programmes, and increase understanding between Chinese
parents and teachers speaking other languages.

Chapter Summary

This chapter has summarised and discussed the focal children’s literacy learning and
identity construction in home-kindergarten settings, based on the findings presented in
Chapters 5 and 6. Participating in various activities, the children actively drove their
learning by using their previous home-kindergarten experiences (i.e., what they heard,
saw, did, understood, and remembered) as critical cultural tools, which mediated their
discourses and generated contradictions in communication. The children’s use of
previous experiences engaged other participants (i.e., their parents, siblings, teachers, and
peers) in the meaningful interactions in activities. In return, the focal children’s learning
in the activities were influenced by the other participants, who contributed to the
activities with their challenges and supports. Consequently, the children’s home-
kindergarten experiences were bridged and their learning was expanded.

New communicative acts, together with their developing literacy skills, that the
focal children used to achieve their individual purposes in the activities were discussed in
the chapter. The children’s multiple, dynamic identities (i.e., cultural, learner, and lingual) were constructed through meaningful communication and the construction, in return, influenced children’s engagement in learning. The experiences and viewpoints of the focal children’s parents reflected their updated beliefs and practices, which were influenced by the kindergarten practices, in relation to their children’s learning.

The next chapter draws together the key findings of the research. The contributions of this study to theory, knowledge and methodology and the educational implications are highlighted. The research limitations and suggests for possible future research are specified.
CHAPTER EIGHT

CONCLUSION

The purpose of this study was to investigate the reciprocal influences of Chinese immigrant children’s home-kindergarten experiences on their literacy learning and identity construction in New Zealand. Based on emergent and sociocultural perspectives of children’s literacy development, literacy was defined as children’s meaningful communication with other individuals through their utilisation of socially and culturally framed language and behaviours. Children’s identity was regarded as the changing roles they played in multiple activities, which varied with their use of different cultural tools (i.e., symbolic or physical). Engeström’s (2001) four questions in relation to the expansive learning of individuals or organisations served as a generative framework for the investigation of this study. The four questions were: “(a) Who are the subjects of learning? (b) Why do they learn?, (c) What do they learn? (d) How do they learn?” (p. 133). Following the four questions, this study focused on:

(a) Chinese immigrant children, who travelled between home and kindergarten in Aotearoa New Zealand, as the subject of literacy learning and identity construction,

(b) the objects and outcomes of the children’s initiation and participation in meaningful communication in home-kindergarten activities,

(c) the influential factors (e.g., the children’s previous experiences and participation of other participants) that contributed to the children’s expansive learning and identity construction during communication.
The four focal children of this multi-case study were recruited from two kindergartens in Auckland. Sources of data included the focal children’s narratives tasks, review of their artefacts, interviews with the children’s parents and teachers, and field observations of the communication between the focal children and their parents, siblings, teachers, and peers at home and in the kindergartens. The research design was presented in Chapter 3. The data revealed the richness of the children’s literacy experiences in the two settings.

The data were analysed in three waves, as presented in Chapter 4. The focal children’s profiles were described, and their experiences in home-kindergarten literacy activities were thematically analysed in the first wave of the data analysis. Individual case stories were written to provide overall descriptions of each child. Xiaolong’s case story is exemplified in Appendix O.

The second wave of data analysis focused on understanding the children’s expansive literacy learning in and across the two settings through 12 sample stories using the five principles of Engeström’s (2001) third-generation activity theory as the interpretive code. The five principles are “activity system as unit of analysis, multi-voicedness, historicity, contradiction as driving force of changes, and expansive cycles as possible form of transformation in an activity” (p. 133). An analysis model, designed on the base of the theory, was used to analyse each story. Systematic findings, such as variation of the six factors and the individual outcome(s) of each system that was gradually transformed to the overall outcome(s) across the systems of an activity, were drawn to explain focal children’s expansive literacy learning and multiple identity construction in the activities. The findings were presented in Chapter 5.
The third wave of data analysis presented a synthesis of cross-case findings to construct a holistic picture of the children’s literacy learning at home and in kindergarten. The focal children’s objects, outcomes, application of previous experiences, and identity construction, as well as their parents’ experiences and perceptions of early learning, were illustrated and summarised in Chapter 6.

In this chapter, I summarise the key findings and discuss the implications and contributions of the research to third-generation activity theory in early literacy research. The chapter concludes with a discussion of the limitations of the research and some suggestions for further research.

Key Findings

The first research question asked, “What experiences do the Chinese immigrant children have in literacy activities at home and in kindergarten?” The key findings in relation to the question were that the children participated in literacy activities with the objects of entertaining themselves and other participants, sharing their curiosity, interest, and knowledge with others, obtaining information and materials from others, and developing their learning. By engaging in meaningful communication, focal children achieved two types of learning outcomes: using communicative acts (i.e., topic changing, language switching, directing, attention calling, action describing, and repeating) and developing literacy skills (i.e., world knowledge, syntax structure, phonological awareness, print conventions, and writing skills).

The second research question asked, “What are the reciprocal influences of the children’s home and kindergarten experiences on their literacy learning in and across
kindergarten and home?” The key findings to the question were that the children used their previous home-kindergarten experiences as key cultural tools to mediate their language and behaviours in the activities. By applying their previous experiences, the children initially bridged and expanded their literacy learning in and across the settings. Their application of previous experiences also attracted the contribution of other participants in the activities.

The third research question asked, “What is the influence of the children’s literacy learning on their identity construction in the early years?” The key findings in relation to the question were that the focal children were constructing cultural, learner, and lingual identities during their application of different cultural tools and variation of their roles in the activities. In addition to establishing a core identity at a given time and context in an activity, the focal children were able to construct two or all of the three identities, changing with diverse time, participants and contexts, as the activity unfolded.

The fourth question asks, “What are the Chinese parents’ experiences and perspectives of their children’s early learning?” The key findings concerning this question were that the parents were satisfied with their children’s learning at home and kindergarten and they expressed their expectations of children’s wellbeing (i.e., eating and learning habits) and bilingual learning. The parents offered their children a range of literacy experiences, including talking about kindergarten experiences, engaging in children’s play, discussing drawing and writing, and reading storybooks at home. Their children’s interest and happiness were valued in the home practices. Furthermore, the parents shared their experiences of communicating with kindergarten teachers, highlighting that they felt more comfortable while interacting with teachers who spoke their language, even though they appreciated the work of all the teachers.
Contributions to Theory and Knowledge

This research is the first in-depth multi-case study to investigate Chinese immigrant children’s literacy learning and identity construction at home and in the kindergartens in New Zealand. This section discusses the study’s significant contributions to theory and knowledge.

The current study has confirmed that children’s early literacy learning occurs in home-kindergarten activities before they start formal schooling. The dynamic and ongoing learning process involved children’s utilisation of multiple languages (e.g., English, Mandarin, and Māori) and behaviours (e.g., facial expressions and actions) to achieve meaningful communication in diverse activities (i.e., spontaneous conversation, pretend play, drawing and early writing, reading and storytelling, singing, and computer playing). The learning experiences, which may or may not be identified by adults in a short term (i.e., days or weeks), may influence children’s engagement in new literacy activities.

This study has also demonstrated that the Chinese immigrant children are active drivers of their learning, through the transference and application of previous home-kindergarten experiences in new literacy activities in the two settings. This finding is consistent with previous research that children were competent at transferring literacy experiences and bridging learning between home-kindergarten settings (Hill & Nichols, 2009; McNaughton, 1995; Tangaere & McNaughton, 2003), but adds Chinese immigrant children to the group. The finding draws attention to the strategic and adaptive learning process of the children, including their efforts to bridge and succeed in new learning.
opportunities in both settings, and their endeavours to support their learning through multiple pathways to literacy.

The research makes contributions to the third-generation activity theory (Engeström, 2001; 2015) by providing an exploratory application of how the five principles of the theory are related to the literacy learning process of one cultural group of children living and learning in two cultural settings (i.e., home and kindergarten) in New Zealand. First, multiple activity systems, which had a shared or partially shared object (i.e., purpose), of a home or kindergarten activity of the focal children were identified to illustrate the variation of the multiple components and the history of the activity. Second, the study highlighted the children’s use of their previous experiences, as well as other symbolic and tangible cultural tools, which mediated their division of labour (i.e., how they engaged and what role they played) in the activity and influenced their identity establishment. Third, the contradictions, generated between the focal children’s application of cultural tools and their changing object or responses from other participants, were identified as a critical source of the children’s expansive learning. Fourth, the influences of the multiple-voicedness (i.e., experiences and viewpoints) of the community (i.e., parents, siblings, teachers, and peers) on the focal children’s learning was confirmed in the research.

Overall, informed by the third-generation activity theory, this intercultural research provides a specific lens for understanding the process of children’s expansive learning in and across the two settings in both vertical and horizontal directions. Specifically, the study identified the variation of multiple factors, which worked together to contribute to the individual outcome of an activity system and the overall outcome across the systems of an activity. Children’s learning and identity construction in one setting could be
understood in a vertical dimension. Horizontally, illustrations of the focal children’s application of previous home experiences in kindergarten literacy activities and utilisation of kindergarten experiences in home activities provided explanations of the children’s expansive learning across the two settings and their parents and teachers’ increasing understanding about the children’s experiences in the other setting.

The focal children’s establishment of dynamic, multiple identities, in addition to a core identity at a given time and context, were found across the activity systems of an activity and reinforced the relationship between early literacy learning and identity construction (Compton-Lilly et al., 2017; Gee, 2000; Kendrick, 2005; Martinez-Roldan & Malave, 2004; McCarthey & Moje, 2002). The children’s cultural identity was being constructed when they were using multiple cultural tools (Ferdman, 1990; Gomez-Estern at al., 2010), such as kindergarten songs and stories, home experiences, and toys in both settings. Their learner identity was being constructed when they were asking questions, planning and checking an activity, and reflecting on their experiences (Ministry of Education, 2017c). Their lingual identity was being formed when children spoke their home (i.e., Mandarin) and kindergarten (i.e., English and Māori) languages in the two settings (Jones Diaz, 2003; Jones Diaz & Harvey, 2007).

Examples of the focal children’s parents’ experiences and expectations demonstrated their strategic and adaptive attributes in relation to their children’s learning. A range of practices originating from the children’s interests, such as talking about their children’s kindergarten experiences, engaging in the children’s play, and telling stories to the children and listening to their stories, was used by the parents to support their children’s learning. The parents, therefore, seemed to be open to embrace the ideas of mainstream education (e.g., communication and exploration) in their belief and practices.
Comparatively, “serious learning”, such as vocabulary learning, reading, and writing, which was valued and conducted by the Chinese immigrant parents at home in Guo’s (2010) research, was not a focus in the parents’ practices in the current study. Yet, the study found that the concept of inclusive education was implemented in an unsatisfying manner in the curriculum of the two kindergartens. From the parents’ perspective, the teachers’ limited incorporation of relevant information in communication with them seemed to arise from the teachers’ strong belief in the effectiveness of mainstream practices and lack of understanding about the individual desire of each Chinese child and their parents.

**Contributions to Methodology**

I designed and used three 3-day observation cycles (i.e., kindergarten-home-kindergarten) to observe the focal children transferring experiences and bridging literacy learning between home and kindergarten. Observations, during pick-up time and on the way home before the home observation, and drop-off time before the second kindergarten observation in each cycle, afforded more opportunities to find out about the children’s initiation of sustained learning across the two settings. The design of observation cycles is applicable for future qualitative research focusing on children’s learning across multiple contexts (e.g., home and schools).

The analytical model, designed on the basis of third-generation activity theory (Engeström, 2001) and used in the second wave of data analysis, was useful for clarifying the focal children’s learning process. The complex relationships among the multiple influential factors, which varied across the systems of an activity happening in one setting or across the two settings, were transparently identified via the model. As a
result, the influence of children’s use of previous experience as critical cultural tools to mediate their discourses and generate contradictions in the activity in relation to their expanding learning and identity construction, as well as the adults’ increasing knowledge about their children, can be understood. The model, hence, provides a guideline for data collection and analysis to study children’s sustained learning across various contexts and can be employed in further research.

**Educational Implications**

This study has identified the critical influences of the focal children’s previous experiences (i.e., mediating discourses, generating contradictions, and inviting contributions) in their new literacy learning and identity construction at home and kindergartens in New Zealand. The children’s being active drivers of experiences transferring and learning was also highlighted when they engaged in diverse activities in both settings. The research provides implications on educational practices and teachers’ professional development.

The impact of children’s previous experiences on their new learning implies that ECE teachers need to build daily practices on children’s previous experiences, especially those from home that influence the children’s thinking, being and doing in other learning settings (Jordan, 2010). Observing children’s use of family cultural tools (e.g., language and play equipment) during child-initiated and teacher-initiated activities can assist teachers’ understanding and incorporating children’s home experiences into educational practices. Identification of children’s application of home experiences at kindergarten may also lead to teachers providing children with proper levels of stimulations and inspirations (i.e., old and new, predictable and unexpected) in natural and meaningful
situations, which may extend children’s learning. Furthermore, the children’s initiation of
experience transferring in and across the two settings suggests that teachers value
children’s agency in routines. Children’s decisions about “when to apply what approach”
and “how to engage in an activity” (Rogoff et al., 2007, p. 510) should be respected in
daily practices.

Beyond these essential beliefs and practices, ECE teachers are suggested to
construct “a supportive learning environment” (Ministry of Education, 2017c, p. 10) at
kindergarten—the space where children’s home language and culture, such as Chinese,
meet with the kindergarten language and culture, namely English and Māori. A lingually
and culturally responsive environment could benefit other immigrant children’s
multilingual and multicultural learning. This can be achieved, for example, by building a
physically multicultural environment and wrapping responsive talk around children.
Storybooks and nursery songs that are written in Chinese or other languages than English
and Māori should be included as part of the kindergarten resources. Chinese children and
their peers should also have access to pictures, videos, and computer games, in which
Chinese or other language and culture of their peers are embodied. Recommendation of a
wide range of learning resources could also be sought from immigrant parents in
kindergartens, where Chinese teachers or teachers speaking other languages are not
available. Using multiple languages in environmental print (e.g., symbols, signs, and
instructions) could also contribute to a language- and culture-rich environment.

To warp responsive talk around children, ECE teachers are suggested to speak
Chinese with Chinese immigrant children, when needed, in daily communication.
Bi/multi-lingual and cultural programmes, such as singing Chinese nursery songs or
introducing Chinese fairy tales, could be conducted in teacher-initiated activities during
mat time. Supporting Chinese immigrant children to talk, draw, and write about their everyday stories at home or special cultural events (e.g., the celebration of Chinese New Year and Lantern Festival), either in Chinese or English, can help teachers construct a supportive learning environment for these children.

Building a close and cooperative relationship with Chinese immigrant parents are recommended for ECE teachers to construct a supportive learning environment. Perceiving children and their parents emigrating from the same countries, such as China, as individuals with different needs rather than a group who share the same experiences and perspectives, can help the teachers establish the relationship. For example, different levels of language assistance (i.e., English, Chinese, and body language) are suggested to be used in communication with Chinese immigrant parents, as their English language level and understanding of the kindergarten culture may vary due to their educational background and living time in New Zealand. Having a staff member (e.g., manager, teacher reliever, or student teacher) with Chinese backgrounds could benefit the communication between kindergartens and Chinese immigrant parents, given that not every kindergarten (i.e., Berry Kindergarten in this study) can guarantee the availability of Chinese teachers. Furthermore, multiple communication opportunities can be initiated by ECE teachers. For example, face-to-face conversations during drop-off and pick-up time, group information sessions after school time, and home visits, in addition to phone calls, could be organised at a certain frequency. Utilization of both Chinese and English while writing Storypark, paper notices, and emails, could also promote the efficiency of information transferring from ECE teachers to Chinese immigrant parents. Finally, understanding the individual background of each immigrant family and encourage parents to voice their viewpoints and expectations can help teachers avoid using one-fit-
all strategy but to apply various methods, based on the real-life situations, to establish win-win relationships with the parents.

This study also calls for ECE teachers’ professional development to understand and respond to the diversity and complexity of the Chinese immigrant children and their parents, who are the partners of the day-to-day programme at early childcare centres (Chan, 2004; Guo, 2010). Pre- and in-service teachers are suggested to refresh their knowledge and skills and reconstruct their practices under the guidance of the updated ECE curriculum (Ministry of Education, 2017c). Meanwhile, the teacher’s refreshment of pedagogical beliefs and practices should correspond to the changing experiences and priorities of the Chinese children and parents (e.g., interest, happiness, wellbeing, and bi/multilingual learning). Learning from Chinese parents is suggested for the teachers to keep updated. Furthermore, communication and cooperation among all the teachers at a kindergarten should be valued in daily practices. Additionally, the leadership of Chinese teachers is encouraged in the organisation of teaching practices related to Chinese children and in the construction of a shared understanding between all the teachers and Chinese parents. Attending workshops, using language-learning technologies (e.g., audios and videos), and inviting other teachers and researchers (i.e., out of the centre but with a Chinese background) to contribute to the centre programme can also lead to teachers’ professional development.

Research Limitations

As with all research, this study has limitations. First, my previous role as an ECE teacher in China and a Chinese immigrant living in New Zealand undoubtedly influenced part of the research process and some of the findings. The participants, especially the
focal children and their parents, might have talked and behaved differently with a person to whom they could not be easily connected. My Chinese identity, however, has been merit in data collection, at least in parent interviews and home observations. The parents might not have offered so many viewpoints if the interview was conducted by a non-Chinese person or a person who could not speak Mandarin with them. The real-life and natural experiences of the focal children in meaningful communication with their parents at home might not be observed if the observation was carried out by a person, whose lingual and cultural background was different from them.

This multi-case study has investigated the literacy learning and identity construction of four Chinese immigrant children from two kindergartens in Auckland, New Zealand, with the aim of developing an in-depth understanding of their experiences. The investigation of the experiences of these children and parents means that the findings cannot be generalised to the entire group of Chinese immigrant children learning in the ECE services in a host country, although data from the four cases reflected a picture of richness and complexity of these children’s learning. Further research with other Chinese children with different backgrounds (e.g., looking after by grandparents or attending other ECE services) is required.

The kindergarten-home-kindergarten observation cycle was conducted over two rather than three days, twice during the fieldwork. The reason was that the parents changed their schedule for the home observation due to family issues. This meant I had to conduct the home observation on the same day as the first kindergarten observation in the cycle. The change, however, offered me opportunities to observe the interaction between Xiaolong and his father writing a birthday card and Mengmeng and her mother discussing name writing. The two children's expansive learning, based on their transfer
of kindergarten experiences home, might have been missed if the home observations were carried out on schedule.

The timing of field observations provided access to the focal children’s experiences at a point time at home and kindergarten. If the timing of the observations had been different, the children’s experiences would have been different, which may have led to differing interpretations and explanations of their literacy learning and identity construction in the two settings. Furthermore, if the children had been observed over a longer period, their engagement in more and diverse literacy activities might have been noted.

The model, designed for interpreting the focal children’s process of literacy learning and identity construction with third-generation activity theory, was used when multiple activity systems could be identified in an activity. In other words, the model is not applicable when no variation occurs to the six components of an activity system and only one activity system could be identified in children’s activity, which had been observed in the current study (e.g., Mengmeng’s quiet and solo engagement in Lego construction and storybook reading in kindergarten). Other analytical tools are needed to figure out what and how learning was happening during these activities.

**Suggestions for Future Research**

The primary foci of this research included the learning experiences of Chinese immigrant children at home and kindergarten. Kindergarten is one type of ECE services available in New Zealand. Further research could concentrate on the experiences of Chinese children learning in other types of ECE services, such as education and care
centres, Playcentres, and Playgroups (Ministry of Education, 2017b). The ECE curriculum might be interpreted and implemented differently in the services due to the teachers’ and parents’ various backgrounds and understandings of the specific context of the services. The research settings could also be extended to other contexts (i.e., churches and parents’ workplaces), where children may gain literacy experiences and use them in new activities.

The visit to the focal children’s homes and kindergartens was of a relatively short time duration. Variation of observation time and cycles could be considered in the future study to offer more stories of children’s early learning and identity construction. Parents and teachers could be invited as observers in further research to assist with a more prolonged and intensive exploration of children’s learning when literacy activities are likely to happen (i.e., lunch, dinner, and bedtime).

The analysis of this study focused on the influence of five of the six components (i.e., the subject, objects, cultural tools, community, and division of labours) on the outcome of an activity system. The other component of an activity system, rule, was not attended to in this study, as the field observations were mainly conducted in the children’s free-play time at home and kindergarten, during which their application of rules was not so apparent. An investigation of children’s awareness and application of rules, norms, and regulations in literacy activities could be informative to deepen understanding of the cultural influences on children’s learning in the two settings.
Appendices

Appendix A

Number of Enrolments in Early Childhood Education by Ethnicity

*(Ministry of Education, 2017a)*

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<tbody>
<tr>
<td>European / Pākehā</td>
<td>128,626</td>
<td>127,156</td>
<td>134,494</td>
<td>134,429</td>
<td>134,501</td>
<td>132,608</td>
<td>125,504</td>
<td>119,730</td>
<td>119,027</td>
<td>113,448</td>
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<tr>
<td>Māori</td>
<td>37,122</td>
<td>38,138</td>
<td>41,106</td>
<td>43,419</td>
<td>44,532</td>
<td>46,837</td>
<td>47,581</td>
<td>47,203</td>
<td>48,395</td>
<td>49,425</td>
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<tr>
<td>Asian</td>
<td>13,205</td>
<td>14,024</td>
<td>15,307</td>
<td>16,453</td>
<td>17,975</td>
<td>20,287</td>
<td>21,778</td>
<td>26,404</td>
<td>29,224</td>
<td>32,056</td>
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<tr>
<td>Pasifika</td>
<td>12,391</td>
<td>12,488</td>
<td>13,722</td>
<td>14,410</td>
<td>15,044</td>
<td>15,795</td>
<td>15,711</td>
<td>16,059</td>
<td>16,379</td>
<td>16,709</td>
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<tr>
<td>Other</td>
<td>7,440</td>
<td>9,599</td>
<td>6,826</td>
<td>6,799</td>
<td>5,661</td>
<td>5,751</td>
<td>4,877</td>
<td>4,929</td>
<td>5,583</td>
<td>6,076</td>
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<td>Unknown</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>1,100</td>
<td>2,164</td>
<td>1,268</td>
<td>1,653</td>
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<tr>
<td>Total</td>
<td>198,784</td>
<td>201,405</td>
<td>211,455</td>
<td>215,510</td>
<td>217,713</td>
<td>221,278</td>
<td>216,551</td>
<td>216,489</td>
<td>219,876</td>
<td>219,367</td>
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Note: Data collection method changed in 2014. From 2008 to current (60% of 2014 collection and 22% of 2017 collection for licensed services), data on enrolments has been collected by the paper-based Annual Census of ECE Services. Note that within this data, a child may be enrolled and therefore counted in more than one service during the Census week. Enrolment counts will therefore generally be more than the number of children. In 2014, the method for data collection changed and around 40% of licensed services completed the Annual Census using the Ministry's new electronic collection tool for ECE: ELI.
Appendix B

About Children and Learning

Recruitment of Research Participants

**Project title:** Chinese Children's Literacy Learning at Home and in Kindergarten in New Zealand

The purpose of this project is to investigate Chinese children's literacy learning, including their oral language and early reading and writing, at home and in kindergarten in New Zealand.

It will be conducted by me as a nominated researcher. This is a project about children whose early literacy learning will be understood more by their parents and teachers. This is also a project about parents and teachers who will be provided chances to reflect on children’s early literacy education.

Your participation is appreciated.

Participation in this study involves:

- Permission to access to the kindergarten, teachers, children and their main caregivers
- Permission to collect data by interview, assessment, observation, and documentation
- A small gift for participation

To take part in this research study or for more information, please contact Bo Zhou at:

**Phone:** 021 08587286
**Email:** bo.zhou@auckland.ac.nz
# Timeline of Research Design

<table>
<thead>
<tr>
<th>Week #</th>
<th>Data sources</th>
<th>Time</th>
<th>Children</th>
<th>Parents</th>
<th>Siblings</th>
<th>Teachers</th>
<th>Peers</th>
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<td>Narrative tasks</td>
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<tr>
<td>3</td>
<td>Observation cycle 1 (Child participant 1)</td>
<td>250 minutes</td>
<td>30 minutes (home observation)</td>
<td>240 minutes (kindergarten observation)</td>
<td>Up to 30 minutes for drop-off and pick-up observation in kindergarten</td>
<td>10 minutes</td>
<td>10 minutes</td>
</tr>
<tr>
<td>4</td>
<td>Observation cycle 1 (Child participant 2)</td>
<td>250 minutes</td>
<td>30 minutes (home observation)</td>
<td>240 minutes (kindergarten observation)</td>
<td>Up to 30 minutes for drop-off and pick-up observations in kindergarten</td>
<td>10 minutes</td>
<td>10 minutes</td>
</tr>
<tr>
<td>5</td>
<td>Observation cycle 1 (Child participant 3)</td>
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<td>30 minutes (home observation)</td>
<td>240 minutes (kindergarten observation)</td>
<td>Up to 30 minutes for drop-off and pick-up observations in kindergarten</td>
<td>10 minutes</td>
<td>10 minutes</td>
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<td>6</td>
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<td>240 minutes (kindergarten observation)</td>
<td>Up to 30 minutes for drop-off and pick-up observations in kindergarten</td>
<td>10 minutes</td>
<td>10 minutes</td>
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<tr>
<td>7</td>
<td>Observation cycle 2 (Child participant 1/2); Observation cycle 1 (Child participant 4)</td>
<td>250 minutes</td>
<td>30 minutes (home observation)</td>
<td>240 minutes (kindergarten observation)</td>
<td>Up to 30 minutes for drop-off and pick-up observations in kindergarten</td>
<td>10 minutes</td>
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<td>8</td>
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<td>250 minutes</td>
<td>30 minutes (home observation)</td>
<td>240 minutes (kindergarten observation)</td>
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<td>9</td>
<td>Observation cycle 3 (Child participant 1/2)</td>
<td>250 minutes</td>
<td>30 minutes (home observation)</td>
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<td></td>
<td>Entry- and exit-observation interview</td>
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<td>Up to 30 minutes for drop-off and pick-up observations in kindergarten</td>
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<td>Entry- and exit-observation interview</td>
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<td><strong>12</strong></td>
<td>Observation cycle 3 (Child participant 4)</td>
<td>250 minutes</td>
<td>30 minutes (home observation)</td>
<td>240 minutes (kindergarten observation)</td>
<td>Up to 30 minutes for drop-off and pick-up observations in kindergarten</td>
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<tr>
<td>Entry- and exit-observation interview</td>
<td>10 minutes</td>
<td>10 minutes</td>
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PARTICIPANT INFORMATION SHEET

(Teacher)

Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Researcher Introduction

My name is Bo Zhou and I am a PhD student from the Faculty of Education and Social Work, the University of Auckland.

This Project

As a person with a Chinese cultural background and early childhood teaching experience, I want to investigate how Chinese children gain literacy learning, including oral language, reading, and writing, at home and in kindergarten in New Zealand. This project will last for 6 months. I expect that this project can help you understand more about focal Chinese children’s literacy learning both at home and in your kindergarten. And you may be provided the opportunity to reflect on children’s early literacy education.

I have predicted some risks associated with this research, such as your willingness to participate in the entire project and Chinese cultural issues. For you, as a teacher participant, the interview, observation, audio and video recording may lead to you initially feeling nervous. To manage these risks, I will work as a volunteer in your kindergarten for a week before data collection. I hope this will enable us to know each other. If you still feel uncomfortable during the interviews or observations, I will stop them and resume only when you express your willingness. There is also a risk that your participation in the project has to be ceased because no “matched” parents or children can be found. To manage this, I will place an advertisement for
this project on the information board or any other noticeable place in your kindergarten. During the data collection procedure, my supervisors, Janet S. Gaffney and Stuart McNaughton from the Faculty of Education and Social Work, the University of Auckland, will keep in touch with me by email every other week to keep me on the right track. I will consult my supervisors if there are any cultural issues during data collection, such as my misunderstanding of communication between you and the focal children. For emergent issues, I will consult my two supervisors by phone.

**Invitation to participate**

You are invited to participate in this research because your insights of focal children’s literacy experiences and communications with them in daily activities are important for my research. To find potential teacher participants, like you, I have read the background information, including the introductions to teachers, children and available services of this kindergarten, in the Education Review Office Website. You are invited because you are the teachers of potential focal Chinese children, whose ages are between 4.0-5.0 years old and speak Mandarin as the first language. Your participation is voluntary and you can decline the participation invitation without penalty. If you choose to participate, you will receive a Thank You card and a $50 Countdown voucher as gifts to thank you for your time at the completion of data collection. If your participation has to be ceased after you sign the Consent Form because no “matched” parent or child can be found or you choose to withdraw before data collection is completed, you will still receive a Thank You card.

**Project procedures**

Considering participant recruitment, my voluntary work in your kindergarten, school holiday, your possible leave and data collection, the project may last for 6 months, during which 10 weeks will be allocated for data collection. Table 1 shows the project procedures over the 10 weeks, followed by “Notes” which gives more specific information about each task.

From the third week of data collection, observations and video records to communication between you and focal children in the normal activities will occur in three 3-day cycles every other week. On Day 1 and Day 3 of each cycle, I will observe 120 minutes in the kindergarten. On Day 2 of each cycle, I will observe 30 minutes at focal children’s home. Observations will also occur when parents or main caregivers drop off or pick up focal children. The drop-off and pick-up observation will be up to 20 minutes before and after each observation cycle. I will observe and take notes of the interactions, if they are related to my research purpose, among you, focal children, their peer participants, and their main caregiver participants. If you are talking about anything private, I will stop observing and leave the scene. No video records will be taken during the time. You will also take part in a 15-minute entry- and exit-observation interview before and after each observation cycle.
Table 1

**Project Procedures**

<table>
<thead>
<tr>
<th>Week #</th>
<th>Data task</th>
<th>Kindergarten</th>
<th>Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interview</td>
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<td>Narrative tasks</td>
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<td>Preschool Word and Print Awareness assessment</td>
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<td></td>
</tr>
<tr>
<td>3/4</td>
<td>Entry- and exit-observation interview</td>
<td>Teacher (15 min)</td>
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<td>Observation #1</td>
<td>Teacher/ focal child / peers (120 min × 2 days)</td>
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</tr>
<tr>
<td></td>
<td>Artefacts</td>
<td>Reviewed by the researcher</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Video recording reviewing</td>
<td>Teacher (30 min)</td>
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</tr>
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</tr>
<tr>
<td></td>
<td>Artefacts</td>
<td>Reviewed by the researcher</td>
<td></td>
</tr>
</tbody>
</table>

Notes: I will interview you about your demographic information and the focal children’s literacy experiences in the kindergarten in the first week of data collection. The interview will be about 1 hour and audio records will be taken.

A video clip of communication between you and the focal child/ren from my observations will be shared between you and me for 30 minutes twice over 10 weeks of data collection. Your feedback of the on-going video clip will be noted down to deepen my understanding of focal child participants’ literacy experiences.

Totally, you may spend 13.75 hours on the research.

**Data storage, destruction, and future use**

All data will be stored securely for six years. The electronic devices for video and audio data will be kept off-line and only used by me during the data collection time. On the same day, all data collected will be transferred to a password protected computer. Hard data will be locked in a secure cabinet at the University of Auckland. Electronic data will be stored in my computer with password protection and a University secure computer. To make sure my research on the right track, my supervisors will be the only other persons provided access to the data. I will transcribe and translate audio and video recordings. The collected data will be used for my PhD thesis after they are transcribed and translated. In the future, the interview, observation notes, and on-going periodic summaries, but not the audio and video data, may be used to support my publications, conference presentations, and teaching. All data will be destroyed in March 2022. Paper data will be shredded and electronic data will be deleted from the computers.

**Right to withdraw from participation**

You have the right to withdraw your participation from my research at any time without giving a reason and all audio and video recordings, along with field notes, related to you will be immediately destroyed. You can request that audio and video recordings be stopped at any time.
You can also withdraw your data from the research up to 31st May 2016. The manager or head teacher of your child’s kindergarten might withdraw the site from the study unilaterally but data already gathered will not be withdrawn without your permission.

**Anonymity and confidentiality**

The preservation of confidentiality is paramount. The information you share with me will remain confidential to your manager/head teacher, children, and their main caregivers.

In order to protect participants’ privacy, you will be given pseudonyms. The information from participants will only be accessed by me and my supervisors, Professor Janet S. Gaffney and Professor Stuart McNaughton in the Faculty of Education and Social Work, the University of Auckland. If the information you provide is reported/published, this will be done in a way that does not identify you as its source.

If you wish, a transcript of data related to you will be sent to you before 30th September 2016. A summary of the findings of the project will be sent to you by email before 30th April 2018.

**CONTACT DETAILS AND APPROVAL**

<table>
<thead>
<tr>
<th>Student Researcher name and contact details</th>
<th>Supervisor name and contact details</th>
<th>Head of School name and contact details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bo Zhou PhD student, Faculty of Education and Social Work, The University of Auckland Email: <a href="mailto:bo.zhou@auckland.ac.nz">bo.zhou@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48255 (office)</td>
<td>Janet S. Gaffney, PhD Professor, Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:janet.gaffney@auckland.ac.nz">janet.gaffney@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48323 (office)</td>
<td>Helen Hedges, PhD Head of School, Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:h.hedges@auckland.ac.nz">h.hedges@auckland.ac.nz</a> Tel: +64 9 373 7599 ext 48606 (office)</td>
</tr>
<tr>
<td>Stuart McNaughton, PhD Professor, Director of the Woolf Fisher Research Centre Faculty of Education Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:s.mcnaughton@auckland.ac.nz">s.mcnaughton@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48323 (office)</td>
<td></td>
<td></td>
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For any queries regarding ethical concerns, you may contact the Chair, The University of
Auckland Human Participants Ethics Committee, The University of Auckland, Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz.

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
CONSENT FORM

(Teacher)

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Contact email address for researcher: bo.zhou@auckland.ac.nz

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Contact email address for Supervisors: janet.gaffney@auckland.ac.nz, and s.mcnaughton@auckland.ac.nz

I have read the Participant Information Sheet and have understood the nature of the research and why I have been recruited. I have had the opportunity to ask questions and have them answered to my satisfaction.

- I agree to take part in the research.
- I understand that my participation is voluntary and my participation or non-participation in the study will not affect the relationship between the kindergarten and me.
- I understand that I will be interviewed, observed and audio and video recorded.
- I understand that I can withdraw my participation at any time without giving a reason and withdraw any data traceable to me until 31st May 2016.
- I understand that the manager / head teacher might withdraw the site from the study but data already gathered cannot be withdrawn without my permission.
- I understand that data will be kept for 6 years after which time any data will be destroyed.
- I wish to receive, the transcript of data related to me /a summary of findings (please delete any one that you don’t want to receive), which can be emailed to me at this email address: ___________________

Name _____________________________
Signature __________________________ Data ___________________________

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
PARTICIPANT INFORMATION SHEET

(Main Caregiver of Child Participant)

Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Researcher Introduction

My name is Bo Zhou and I am a PhD student from Faculty of Education and Social Work, the University of Auckland.

This Project

As a person with a Chinese cultural background and early childhood teaching experience, I want to investigate how Chinese children gain literacy learning, including oral language, reading and writing, at home and in kindergarten in New Zealand. This project will last for 6 months. I expect that this project can help you understand more about your child’s literacy learning both at home and in his/her kindergarten. This project may also provide you with the opportunity to reflect on your child’s early education.

I have predicted some risks associated with this research, such as you and your child’s willingness to participate in the entire project and Chinese cultural issues. For example, the interview, assessment, observation, audio and video recording may lead to you or your child initially feeling nervous. To manage these risks, I will work as a volunteer in your child’s kindergarten for a week before data collection. Hopefully, this will enable us to get familiar with each other. You and your child can ask me any questions about the research in the week. If you or your child still feels uncomfortable during the interviews or observations, I will stop interviewing or observing and resume only when you express your willingness. During the data collection
procedure, my supervisors, Janet S. Gaffney and Stuart McNaughton from Faculty of Education and Social Work, the University of Auckland, will keep in touch with me by email every other week to keep me on the right track. I will consult my supervisors if there are any cultural issues during data collection, such as my misunderstanding about communication between you and your child. For emergent issues, I will consult my two supervisors by phone.

**Invitation to participate**

You, your child and his/her siblings (if any) are invited to be main caregiver, child and sibling participants respectively in this project because I want to study early literacy learning of Chinese children, like your child who is aged between 4.0-5.0 years old and speak Mandarin as the first language. To recruit child and main caregiver participants, I have read the background information, such as the introductions to teachers, children and available services of each kindergarten in the Education Review Office website. You and your child/ren’s participation is voluntary and you can decline the participation invitation without penalty. Your non-participation will not affect the relationship between you and the kindergarten. If you and your child/ren choose to participate, both/all of you will receive a Thank You card at the completion of data collection. Your child will receive a new book. Both the book and the card will cost no more than $30. You will receive a $50 Countdown voucher as a gift to thank you for your time. If you withdraw before the data collection is completed, you and your child/ren will still receive a Thank You card.

**Project procedures**

Considering participant recruitment, my voluntary work in your child’s kindergarten, school holiday, you and your child’s possible leave and data collection, the project may last for 6 months, during which 10 weeks will be allocated for data collection. Table 1 shows the project procedures over the 10 weeks, followed by “Notes” which gives more specific information about each task.

I will interview you about the demographic information of your family and your child’s home and kindergarten literacy experience in the first week of data collection. The interview will be about 1 hour and audio records will be taken. On the same day, your child will take part in a 15-minute narrative task in Chinese at home to give me understanding about his/her language and behaviours in literacy activities. On another day in the same week, your child will take part in a 15-minute narrative task in English in kindergarten with the same purpose. The narrative tasks will be video recorded.

In the second week of data collection, a Preschool Word and Print Awareness (PWPA) assessment will be given to your child at home to let me understand his/her English literacy knowledge. The PWPA assessment consists of two individual 15-minute tasks, which will be carried out on two different days in the week.
### Table 1

**Project Procedures**

<table>
<thead>
<tr>
<th>Week #</th>
<th>Data task</th>
<th>kindergarten</th>
<th>Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interview</td>
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<tr>
<td></td>
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</tbody>
</table>

Observations will begin in the third week and extend over 6 weeks. I will observe and video record the interactions between you, your child, his/her siblings, teachers and kindergarten peers in daily literacy activities in three 3-day cycles every other week. On Day 1 and Day 3 of each cycle, I will observe 120 minutes in the kindergarten. On Day 2 of each cycle, I will observe 30 minutes at your home. Observations will also occur when you drop off or pick up your child from kindergarten. I will observe communication among you, your child, their friends and teachers if the topic is related to my research. If you talk about something private, I will stop observing and note-taking and leave the scene. The drop-off and pick-up observation is meaningful to my study because I will know what literacy activities your child brings from home to kindergarten and what literacy activities your child wants to share with you after kindergarten. The drop-off and pick-up observation will be up to 20 minutes before and after each observation cycle. You will also take part in a 15-minute entry- and exit-observation interview before and after each observation cycle to help me understand more about your child’s literacy learning.

I also wish to read your child’s artefacts, including his/her portfolios, drawings and writings either at home or in kindergarten after every observation cycle. I will also share a video clip, which is taken at home, with you for 30 minutes twice over 10 weeks of data collection. Your feedback of the on-going video clip will be noted down to deepen my understanding of your child’s literacy learning.

Totally, you will need 5.25 hours for the research, your child 14.5 hours and his/her siblings (if any) 2.5 hours.
Data storage, destruction, and future use

All data will be stored securely for six years. The electronic devices for video and audio data will be kept off-line and only used by me during the data collection time. On the same day, all data collected will be transferred to a password-protected computer. Hard data will be locked in a secure cabinet at the University of Auckland. Electronic data will be stored in my computer with password protection and a university secure computer. To make sure my research on the right track, my supervisors will be the only other persons provided access to the data. I will transcribe and translate audio and video recordings. The collected data will be used for my PhD thesis after they are transcribed and translated. In the future, the interview, observation notes, and on-going periodic summaries, but not the audio and video data, may be used to support my publications, conference presentations, and teaching. All data will be destroyed in March 2022. Paper data will be shredded and electronic data will be deleted from the computers.

Right to withdraw from participation

You, your child and his/her siblings (if any) can choose to withdraw from my research at any time during the 10-week data collection procedure and all audio and video recordings, along with field notes related to you will be immediately destroyed. You can also request that audio and video recordings be stopped at any time during the data collection procedure. You can withdraw your data from the research up to 31st May 2016. The manager or head teacher of your child’s kindergarten might withdraw the site from the study unilaterally but data already gathered will not be withdrawn without your permission.

Anonymity and confidentiality

The preservation of confidentiality is paramount. The information you and your child/ren share with me will remain confidential to their teachers.

In order to protect participants’ privacy, you, your child/ren and the kindergarten will be given pseudonyms. The information from you will only be accessed by me and my supervisors, Professor Janet S. Gaffney and Professor Stuart McNaughton in the Faculty of Education and Social Work, the University of Auckland. If the information you provide is reported/published, this will be done in a way that does not identify you as its source.

If you wish, a transcript of data related to you and your child/ren can be sent to you by email before 30th September 2016 and a summary of the findings of the project will be sent to you by email before 30th April 2018.

For your child/ren

If you feel it is an interesting study and decide to take part in, please complete the Consent Form. Considering your child/ren’s age, I need your help to introduce this research to your child/ren during your daily conversation.
Participant Information Sheet for Sibling may give you information on what to say. Please notify your child/ren’s expressions or language during the conversation and help him/her/them complete the Assent Form only if he/she/they show he/she/they are happy to take part in the research. I appreciate you much for your help.

CONTACT DETAILS AND APPROVAL

<table>
<thead>
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<td>Bo Zhou, PhD student, Faculty of Education and Social Work, The University of Auckland Email: <a href="mailto:bo.zhou@auckland.ac.nz">bo.zhou@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48255 (office)</td>
<td>Janet S. Gaffney, PhD Professor, Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:janet.gaffney@auckland.ac.nz">janet.gaffney@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48323 (office)</td>
<td>Helen Hedges, PhD Head of School, Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:h.hedges@auckland.ac.nz">h.hedges@auckland.ac.nz</a> Tel: +64 9 373 7599 ext 48606 (office)</td>
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<td>Stuart McNaughton, PhD Professor, Director of the Woolf Fisher Research Centre Faculty of Education Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:s.mcnaughton@auckland.ac.nz">s.mcnaughton@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48323 (office)</td>
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For any queries regarding ethical concerns, you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz.

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
CONSENT FORM
(Main caregiver of Child Participant)

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Contact email address for researcher: bo.zhou@auckland.ac.nz

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Contact email address for Supervisors: janet.gaffney@auckland.ac.nz and s.mcnaughton@auckland.ac.nz

I have read the Participant Information Sheet. I have understood the nature of the research and why my child/ren and I have been recruited. I have had the opportunity to ask questions and have them answered to my satisfaction.

- I agree to take part in the research and give permission to my child/ren to take part in the research.

- I understand that our participation or non-participation in the study will not affect the relationship between the kindergarten and us. Our participation is voluntary.

- I understand that I will be interviewed and audio records will be taken during the interview, and my child/ren and I will be observed and video records will be taken during observation.

- I permit Bo to read and take photos of my child’s artefacts (works and portfolios) at home and in kindergarten.

- I understand that we can withdraw participation at any time without giving a reason and withdraw any data traceable to us before 31st May 2016.

- I understand that the manager/head teacher might withdraw the site from the study but data already gathered cannot be withdrawn without my permission.

- I understand that data will be kept for 6 years after which time any data will be destroyed.

- I wish to receive, the transcript of data related to me and my child/ren / a summary of findings (please delete any one that you don’t want to receive), which can be emailed to me at this email address: __________________
Name ______________________________
Signature ___________________________ Data __________________________

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
PARTICIPANT INFORMATION SHEET

(Main Caregiver of Peer)

Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou
Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Researcher Introduction

My name is Bo Zhou and I am a PhD student from Faculty of Education and Social Work, the University of Auckland.

This Project

As a person with a Chinese cultural background and early childhood experience, I want to investigate how Chinese children gain literacy learning, including oral language, reading, and writing, in the kindergarten your child attending. This project will last for 6 months. I expect that this project can provide chances for you to understand how these Chinese children learn early literacy and what activities your child and their Chinese friends engage in in the kindergarten. This project may also provide the opportunity for you and the teachers to reflect on children’s early education.

I have predicted some risks associated with this research, such as your child’s willingness to participate in the project and Chinese cultural issues. For example, observation and video recording in the kindergarten may lead to your child initially feeling nervous. To manage these risks, I will work as a volunteer in the kindergarten for a week before data collection. Hopefully, your child can get familiar with me gradually through my voluntary work. You and your child can ask me any questions about the research during the week. If your child feels uncomfortable
during observation, I will stop observing and video recording and resume only when he/she express his/her willingness. During the data collection procedure, my supervisors, Janet S. Gaffney and Stuart McNaughton from the Faculty of Education and Social Work, the University of Auckland, will keep in touch with me by email every other week to keep me on the right track.

I will consult my supervisors if there are any cultural issues during data collection. For emergent issues, I will consult my two supervisors by phone.

**Invitation to participate**

Your child is invited to participate in this research because he/she and the focal Chinese children attend the same kindergarten and they may engage in the same activities and communicate with each other. To find participants like your child and their Chinese friends, I have read the background information, including the introductions to teachers, children and available services of each kindergarten in the Education Review Office website. I invite children, from the kindergarten that your child attends, to take part in the research because there are more than five Chinese children, aged between 4.0-5.0 years old. Your child’s participation is voluntary. Your child may decline the invitation, which will not affect the relationship between your child and the kindergarten. If your child chooses to participate, he/she will receive a Thank You card at the completion of data collection.

**Project procedures**

Considering participant recruitment, my voluntary work in your child’s kindergarten, school holiday, you and your child’s possible leave and data collection, the project may last for 6 months, during which 10 weeks will be allocated for data collection.

I will observe and video record the communication between your child and his/her Chinese friends in daily activities in the kindergarten. The observation and video recording will be 120 minutes per day and two days per week. I will observe and video record in the kindergarten for three weeks. Observations may also occur when your child and their Chinese friends talk or play with each other during drop-off and pick-up time. The drop-off and pick-up observation will be up to 20 minutes each week and may be carried out for 3 weeks. I will take notes of the communication between your child and their Chinese friends if their topics are related to my research. If not, I will leave the scene. No video records will be taken during the pick-up and drop-off time.

Totally, your child may be observed 11 hours.

**Data storage, destruction, and future use**

All data will be stored securely for six years. The electronic devices for video and audio data will be kept off-line and only used by me during the data collection time. On the same day, all data collected will be transferred to a password-protected computer. Hard data will be locked in a
secure cabinet at the University of Auckland. Electronic data will be stored in my computer with password protection and a University secure computer. To make sure my research on the right track, my supervisors will be the only other persons provided access to the data. I will transcribe and translate audio and video recordings. The collected data will be used for my PhD thesis after they are transcribed and translated. In the future, the interview, observation notes, and on-going periodic summaries, but not the audio and video data, may be used to support my publications, conference presentations, and teaching. All data will be destroyed in March 2022. Paper data will be shredded and electronic data will be deleted from the computers.

**Right to withdraw from participation**

Your child can withdraw his/her participation in the research at any time without giving a reason and all audio and video recordings, along with field notes, related to your child will be immediately destroyed. Your child can request that video recording be stopped at any time. Your child can also withdraw his/her data from the research up to 31st May 2016. The manager or head teacher of your child’s kindergarten might withdraw the site from the study unilaterally but data already gathered will not be withdrawn without your child’s permission.

**Anonymity and confidentiality**

The preservation of confidentiality is paramount. In order to protect participants’ privacy, your child, his/her friends, and the kindergarten will be given pseudonyms. The information from your child will only be accessed by me and my supervisors, Professor Janet S. Gaffney and Professor Stuart McNaughton in the Faculty of Education and Social Work, the University of Auckland. If the information your child provides is reported/published, this will be done in a way that does not identify he/she as its source.

If you wish, a transcript of data related to your child will be sent to you by email before 30th September 2016 and a summary of the findings of the project will be sent to you by email before 30th April 2018.

**For your child**

If you feel it is an interesting study and give permission to your child to take part in, please complete the Consent Form. Considering your child’s age, I need your help to introduce this research to your child during your daily conversation. Participant Information Sheet for Child Participant may give you information on what to say. Please notify your child’s expressions or language during the conversation and help them complete the Assent Form only if they show they are happy to take part in the research. I appreciate you much for your help.
## CONTACT DETAILS AND APPROVAL

<table>
<thead>
<tr>
<th>Student Researcher name and contact details</th>
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<th>Head of School name and contact details</th>
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<tbody>
<tr>
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<td>Janet S. Gaffney, PhD Professor, Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:janet.gaffney@auckland.ac.nz">janet.gaffney@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48323 (office) Stuart McNaughton, PhD Professor, Director of the Woolf Fisher Research Centre Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:s.mcnaughton@auckland.ac.nz">s.mcnaughton@auckland.ac.nz</a> Tel: +64 9 6238899 ext 48323 (office)</td>
<td>Helen Hedges, PhD Head of School, Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland Email: <a href="mailto:h.hedges@auckland.ac.nz">h.hedges@auckland.ac.nz</a> Tel: +64 9 373 7599 ext 48606 (office)</td>
</tr>
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Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
CONSENT FORM

(Main caregiver of Peer)

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Contact email address for researcher: bo.zhou@auckland.ac.nz

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Contact email address for Supervisors: janet.gaffney@auckland.ac.nz and s.mcnaughton@auckland.ac.nz

I have read the Participant Information Sheet, and have understood the nature of the research and why my child has been recruited. I have had the opportunity to ask questions and have them answered to my satisfaction.

• I agree to give permission to my child to participate in this study.

• I understand that his/her participation or non-participation in the study will not affect the relationship between him/her and the kindergarten. My child’s participation is voluntary.

• I understand that my child will be observed and video recorded.

• I understand that my child can withdraw his/her participation at any time without giving a reason and withdraw any data traceable to him/her up to 31st May 2016.

• I understand that the manager/ head teacher might withdraw the kindergarten from the study but data already gathered will not be withdrawn without my child’s permission.

• I understand that data will be kept for 6 years after which time any data will be destroyed.

• I wish to receive, the transcript of data related to my child /a summary of findings (please delete any one that you don’t want), which can be emailed to me at this email address:___________________

Name _____________________________

Signature _____________________________     Data _____________________

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
PARTICIPANT INFORMATION SHEET

(Child Participant)

Chinese children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Introduction and invitation

My name is Bo Zhou and I am a PhD student from the Faculty of Education and Social Work, the University of Auckland.

I am Chinese, and I speak Mandarin and English. As I am a student, I need your help with my study. I am interested in the games you play at home and in kindy. I also want to know who you often play with. You may see me at your home and in kindy. You are appreciated and will receive gifts if you help me complete my study.

Project procedure

First, you can help me read stories from picture books. I want to take a videotape of you when you are reading for me because I do not want to miss any interesting things in your story. But if you do not like my videotaping while you are reading, just tell me that and I can turn off the video recorder, or you can turn it off.

You may also help me solve some problems from other picture books.

After that, I will watch it when you are playing games with your families and friends. You may also show me how you read and write to them. Videotaping will be taken during the process because I do not want to miss any interesting things in the games. But if you do not like it, you can tell me and I will turn the video-recorder off, or you can turn it off as well.

As you grow more knowledgeable, I want to learn from your work, such as your portfolio,
writing, and drawing. I may take photos of your works with your permission.

**Right to withdraw from participation**

You can tell me or your mum or dad that you are not happy with me or my study at any time.

**Anonymity and confidentiality**

If you permit, I will write your story in my homework and I will use a new name to take place your real name.

If you would like to help me complete my study, please ask help from your mum or dad to complete the assent form.

**CONTACT DETAILS AND APPROVAL**

<table>
<thead>
<tr>
<th>Student Researcher name and contact details</th>
<th>Supervisor name and contact details</th>
<th>Head of School name and contact details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bo Zhou</td>
<td>Janet S. Gaffney, PhD</td>
<td>Helen Hedges, PhD</td>
</tr>
<tr>
<td>PhD student, Faculty of Education and</td>
<td>Professor, Faculty of Education and</td>
<td>Head of School, Curriculum and</td>
</tr>
<tr>
<td>Social Work, The University of Auckland</td>
<td>Social Work</td>
<td>Pedagogy</td>
</tr>
<tr>
<td>Email: <a href="mailto:bo.zhou@auckland.ac.nz">bo.zhou@auckland.ac.nz</a></td>
<td>The University of Auckland</td>
<td>Faculty of Education and Social Work</td>
</tr>
<tr>
<td>Tel: +64 9 6238899 ext 48255 (office)</td>
<td>Email: <a href="mailto:janet.gaffney@auckland.ac.nz">janet.gaffney@auckland.ac.nz</a></td>
<td>The University of Auckland</td>
</tr>
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<td></td>
<td>Tel: +64 9 6238899 ext 48323 (office)</td>
<td>Email: <a href="mailto:h.hedges@auckland.ac.nz">h.hedges@auckland.ac.nz</a></td>
</tr>
<tr>
<td></td>
<td>Stuart McNaughton, PhD</td>
<td>Tel: +64 9 373 7599 ext 48606 (office)</td>
</tr>
<tr>
<td></td>
<td>Professor, Director of the Woolf</td>
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<td>Fisher Research Centre</td>
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<td>The University of Auckland</td>
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<td></td>
<td>Email: <a href="mailto:s.mcnaughton@auckland.ac.nz">s.mcnaughton@auckland.ac.nz</a></td>
<td></td>
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Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
ASSENT FORM
(Child Participant)

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Contact email address for researcher: bo.zhou@auckland.ac.nz

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Contact email address for Supervisors: janet.gaffney@auckland.ac.nz and s.mcnaughton@auckland.ac.nz

The child’s name: ___________

- My mum (or dad) has told me what Bo will do at (home) and in my (kindy). I am 😊 😞 to help her.
• It is 😊 😞 if Bo (observe and videotape me) when I am playing.

• It is 😊 😞, if I (read) to Bo.

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
PARTICIPANT INFORMATION SHEET

(Sibling)

Chinese children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Introduction and invitation

My name is Bo Zhou and I am a PhD student from the Faculty of Education and Social Work, the University of Auckland.

I am Chinese, and I speak Mandarin and English. As I am a student, I need your help with my study. I am interested in the games that you play with your brother or sister at home. You may see me at home. You are appreciated and will receive a small gift if you help me complete my study.

Project procedure

I will watch when you and your sister or brother are playing games at home. I want to take videotaping while you are playing because I don’t want to miss any interesting things in your games.

Right to withdraw from participation

You can tell me or your mum or dad that you are not happy with me or my study at any time.

Anonymity and confidentiality

If you permit, I will write your story in my homework and I will use a new name to take place your real name.

If you agree to help me complete my study, please ask help from your mum or dad to complete the assent form.
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Tel: +64 9 6238899 ext 48255 (office) | Janet S. Gaffney, PhD  
Professor, Faculty of Education and Social Work  
The University of Auckland  
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Faculty of Education and Social Work  
The University of Auckland  
Email: h.hedges@auckland.ac.nz  
Tel: +64 9 373 7599 ext 48606 (office) |
| Stuart McNaughton, PhD  
Professor, Director of the Woolf Fisher Research Centre  
Faculty of Education  
Faculty of Education and Social Work  
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Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
ASSENT FORM

(Sibling)

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Chinese Children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Contact email address for researcher: bo.zhou@auckland.ac.nz

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Contact email address for Supervisors: janet.gaffney@auckland.ac.nz and s.mcnaughton@auckland.ac.nz

The child’s name: _______________

- My mum (or dad) has told me what Bo will do at home. I am 😊 to help her.
It is, if Bo (observe and videotape me), while I am (playing).

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
PARTICIPANT INFORMATION SHEET

(Peer)

Chinese children’s Literacy Learning at Home and in Kindergarten in New Zealand

Name of Researcher: Bo Zhou

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Introduction and invitation

My name is Bo Zhou and I am a PhD student from the Faculty of Education and Social Work, the University of Auckland.

I am Chinese, and I speak Mandarin and English. As I am a student, I need your help with a study. I am interested in the games that you play with your Chinese friend in your kindy. You may see me in your kindy. You are appreciated and will receive a small gift if you help me complete my study.

Project procedure

I will watch when you and your Chinese friend are playing games in kindy. I want to take videotaping while you are playing because I don’t want to miss any interesting things in your games.

Right to withdraw from participation

You can tell me or your mum or dad that you are not happy with me or my study at any time.

Anonymity and confidentiality

If you permit, I will write your story in my homework and I will use a new name to take place your real name.
If you agree to help me complete my study, please ask help from your mum or dad to complete the assent form.

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Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
ASSENT FORM
(Peer)

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Chinese Children’s literacy learning at home and in kindergarten in New Zealand

Name of Researcher: Bo Zhou

Contact email address for researcher: bo.zhou@auckland.ac.nz

Name of Supervisors: Janet S. Gaffney and Stuart McNaughton

Contact email address for Supervisors: janet.gaffney@auckland.ac.nz and s.mcnaughton@auckland.ac.nz

The child’s name:_____________

• My mum (or dad) has told me what Bo will do at my (kindy). I am 😊😊😊 to help her.
• It is 😊 😒, if Bo (observe and videotape me), while I am 😊 😒 (playing).

Approved by the University of Auckland Human Participants Ethics Committee on 03-Dec-2015 for three years, Reference Number 015978.
Appendix I

Children’s Early Literacy Experiences, Identities and Meaning-Making

Teacher Interview

Hi [TEACHER],

I will ask you questions about demographic information about you and information regarding [CHILD]’s learning experiences in kindergarten. The interview may last for 1 hour. May I begin to record our conversation now?

Part One Demographic information

1. How long have you been a teacher in kindergarten?
2. Your highest educational level is ___________ (e.g., certificate/diploma/degree). When did you get it?
3. How do you describe your English level? (low/medium/high)
4. How do you describe your Chinese language level? (low/medium/high)
5. How long have you been a kindergarten teacher? How long have you been working with [CHILD]?
6. Could you please tell me the opening and ending time of the kindergarten?
7. How many programmes are there in kindergarten? What is the difference?
8. How many teachers are there in kindergarten? What are their ethnics?
9. How many children are there in kindergarten? What about Chinese immigrant children?
10. What is the best phone number to contact you? When is the best time to contact you?
11. Your email address is ________________________________.

Part Two Literacy and identity information

1. The following questions are about literacy activities in kindergarten
   • Can you please tell me the routine literacy activities in this kindergarten?
   • Who initiates the activities normally?
   • When the activities often take place? How often the activities are and how long they last normally?
   • What are [CHILD]’s favourite activities? Why?
   • Do you have any special activities prepared for children going to primary?
• Does [CHILD] tell you his/her experiences at home? If yes, what is the main topic?

2. About language in the activities
• Which language is used in the activities?
• What is the language used by [CHILD] when he/she is playing with his/her friends or playing alone in kindergarten?

3. About the literacy sources in kindergarten
• Do you have different literacy areas in the kindergarten?
• What are [CHILD]’s favourite sources in the activities? (e.g., toys, books, TV, iPad, computer, etc.)
• How often [CHILD] watch TV or play iPad/computer per week in kindergarten?
• How many books will you read to all children per week?
• Which is [CHILD]’s favourite book recently? Is it written in Chinese or English? How long have you read it? How do you think [CHILD] is familiar with it? (little/ middle/ much)

4. About Literacy knowledge
• How well do you think [CHILD] can understand your instructions in the activities? (little/ some/ all)
• How well do you think [CHILD] can express himself /herself in oral English? (little/ some/all)
• Which language [CHILD] use when he/she talk with you? How about when he/she plays with peers?
• How many characters can [CHILD] recognise, read and write? Can you give an example?
• How many letters of the alphabet can [CHILD] recognise, read and write? Can you give an example?
• Do you think [CHILD] realise that children in his/her kindergarten come from different cultures and speak different languages?

(Time for me to collect other data):
If you agree, the best time for me to conduct the narrative task is ______.
The best time for me to conduct kindergarten-observation and video recording is ______.

(Interviewer Script)
Thank you for your precious time for this interview. I appreciate your help.
Hi [PARENT],

I will ask you questions about demographic information about your family and information regarding [CHILD]’s learning experiences. The interview may last for 1 hour. May I begin to record our conversation now?

**Part One Demographic Information**

1. Could you please tell me your full name?
2. You are [CHILD]’s __________. (e.g., mother/ father/others)
3. What is your occupation? What about [CHILD]’s mother/ father?
4. Your highest educational level is ___________. What about [CHILD]’s mother/father? (e.g., certificate/ diploma/ degree)
5. What is your first language?
6. How do you describe your English level? (low/medium/high)
7. How long have you lived in New Zealand?
8. Your family members in New Zealand include ___________.
9. What is the language mainly used in your home?
10. Are there any other languages used by family members? If yes, what are they? When is the language used? Is [CHILD] able to understand [x] language? Is [CHILD] able to speak [X] language?
11. In regard to the reading habits, how often you have read books, magazines, or the newspapers during the past month?
12. The birth date of [CHILD] is______. The city [CHILD] was born is ________.
13. Does [CHILD] have any siblings at home? If yes, what are their names and how old are they? Are they in school? Which year are they in?
14. How long has [CHILD] lived in New Zealand? ____________.
15. How well do you describe the economic status of your family? (low/ medium/ high)
16. Could you give me a range of your family income? ($10,000 or less/ $10,001 to $20,000/ $20,001 to $30,000/ $30,001 to $40,000/ more than $40,000)
17. What is the best phone number to contact you? When is the best time to contact you?
18. Your email address is ________________________________.

Part Two Literacy experiences at home and in Kindergarten

1. The following questions are about literacy activities at home
   - What are the popular literacy activities between you and [CHILD]? Or when [CHILD] play alone?
   - Who initiates the activities between you and [CHILD] normally?
   - When the activities often take place? How often the activities are and how long they last normally?
   - Do you have mealtime conversation with [CHILD]? What are the main topics?
   - What is [CHILD]’s regular bedtime? Will you tell bedtime story? How often?

2. About language in the activities
   - Which language is used by you and [CHILD] in the activities?
   - What is the language used by [CHILD] when he/she is playing with his/her friends?

3. About the literacy sources at home
   - What are [CHILD]’s favourite sources in the activities? (e.g., toys, food package, books, TV, iPad, mobile phone, computer, etc.)
   - How often does [CHILD] watch TV/play iPad/mobile phone/computer in a week at home?
   - How many books will you read to [CHILD] per week?
   - Where are the books from? (Buying, borrowing from a library, receiving as gifts)
   - Which book is [CHILD]’s favourite one? Is it written in Chinese or English? How long has [CHILD] read it? How do you think [CHILD] is familiar with it? (little/ middle/ much)

4. About Literacy knowledge
   - How many characters can [CHILD] recognise, read and write? Can you give an example?
   - How many letters of the alphabet can [CHILD] recognise, read and write? Can you give an example?

5. [CHILD]’s experiences in kindergarten
   - How many early childcare centres have [CHILD] attended?
   - How long has he/she attended the kindergarten now? What the reason for you to choose the kindergarten for [CHILD]?
• How many hours per week does [CHILD] go to this programme?
• When is the normal dropping-off and picking-up time for [CHILD]?
• Does [CHILD] often talk with you about his/her experiences in kindergarten? What is the main topic?
• How often you contact with [CHILD]’s teacher? What are the main topics?
• According to your knowledge, who are the best friends of [CHILD] in kindergarten? Their ethnics are_________.
• Do you think [CHILD] realise that children in his/her kindergarten come from different cultures and speak different languages?
• As far as supporting your child learning and getting ready for school, how satisfied you are about the teaching in kindergarten_____? (little/ middle/ much)

(Time for me to collect other data):
If you agree, the best time for me to conduct the narrative task and PWPA assessment is ______.
The best time for me to conduct home-observation and video recording is ______.

(Interviewer Script)
Thank you for your precious time for this interview. I appreciate your help.
# Field observation protocol

<table>
<thead>
<tr>
<th>Child ___________________</th>
<th>Location ___________________</th>
</tr>
</thead>
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<tr>
<td>Time ___________________</td>
<td>Date _____________________</td>
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<td>Reflective Notes</td>
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<td>Process:</td>
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Outcome of the activity:
Appendix L

Semi-structured Entry- and Exit-observation Interview Questions for Parents and Teachers

Entry-observation questions:

1. Were there any particular activities [CHILD] engaged and liked during the past two weeks?
2. How do you feel about [CHILD]’s ______ in the activity during the past two weeks?

Exit-observation questions:

During the ___activity in my observation,

1. What does it mean when [CHILD] say _____?
2. What does it mean when [CHILD] do _____?
### Appendix M

**Time Distribution in Each Observation Cycle per Focal Child**

<table>
<thead>
<tr>
<th>Child</th>
<th>Observation Cycles</th>
<th>Kindergarten</th>
<th>Home</th>
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<tr>
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<td>6 hr</td>
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In total, field observation time for each focal child was 14.5 hours, with a combined total of 58 hours for the four focal children.
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Appendix O

Xiaolong’s Case Story

Profile

Xiaolong was 4 years and 6 months old and had attended Apple kindergarten for 3 months when he was recruited as a focal child of this study. He was born in the capital city of a southeastern province in China. After his birth, Xiaolong was mainly looked after by his mother while his father was running a trade company in Auckland, New Zealand. When Xiaolong was three, his mother brought him to Auckland to enjoy the family reunion with his father. Three months after their arrival, Xiaolong started his preschool life in an English-speaking childcare centre and then continued it in Apple kindergarten due to the family’s moving to a new community.

In Auckland, Xiaolong’s main caregiver recently changed from his mother to his father as the mother needed to look after Xiaolong’s baby sister, who was 1-month-old at the beginning of this study. Mandarin is the home language spoken by Xiaolong and his parents. Xiaolong’s parents occasionally spoke a southeast dialect with each other, which Xiaolong’s father indicated Xiaolong “did not know how to speak it” (PI, Xiaolong’s father, 23rd February 2016). Every school day morning, Xiaolong would be dropped off at Apple kindergarten with a school bag, which was prepared by his father with all necessities (e.g., water bottle, lunch, hat, and spare clothes), before he “rushed to work” (TI, Judy, 16th February 2016). In the afternoon, Xiaolong’s father would pick him up from kindergarten. They would either stay home or go to Xiaolong’s father’s company. Xiaolong would play Lego and puzzles, read and write, or watch TV if he stayed at home with his father. Brief conversations about Xiaolong’s kindergarten life may occur.
between Xiaolong and his father while Xiaolong was playing and the father was not busy with his work.

Xiaolong’s preschool life in Apple kindergarten began with three days per week and two months later, Xiaolong attended the kindergarten five days weekly. English was Xiaolong’s preferred language in kindergarten. Occasionally, he spoke Mandarin with children and Judy, who had a Chinese background. Xiaolong made good friends with Jim, an English-speaking boy, who was about 8 months younger than him. They often played puzzles, swing, computer games, and Lego constructions. Xiaolong was open to play with other children, which gave him a “quite social” fame (TI, Judy, 16th February 2016). Cherry, one of the three teachers in Apple Kindergarten, commented that Xiaolong “likes indoor activities, has fine motor skills, and understands everything in kindergarten” (TI, Cherry, 16th February 2016).

**Storytelling in Narrative Tasks**

**Episode one.** After morning mat-time, I invited Xiaolong to tell me a story in English with his favourite storybook in Apple kindergarten. Different from the hesitation I received from the other three focal children, Xiaolong immediately accepted my invitation for the kindergarten narrative task. He fetched a storybook *Do-whacky-do* from the bookcase and opened it on the mat. Xiaolong began the story from the first page:

> “Ten baggy clowns were going to the town. One clown said: “Do-whacky-do”. I can’t go with you. A hen is sucking my shoes.” (KNT, Xiaolong, 23rd February 2016)

With his eyes quickly glancing through the sentences and picture, Xiaolong fluently told the story of the first few pages. His narratives covered the main information in the original story. His pace of storytelling slowed down from page 12:
“Five baggy clowns were going to the town. One clown said: “Do-whack-y-do”. I can’t go with you. I make socks of… socks of what?”

Xiaolong looked at the picture with a finger tapping the big pot in the picture. A few seconds later, he turned to the next page without giving himself an answer. For the subsequent pages, Xiaolong was fluent and correct with the first three sentences, “… baggy clowns were going to the town. One clown said: ‘Do-whack-y-do’. I can’t go with you.”. He slowed down and was vague with the information in the fourth sentence, in which the clowns did different things each time. Finally, Xiaolong finished the last page of the book and announced: “It’s a short story”. After he put Do-whack-y-do back in the bookcase, Xiaolong opened another storybook Timo and the Kingfish and silently read it.

**Episode two.** Xiaolong was invited to tell me a story in Mandarin from his favourite home storybook. Xiaolong fetched two storybooks, *The Peacock Princess* and *The Little Horse crosses River*, with Chinese characters, pinyin, and pictures, from his bedroom and left them on the coffee table (HNT, Xiaolong, 1st March 2016). He sat on the sofa, next to the coffee table, and started complaining about the hot weather and waved one of the two books as a fan to cool himself. Stopped by his father, Xiaolong proposed to replace the storybooks, which he claimed as his favourite, with English ones. His father told him that he was expected to tell a story in Mandarin, and he could watch TV after he finished the storytelling. Xiaolong grabbed the book *The Peacock Princess* and opened it. He silently and quickly turned the pages from the beginning to the end, and from the end back. He threw the book back onto the coffee table and lay on the sofa. Xiaolong’s father suggested Xiaolong tell the shorter story *The Little Horse Crosses River*. Xiaolong argued that he could not remember the story.
Xiaolong: “我不行。我还没想到。先想一想。” [I can’t. I haven’t recalled it yet. I need to think about it.”].

(Xiaolong’s father tried to remind him of the plot.)

Father: “为什么小马要过河啊？他妈妈想要他做什么？[“Why this pony needs to cross the river? What does his mum want him to do?”]

Xiaolong: “我都不知道第一页讲什么。” [“I even don't know what the first page is saying.”]

Silently and slowly, Xiaolong turned the pages from beginning to the end and then from the end back, as what he did with The Peacock Princess. The home narrative task ended with Xiaolong asking his father to tell the story sentence by sentence. Xiaolong repeated his father’s sentences and occasionally answered the questions, such as “what the pony is going to do next?”, from his father.

**Spontaneous Conversation during Puzzle**

In free-play time in kindergarten, figuring out puzzles was Xiaolong’s frequent choice. According to Rachel, one of the teachers in Apple Kindergarten, Xiaolong had tried most of the puzzles in kindergarten and was “good at it” (TI, Rachel, 16th February 2016). Xiaolong would like to complete the puzzles by himself, as he rarely asked for teachers’ help. Three episodes of Xiaolong’s engaging in puzzles were presented.

**Episode one.** On a mat, Xiaolong started a puzzle of a dragon and a knight.

Armstrong, an English-speaking boy of a similar age, joined in the puzzle. The boys silently worked on the puzzle for two minutes. Then Armstrong added one piece into the picture. Xiaolong took it out right away.

Xiaolong: “That was a dragon. Can you see? It is not grass.”

(Xiaolong pointed to the puzzle piece they were working on and then to the picture on the box. Armstrong carefully looked at the picture on the box.)

Armstrong: “Ok, dragon.”
(Armstrong went to search for a dragon piece. With the puzzle continuing, the boys found it harder and harder to locate the rest pieces of the picture.)

Xiaolong: “Oh, man. It’s not an easy puzzle.”

(Cherry, the classroom teacher, stopped by and looked at the boys’ work.)

Cherry: “Whoa, Hmm.”

(Cherry was thinking with one finger supporting her chin. Armstrong wanted to add a piece, but Xiaolong stopped him.)

Cherry: “Let Armstrong this turn. See if it works.”

(Armstrong added the piece into the puzzle and Xiaolong added another one right away.)

Cherry: “Ahh, good teamwork. Well done.”

(Cherry walked away. Xiaolong started singing a make-up song of teamwork, which Armstrong instantly joined in singing.)

Xiaolong: “What’s going to work?”

(Xiaolong was singing.)


(The two boys were singing together.)

Xiaolong: “That is my old school song. You know.”

(Armstrong didn't respond. The two boys quietly continued the puzzle. Several minutes later, Cherry walked back.)

Cherry: “How are you going?”

Xiaolong: “Six more pieces.”

(Simultaneously, Xiaolong used his fingers to show Cherry “six”.)

Cherry: “Six to go. Let me see. It’s so exciting. It’s one of the hardest puzzles. You’ve almost done it. Come on, team. Let’s see if you can finish it.”

Armstrong: “Yes.”

Cherry: “I like the way you’re helping each other.”
Xiaolong: “Team members always help each other.” (KO, Xiaolong, 7th March 2016)

**Episode two.** Xiaolong worked on a puzzle of vehicles, including a police car, a fire engine, and an ambulance at home (HO, Xiaolong, 8th March 2016). His father was doing some housework in the kitchen. Xiaolong silently and successfully completed the puzzle alone.

**Episode three.** Xiaolong and his best friend Jim, an English-speaking boy, were working on a puzzle about vehicles (i.e., train, truck, boat, and plane). The boys devoted themselves to the puzzle. From time to time, I could hear them cheering with giggles or hoorays. Cherry walked out of the teacher’s room and passed by Fred and Daniel, two English-speaking boys, playing Lego cars next to Xiaolong and Jim.

Cherry: “Oh, I love the pattern you’ve made, boys.”

(Cherry walked away. Xiaolong stopped searching for the puzzle pieces. He looked at Jim, who was wondering which piece he should use.)

Xiaolong: “What is a pattern?”

(Jim was focusing on his part of the puzzle.

Jim: “I don’t know what’s a pattern.”

(Xiaolong silently continued his puzzle for a few seconds. He then walked to Fred and Daniel’s area and observed their playing.)

Xiaolong: “Pattern is black, black, red, black, black, red, black, black, red.”

(Fred and Daniel looked at Xiaolong without saying anything. Xiaolong then arranged nine cars in different colours in a row.)

Daniel: “It’s the pattern.”

(Daniel pointed to Xiaolong’s cars.)

Xiaolong: “Yes. Blue, yellow, red, blue, yellow, red, blue, yellow, red.”

Fred: “Yellow, red. Oh, I mean blue, yellow.”
Xiaolong: “Red.”
Fred: “Red.”

(The boys giggled. Xiaolong soon walked back to continue his puzzle.) (KO, Xiaolong, 9th March 2016)

**Pretend Play**

Xiaolong was observed in two pretend play in kindergarten. The other participants included Mandarin-speaking Tiantian, and English-speaking Ellen and Jim in the two events. Different make-believe situations were designed by the participants.

**Episode one.** Xiaolong was sitting on a mat at the family corner after morning tea, with a medicine box, children’s toy, in hand. He looked at Tiantian, who was sitting opposite to him and taking necklaces and bracelets out of a wooden box in front of her. The two children did not talk until Xiaolong saw Tiantian stop.

Xiaolong: “你可以当生病的人吗？你都没有当过生病的人。” [“Could you pretend to be a patient? You’ve never been a patient.”]

(Tiantian shook her head and continued taking necklaces out of the box.)

Xiaolong: “老是我当生病的人。你都没有当过生病的人呢。你可以当生病的人吗？就一次。” [“I am always the patient. You never. Could you pretend to be a patient? Just once.”]

Xiaolong used one finger to show Tiantian “once”. Tiantian had a look at him and began hanging the necklaces on a plastic tree.

Tiantian: “不行。” [“No.”]

Xiaolong: “为什么？” [“Why?”]

Tiantian: “因为我想玩卖东西。你当买东西的人了，现在。你想要什么呢？” [“Because I want to play selling stuff. You pretend to be a shopper. Now, what do you want?”]
(Xiaolong kept silent for a few seconds. Tiantian asked him again with one finger pointed to the necklaces.)

Tiantian: “你想要什么呢？” [“What do you want?”]

Xiaolong: “唔，这个。” [“Hmm, this one.”]

(Xiaolong pointed to a green one. Tiantian gave the necklace to him. Xiaolong took the necklace with one hand and “paid” money with another empty hand.)

Xiaolong: “给你钱。” [“Here is the money.”]

(Ellen walked into the family corner, Xiaolong’s attention immediately shifted. He stood up with the medicine box in hand and walked to Ellen.)

Xiaolong: “Are you sick? I have this.”

(Xiaolong waved his medicine box to Ellen. Ellen stood still and looked at him.)

Xiaolong: “Welcome, welcome to the doctor. Are you sick?”

Ellen: “No.”

(Ellen shook her head and sat on a sofa. Xiaolong sat beside her.)

Xiaolong: “Then you can’t come here. It’s hospital. You can’t come here if you are not sick.”

Ellen: “I am not sick.”

(Ellen shook her head again and stood up. Xiaolong followed her.)

Xiaolong: “You can give me your temperature.”

(They walked out of the family corner. Xiaolong left the medicine box on the sofa.)

(KO, Xiaolong, 7th March 2016)

Episode two. Xiaolong was swinging with Jim. Xiaolong was wearing an unusual necklace, which was made of a leather rope, with a piece of round wood, as a pendant.

The piece of wood was as big as Xiaolong’s hand.

Xiaolong: “I am a police officer. This is my camera.”

(Xiaolong patted the piece of wood.)

Xiaolong: “Wait. Jim, hold my swing.”
Jim: “OK.”

(Xiaolong picked up another “camera” on the ground and hang it on Jim’s neck.)

Xiaolong: “You forgot your camera. Sometimes we need camera; sometimes we don’t.”

(Jim giggled at Xiaolong. Both boys continued swinging. They kept quiet for a few seconds.)

Xiaolong: “I saw a police with a camera. Come and go.”

Jim: “Yeah. So we are on our police car.”

Xiaolong: “Over here?”

(Xiaolong patted his swing.)

Jim: “Yes.”

Xiaolong: “I am on my police car now. Whoop, whoop, whoop… This car is very fast. Whoop, whoop, whoop…”

(Xiaolong mimicked the siren from a police car. Jim joined him.)

Jim: “Whoop, whoop, whoop…” (KO, Xiaolong, 7th March 2016)

**Episode three.** Xiaolong and Mack were playing cars on a table. There was a model of a car park, which had several levels, on the table. Xiaolong and Mack were trying to park their cars from the top level.

Mack: “The blue car goes there.”

Xiaolong: “That is my blue car.”

(Xiaolong took the blue car away.)

Mack: “Ok. My green car goes here.”

Xiaolong: “And my green car goes there. We all go to take our own bus, right?”

Mack: “Yes. We got a little car here.”

Xiaolong: “Give it to me. I know where it goes. It can be next to me.”

(Xiaolong pointed to his green car.)

Mack: “No.”
(Mack stopped Xiaolong.)

Xiaolong: “Why you not sharing? Sharing is loving.”

M: “Ok. I put it next to you.”

(Mack and Xiaolong all grabbed little men in their hands.)

M: “This is the brother and that’s the dad.”

(Mack showed Xiaolong the little men in his hands.)

Xiaolong: “And this is the mum and this is the sister.”

(Xiaolong showed Mack his.)

Mack: “That’s the kid and that’s the mum.”

Xiaolong: “Yea. No. This is the teacher. Because we are in kindergarten. These guys are at school. The dad is not. He is at home.” (KO, Xiaolong, 14th April 2016)

Drawing and Early Writing

Xiaolong did not draw or write during the 12 hours of kindergarten observation. The conversation between Xiaolong’s father and him about kindergarten routine activities, however, brought up the topic of writing at home (HO, Xiaolong, 8th March 2016). Two episodes were included in this section.

**Episode one.** Xiaolong’s father asked him whether he did any writing in kindergarten. Xiaolong answered: “没有, 因为老师没有给我们写。[No, because the teachers didn't write for us.]” He stopped for a second and added: “今天没有画画因为老师没有弄出来那些画画的东西。我只能做 painting, 不能做那个画画。[I didn’t draw today because the teachers didn't take the drawing stuff out. I can only do painting, not drawing.]” After arriving at home, Xiaolong’s father started doing housework (e.g., sorting out laundry and cleaning kitchen) and suggested Xiaolong do writing. Xiaolong agreed and found a piece of paper, a receipt from his father’s company on the coffee
table. He had a look at the words on the receipt and turned to the blank side. Before writing, Xiaolong looked around the lounge. Then he saw me.

Xiaolong: “爸爸，‘Bo’ 怎么写的？ ‘Bo’ is start with 什么 letter? 是 ‘E’ 还是 ‘F’? ” [“Dad, how to write ‘Bo’? Which letter does ‘Bo’ start with, ‘E’ or ‘F’?”]
Father: “B.”
Xiaolong: “‘B’”，是这样竖？” [“‘B’ is with this line?”]
(Using a finger, Xiaolong draw a big “B” in the air. Xiaolong’s father watched Xiaolong drawing the letter.)
Father: “Yes.”
(Xiaolong’s father continued his work.)
Xiaolong: “很简单。” [“So easy.”]
(Xiaolong was going to write on the receipt. He, however, stopped and grabbed a larger size of paper from the pile of paper on the coffee table and wrote the letter “B” on it.)
Xiaolong: “还有呢?” [“And?”]
Father: “O”.
(Xiaolong’s father did not stop his work.)
Xiaolong: “很简单。” [“So easy.”]
(Xiaolong wrote an “O” beside “B”.)
Xiaolong: “然后呢?” [“And then?”]
Father: “然后就没有拉。” [“That’s all.”]
Xiaolong: “‘Bo’. 只有两个字母。很简单。” [“‘Bo’. Only two letters. So easy.”]
Father: “你的名字有几个字母啊?” [“How many letters in your name?”]
(Xiaolong counted with his fingers. His father looked at him.)
Father: “你写一下。写一下。再数。” [“You write it. Write it. Then count.”]

(Xiaolong counted with his fingers for about 20 seconds.)

Xiaolong: “我有五个。五个。我有四个。四个。” [“I have five. Five. I have four. Four.”]

Father: “四个还是五个？” [“Four or Five?”]

Xiaolong: “四个？” [“Four.”]

Father: “四个什么？” [“Four what?”]

Xiaolong: “名字里面的 letters 嘛。” [“Letters in my name.”]

(Xiaolong’s father walked over and watched Xiaolong writing the letters.)

Xiaolong: “看, 一, 二, 三, 四, 五。五个嘛。” [“Look, one, two, three, four, and five. Five.”]

(Xiaolong said to his father loudly.)

Father: “中文名呢？” [“How about your Chinese name?”]


(Xiaolong’s father received a phone call. Xiaolong left the table and found some puzzles under the coffee table.) (HO, Xiaolong, 8th March 2016)

**Episode two.** While swinging with Jim in kindergarten, Jim told Xiaolong that he was going to be 4 years old and invited Xiaolong to his upcoming 4th birthday party (KO, Xiaolong, 30th March 2017). On the way home, Xiaolong told his father about the invitation on the way home: “我真的很想去。[I really want to go.]” Xiaolong’s father agreed. His father asked him what birthday gift he would prepare for Jim. Xiaolong decided to give Jim a birthday card, “因为幼儿园的小朋友在去小学之前都会收到生日贺卡。[Because kindergarten children will receive a birthday card before they go to primary school.]” Xiaolong and his father stopped on the way and bought a card in a
shop. After arriving home, Xiaolong’s father gave him some biscuits. Xiaolong took the biscuits to the coffee table. While Xiaolong was eating, his father looked at him and continued the conversation about the birthday card.

Father: “你要在卡片上写什么呢？” [“What are you going to write on the card?”]
Xiaolong: “Happy birthday, Jim.”

Father: “你知道怎么写吗？” [“Do you know how to write it?”]
Xiaolong: “我知道的。” [“I know.”]

(Xiaolong thought for a few seconds.)

Xiaolong: “爸爸，‘Happy’的第一个字母是什么？” [“Dad, what is the first letter of ‘Happy’?”]
Father: “‘H’. 你要先写Jim的名字。” [“You need to write Jim’s name first.”]
Xiaolong: “Ok. Jim的名字是哪个字母开头的？” [“Which letter Jim’s name starts with?”]
Father: “‘J’. 等一下，现在不要写到卡片上。写到这里。” [“Wait, don’t write it on the card yet. Write it here.”]

(Xiaolong’s father took a piece of paper from the coffee table and wrote Jim’s name on it. He passed it to Xiaolong, who then copied the father’s writing letter by letter. While writing, Xiaolong named the letters aloud.)

Xiaolong: “J, i, m.”

(Xiaolong wrote the last letter several times.)

Xiaolong: “然后呢？” [“And then?”]
Father: “然后写‘Happy Birthday’啊。” [“Then you write ‘Happy Birthday’.”]
Xiaolong: “你能帮我写一个吗？” [“Can you write one for me?”]

(Xiaolong’s father wrote “Happy Birthday” on the piece of paper and then started working on his laptop on the dinner table not far away from Xiaolong. Xiaolong copied the letters, one by one. He finished the letters in “Happy” and read the word several times. He did not write the letters of “Birthday”.)
Xiaolong: “然后呢？” [“Then?”]

Father: “然后你要写你自己的名字啊。” [“Then you need to write your name.”]

Xiaolong: “这个我会。” [“I can write it.”]

(Xiaolong wrote his English name and put down the pen.)

Father: “我看一下。” [“Let me have a look.”]

(Xiaolong passed the paper to his father and leaned against him.)

Father: “你还没有写 ‘Birthday’.” [“You haven’t written ‘Birthday’ yet.”]

Xiaolong: “等一下再写啦。然后呢？” [“I will write later. What is next?”]

Father: “然后就没有啦。” [“That is it.”]

(Xiaolong jumped back to the coffee table, left the piece of paper on it, and started Lego construction on the carpet.) (HO, Xiaolong, 30th March 2017).

Spontaneous Conversation while Swinging

Conversations often happened when children were playing on the swings. When Xiaolong was swinging with his friends, their topics might vary from what they saw and heard to what they imagined or expected. For example, Jim invited Xiaolong to his birthday party while they were swinging. In another swing with Caesar, a 4.5-year-old English-speaking boy, Xiaolong had a unique conversation experience with him.

Xiaolong: “Can you do this?”

(Xiaolong sat on the swing with his legs separately on each side of the seat, like riding a horse. Caesar watched Xiaolong’s actions.)


Caesar: “No. I can't do that. Guess what I can do?”

Xiaolong: “Yea?”

Caesar: “I am twisting. And then.”
(Caesar twisted the ropes of the swing and suddenly let the swing go. When his hands were tightly holding the ropes, the toes of his left foot tipped the floor, and his right foot rested on the left one. Caesar's body quickly spun with the swing.)

Xiaolong: “I can do that too.”

(Xiaolong changed the way of sitting and put his legs on the same side. He twisted the swing and suddenly let it go. He spun with the swing, too.)

Xiaolong: “Ahh…”

(Xiaolong shouted out. Soon, he repeated the actions. After he finished the second spinning, he kept quiet for a second.)

Xiaolong: “This is how we jump from the Sky Tower. You know.”

(Caesar silently stopped swinging, looked and smiled at Xiaolong, who stopped swinging too. After a few seconds thinking, Xiaolong continued.)

Xiaolong: “If you jump down from there, you need this kind.”

(Xiaolong pointed to the rope and then the top of the swing.)

Xiaolong: “And then you hook it up here.”

(Xiaolong pointed to the rope over his head.)

Xiaolong: “And then you let it go. And then you jump down from here. And then you jump down like that from the Sky Tower.”

(With his hands tightly holding the ropes, Xiaolong jumped from the swing onto the ground.)

Xiaolong: “And then you ‘Ahh…’. You know.”

(Caesar silently shook his head. Both boys continued swinging.)

Caesar: “You have been there?”

Xiaolong: “Yes. I jumped down.”

Caesar: “Really?”

Xiaolong: “And then I landed on something soft.”

Caesar: Really?

(Caesar stopped swinging and looked at Xiaolong.)
Spontaneous Conversation on the Way Home and at Home

Xiaolong and his father sometimes talked with each other on the way home. Xiaolong’s family members and kindergarten experiences were the usual topics in the conversations. Two episodes were included in this section.

Episode one. As the only focal child with a baby sister, Xiaolong occasionally showed his fondness of her in kindergarten. He was observed sitting at the handcraft-table and made a necklace with a string and blue beads for his baby sister (KO, Xiaolong, 8th March 2016). Xiaolong told Jim, who was trying to help him wear the necklace: “It is too small for me, but it will be ok for my sister because I make it for her.” On the other side, Xiaolong displayed his ambivalent attitude to his baby sister when he noted the changes she had brought to the life of his parents and him. The evidence of Xiaolong’s interpretation could be found in his dispute with his father, who came to pick him up later than usual.

Xiaolong: “你今天都来晚了。有了妹妹以后，经常晚了。” [“You came late today. You often are late since I have a baby sister.”]

Father: “哪里有？瞎说。” [“No. Don't be silly.”]

(They kept quiet for a few seconds. Xiaolong raised his voice.)

Xiaolong: “就是。那时候没有妹妹的时候，你们八点半就起来。” [“Yes, you are. Before I have a baby sister, you often get up at 8:30.”]

Father: “没有八点半。怎么来得及呢？” [“Not at 8:30. How can we make it?”]

Xiaolong: “旧学校就是八点半去嘛。” [“We often went to my old school at 8:30.”]

Father: “对，那旧学校是八点半。没有八点半起来呀。” [“Yes. We went to your old school at 8:30. So we couldn’t get up at that time.”]
(Xiaolong kept quiet for about 1 minute. Then he replied with a much lower voice.)

Xiaolong: “有，旧学校就可以。” [“Yes. My old school could.”] (KO, Xiaolong, 8th March 2016)

**Episode two.** In a home conversation, Xiaolong’s father asked Xiaolong whom he played with in kindergarten. Xiaolong replied he played with Zhenzhen, a Mandarin-speaking girl, from Taiwan.

Father: “你今天跟谁玩啦?” [“Who did you play with today?”]

Xiaolong: “珍珍啊。我们一起玩水啦。爸爸，珍珍不会说英文。” [“Zhenzhen. We played water together. Daddy, Zhenzhen can’t speak English.”]

Father: “是吗？不会吧。” [“Really? I don't think so.”]

Xiaolong: “是真的。她不会说英文，所以我一直跟她说中文啊。” [“It’s true. She can’t speak English, so I speak Mandarin with her all the time.”] (KO, Xiaolong, 30th March 2016)

**Episode three.** Xiaolong arrived with his father after kindergarten. He asked for some biscuit for afternoon tea. Finishing the biscuit, Xiaolong noticed his baby sister’s new portable chair was left behind the sofa. Xiaolong observed the chair for a while.

Xiaolong: “爸爸，我知道怎样绑这个。这个可以绑起来，拿掉的。” [“Dad, I know how to tie this. This could be tied and took off.”]

(Xiaolong pointed to a button on the chair.)

Father: “你别给妹妹弄坏了。” [“Don’t break your sister’s chair.”]

(Xiaolong’s father had a look at him and turned back to his laptop.)

Xiaolong: “不会呀。” [“I will not.”]

(Xiaolong managed to seat himself on the chair.)

Xiaolong: “这样把这个钩进去。把这个再拿掉。” [“You hook this here. Then take it off.”]
(Gently and carefully, Xiaolong hook the belts on both sides. He adjusted the length and position of the belts.)

Xiaolong: “很简单嘛。然后，我再把它拿掉。” [“So easy. Then, I take the belt off.”]

(Xiaolong undid the seat belts and stood up. Xiaolong tried to attract his father’s attention by climbing onto his thigh.)

Father: “别闹了啊。爸爸还在工作。你先自己玩一会儿。爸爸等会儿带你去公司。” [“Don’t be naughty. I am working. You go to play. I will take you to our company later.”] (HO, Xiaolong, 13th April 2016)

Early Reading

In kindergarten, Xiaolong and Mack, an English-speaking boy, were playing with cars face-to-face on a mat. Different types of cars, including wooden cars, Lego cars, and metal car models were all over the mat. Xiaolong was playing with a metal car model.

Xiaolong: “Look at my mountain tractor.”

(Mack stopped loading stones onto his wooden truck.)

Mack: “Mountain tractor? I don't know.”

Xiaolong: “I saw it. It says “mountain tractor”. I saw.”

(Xiaolong pointed to the head of his tractor.)


Xiaolong: “Over here, says ‘mountain tractor’.”

(Xiaolong pointed to two words printed on the head, which says: “Samsung SG”. Mack approached closer to the tractor and had a careful look at the letters.)

Mack: “I can’t read. Only teachers can read.”

Xiaolong: “I can. I know it says mountain tractor.” (KO, Xiaolong, 31st March 2016)

Spontaneous Conversation during Lego Construction
**Episode one.** Xiaolong, Jim, and Jianhao were individually making robots with Lego pieces on a mat outside of the classroom. Xiaolong made a human-like robot. Xiaolong grabbed his robot and ran to the climbing blocks, which were not far from the mat. He climbed to the top of a block and wanted to move to another block through a narrow wood bridge.

X: Can you hold this for me?

(Xiaolong asked Fred, who was standing beside the block. Fed took the robot from Xiaolong. Xiaolong started approaching the other block by moving his hands and bottom little by little while sitting on the bridge. Meanwhile, Jianhao pushed a baby chair, with his robot sitting on the chair, under the bridge.)

Xiaolong: “Don’t run through the water.”

Jianhao: “Somebody is killed.”

Xiaolong: “Oh, wait.”

(Xiaolong reached the other block and turned to Fred.)

Xiaolong: “Quick. Give me the rescue robot.” (KO, Xiaolong, 30th March 2016)

**Episode two.** Xiaolong’s father asked Xiaolong to play some games when he was focusing on his work. He promised he would take Xiaolong to their company when he finished the work. Xiaolong took out his Lego box and started playing with Lego on the floor. Xiaolong seemed to speak to himself during the construction as he occasionally said some words and sentences with a low voice.

Xiaolong: “这是什么吗?” [“What is this?”]

(Xiaolong held a model, which looked like a trailer, made of several Lego pieces.)

Xiaolong: “这是坦克。” [“This is a tank.”]

(Xiaolong said to himself and put the tank after a car.)

Xiaolong: “这个可以连在这上面。这个 double-deck trailer。” [“This can be linked to this one. This double-deck trailer.”]
(Xiaolong grabbed a big piece of Lego board and started building pillars under the board. After finishing two, Xiaolong found the building, a ceiling with two pillars, was not stable. He found the second pillar was longer than the first one. He compared the two pillars by counting the Lego pieces in the pillars and then took one piece out of the second pillar.)

Xiaolong: “数一数就知道有多高，多少。” [“Count it, and you know how tall it is, and how many.”]

(Xiaolong continued building two more pillars for the building.)

X: “一个拖车站。” [“A trailer station.”]

(Xiaolong tried to put the trailer in the station. But the trailer was taller than the station. Thinking for a while, Xiaolong added three more pieces to each pillar. He tried to fit the trailer into the station but again failed. The space between the pillars was too narrow for the trailer. Xiaolong observed the station and thought for a while. He took all the pillars off the ceiling and enlarged the space by increasing the distance between each pillar. It worked. Xiaolong smiled. He clapped his hands.)

Xiaolong: “爸爸，看。我的拖车站。” [“Dad, look. My trailer station.”]

Father: “哦。我们该走了。” [“Ok. We should go now.”] (HO, Xiaolong, 13th April 2016)

**Episode three.** Xiaolong was playing with Lego on the mat. Bambi, a Mandarin-speaking girl, was playing with another pile of Lego beside him. Jay, a Korean-speaking boy, was clicking the pictures on the project screen, hung on the wall. Jay clicked a picture of a mouse on the screen and the computer, which controlled the project, pronounced two Mandarin words.

The computer:“老鼠，老鼠。” [“Mouse, mouse.”]

Bambi: “Mandarin.”

Xiaolong: “Yes. 我知道你也说中国话的。” [“Yes. I know you also speak Mandarin.”]
(The two children continued their individual Lego construction, without more conversation.) (KO, Xiaolong, 14th April 2016)

Computer Playing

**Episode one.** Jim and Fred, two English-speaking boys, were playing tablets individually at the computer table. Xiaolong walked there and stood behind Fred. Fred’s finger was pointing to the apps in the tablet, wondering which game he wanted to play.

Xiaolong: “This. Cooking. Gingerbread man.”

(Xiaolong clicked an app and the game started. Fred tried to close the app by clicking the screen. Nothing happened. Xiaolong tried to help Fred. While the two boys were working on the screen, they heard some noise from Jim’s tablet.)

Jim: “What a surprise.”

(Xiaolong looked at Jim’s tablet and watched his playing. Jim clicked a dinosaur on the screen, it roared. Both boys laughed out. Jim continued his game, digging bones of dinosaurs. A skeleton gradually appeared on the screen.)

Xiaolong: “A T-Rex.”

(Xiaolong said with an exciting voice. After a few seconds, he walked to a computer beside Fred and Jim. Xiaolong moved the mouse.)

Jim: “I am going to make another T-Rex.”

Xiaolong: “My favourite dinosaur is T-Rex.”

(Xiaolong responded with his eyes focusing on the computer screen. He started a game, decorating a house.)

Xiaolong: “I will paint it with this blue.”

(Xiaolong laughed out and pointed to his screen.)

Xiaolong: “Look at it.” (KO, Xiaolong, 7th March 2016)

**Episode two.** Xiaolong and Jim were playing games on the computer at the computer table. The two boys were digging dinosaur bones and they burst into laugh from time to time. Tiantian walked to them and stood beside Xiaolong.
Tiantian: “我也想玩。” [“I want to play too.”]

(Both boys did not respond her first. Tiantian repeated her request.)

Xiaolong: “还不行。这个还没有滴滴。” [“Not yet. This hasn’t beeped yet.”]

(Xiaolong pointed to the clock on the computer table and then turned back to his game. Tiantian still stood there, being quiet. Xiaolong found a skeleton and cheered with Jim. Then he noticed Tiantian was still standing beside him.)

Xiaolong: “这个要滴滴，你才能玩的。” [“You can play once the clock beeped.”] (KO, Xiaolong, 12th April 2016)

Endnote: My reflective notes and interpretations of the episodes, which have been included in the thesis, were deleted from the case story to avoid information duplication.
Appendix P

Children’s Book Title


References


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