Parental Support of Language Development in Multilingual Contexts: Insights from Chinese and Chinese-Canadian Families

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ABSTRACT

Parental Support of Language Development in Multilingual Contexts: Insights from Chinese and Chinese-Canadian Families

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This project explores how families living in China and Canada navigate parent-child interactions to support early bilingualism, integrating insights from four interconnected studies. Study 1 examines the perspectives of 16 Chinese parents of 3- to 6-year-olds living in China on two language support strategies: dialogic reading (DR) and co-viewing and conversing about television programs or videos (CVC). Parents recognized these strategies' potential benefits for language and cognitive development but expressed reservations, including challenges related to child engagement, children's potential resistance to interruptions, the parent's own linguistic skills, and the practices' demands on parental time and effort. These findings underscore the importance of adapting language support strategies to address parents' practical concerns.

Studies 2, 3 and 4 shift focus to 29 Chinese-Canadian families living in multilingual Montreal, where children were being raised in Mandarin and also regularly exposed to one or more of the local societal languages (French or English). Methods included a parent questionnaire, pretest-posttest observations of storybook reading by parent-child dyads, the use of DR and the digital reading pen by parents and children at home over an eight-week period, and focus group discussions with parents. Study 2 revealed that parents preferred interacting in Mandarin when reading together, even when reading a book written in a societal language. Parents used more dialogic talk, particularly literal questions, with societal language books, but

inferential and distancing questions, critical for advanced cognitive and linguistic development, were used sparingly. Study 3 introduced DR instruction to parents, leading to increased use of DR strategies, and thus prompting richer interactions across languages. However, parents reported challenges to DR, such as practical constraints, divergence from home practices, and occasional child resistance. Study 4 introduced a digital reading pen to explore its role in multilingual storybook reading. While the pen eased language demands and promoted child autonomy, it often disrupted parent-child interaction, leading parents to view it as better suited to independent than interactive reading.

Collectively, the studies bridge gaps between practices recommended in applied research and real-world parenting practices. The findings point to the need for greater collaboration between researchers, parents, and developers of educational tools to develop practices and create resources that align with families' lived experiences and goals, enriching both research and practice.

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Contribution of Authors

The four studies in this dissertation are co-authored with my supervisor, Dr. Diane Pesco. Study 1 is published at *Journal of Child and Family Studies*. Studies 2 and 3 have been submitted, respectively to the *International Journal of Bilingual Education and Bilingualism*, and *Journal of Child Language*. Study 4 will be submitted for publication to *Early Childhood Education Journal*.

Outlined below are individual contributions.

- Research design: Wei and Diane
- Development of dialogic reading guidelines, dialogic reading workshop, questionnaire, focus group questions: Wei with feedback from Diane
- Recruitment and data collection: Wei
- Data analysis: Wei with feedback from Diane
- Manuscript writing: Wei with feedback from and editing by Diane
- Funding: FRQSC Doctoral Fellowship, the Harmonious Bilingualism Network (HaBilNet), Concordia Faculty of Arts and Science PhD Fellowship and Concordia Conference and Expo (travel grant)

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Defining Key Terms

Bilingual/Multilingual. Bilingual is a complex term that does not have a definition agreed upon by all scholars (Austin et al., 2015; Butler, 2012; Matthews & Yip, 2007). Some scholars follow a strict standard and hold that people who master native-like competence in two languages can be considered bilinguals. In contrast, a less rigid definition of bilinguals posits that individuals who can produce meaningful and understandable language in two languages can be regarded as bilinguals (Austin et al., 2015; Butler, 2012). A broader definition has emerged, encompassing individuals who obtain various degrees of language competence in various domains. This shifts the focus of assessing bilingual abilities from formal rules of language to the communicative purpose (Bulter 2012). Defining multilingualism is more complex, even though it is often viewed as an extension of bilingualism (Hoffmann, 2001).

For the purpose of this dissertation, in the Canadian context where Studies 2, 3, and 4 were conducted, bilingual/ multilingual refers to individuals who have been exposed to and speak two or more languages to some degree in their daily lives, at home and/or at daycare or school. In China, where Study 1 was conducted, individuals who acquire regional languages in addition to Mandarin could also be described as bilingual or multilingual. Others are exposed to English through home, school, or private language training programs but do not use the language in daily life. Such individuals would typically be described as **foreign language learners**, but greater immersion in English and heightened proficiency in the language could lead them to become bilingual or multilingual.

Heritage Language (HL) often refers to minority languages spoken by indigenous peoples, immigrant families, or families with an immigrant background within a specific social context (Paradis et al., 2021). In some cases, children acquire their HL as their **First Language**

(L1) at home from birth. In Studies 2, 3, and 4, all children learned Chinese at home from birth, making Chinese both their HL and L1.

Societal Language (SL) refers to the dominant language used in a society for communication, education, media, and governmental functions. It is the language most commonly spoken in public and formal settings. In the context of this study, French and English serve as the two SLs in Montreal. The Chinese-Canadian children learned French and English at different points in time, making these languages their **Second Languages (L2).**

General Introduction

Globally, over half of children grow up being exposed to at least two languages (Grosjean, 2010). Some are being raised to speak L1/HLs different from SLs at home (e.g., indigenous L1s or immigrant L1s), while others grow up with two or more SLs (e.g., English and French in Quebec), or are engaged in learning a L2 for instrumental value (e.g., English learning in China). Studies have demonstrated that being bi- or multilingual can benefit children's cognitive development and school achievement (Hoff, 2015), support their social-emotional development (Mohr et al., 2018), and lead to a strong self-identity and familial well-being (De Houwer, 2015). Parents also believe in these advantages (Ballinger et al., 2020; Curdt-Christiansen, 2014; Liang & Shin, 2021); thus, they want their children to grow up being exposed to and speaking bi- or multilingually.

Bilingualism in China is widespread, reflecting the country's rich linguistic diversity and growing emphasis on English language education (X. (Andy) Gao & Ren, 2019). While Mandarin serves as the sole official language, dialects, such as Cantonese, Shanghainese, Hokkien, etc., some of which are unintelligible to Mandarin speakers, are also widely spoken in certain regions. Thus, many Chinese children are regularly exposed to more than one language and become bilingual or even multilingual within a complex linguistic landscape. Additionally, the increasing importance of English as a global language has further expanded additional language learning in China. An estimated 400 million people (28.6% of the population) in China are learning English (Wei & Su, 2015), a figure exceeding the combined populations of the United States and Canada. In the Chinese elementary school curriculum, English is a compulsory subject and is emphasized as much as Chinese language and mathematics courses (Mao, 2020). Moreover, parents view proficiency in English as essential for future academic and professional

opportunities (Gil & Adamson, 2011), leading 64% of Chinese parents to believe that children should start to learn English as early as birth to six years of age according to a survey by SmartStudy and SinaEd (2018). While parents do not necessarily expect their child to become bilingual at this point, many wish to prepare their child for later English learning. In light of this, Study 1 examined Chinese parents' perspectives on specific language practices to support children's learning of both Chinese and English.

Similarly, Canada is experiencing an increase in linguistic diversity, driven by record-high immigration levels. In 2021, immigrants made up 23% of the Canadian population (Statistics Canada, 2022b). The influx of immigrants has contributed to the rise in bilingual and multilingual households. As the 2021 census revealed, in over 3.1 million Canadian homes (21%), at least two languages are spoken (Statistics Canada, 2023), compared to 19.4% in 2016. Individual multilingualism in Canada is also increasing, with 41.2% of Canadians reporting the ability to converse in more than one language in 2021 (Statistics Canada, 2022a). Furthermore, about 10% of Canadians reported being able to speak three or more languages. While some of the bilingualism observed in Canadian households is accounted for by the use of English and French, the country's two official languages, the use of non-official languages is also significant. In Canada, the number of people speaking other languages at home is 12.7% (Statistics Canada, 2022b) and in Quebec, a language other than French or English is used in 60.2% of multilingual households (Statistics Canada, 2023).

Mandarin and Cantonese, along with other Chinese dialects, rank among Canada's most common non-official languages, reflecting the substantial portion of immigrants to Canada from China (8.9% and 10.6% of immigrants in 2021 and 2016 respectively; Statistics Canada, 2022b),. While the metropolitan areas of Toronto and Vancouver exhibit the highest prevalence of

Chinese languages, in Montreal, where the dissertation was carried out, Mandarin is currently one of the most prevalent non-official languages spoken in homes (8% of "other home languages"), exceeded only by Spanish and Arabic (Statistics Canada, 2022a). Given these figures, the remaining studies in this dissertation centered on the language practices of Chinese-Canadian families and their perspectives on these practices.

Children who are exposed to two languages may become bilingual yet display varied levels of language proficiency. For example, some bilinguals understand a language but do not produce it, a profile described in the literature as receptive/passive bilingualism (Austin et al., 2015; Edwards, 2012), and a common phenomenon for Chinese English language learners (Mao, 2020). Some other bilinguals can speak but not read their HLs because priority is placed on bilingualism and biculturalism over biliteracy (Liang & Shin, 2021). There is also a chance that an individual will learn a societal language (SL) at the cost of HL, a phenomenon referred to as subtractive bilingualism (Austin et al., 2015; Edwards, 2012; Hoff, 2015) or will have somewhat limited proficiency in both languages (Austin et al., 2015; Paradis et al., 2021). According to De Houwer (2007), about 25% of children exposed to two languages from early on only master one of the languages, with the HL at higher risk of not being spoken. Others have described balanced bilingualism (i.e., equivalent and high levels of competence in both languages) as rare (Grosjean, 2010; Hoff, 2021), and concur with De Houwer that proficiency in the HL is likely to be weaker than in the SL. Other studies suggest that the rate of HL loss accelerates when children start formal schooling in the SL (Fillmore, 1991, 2000; Hoff, 2021).

A number of other factors are implicated in HL loss. Raising bi- or multilingual children may not be valued or supported in the sociolinguistic context (Reyes & Vallone, 2007; Spolsky, 2012). Research has also shown that resources for children to develop their HL may be lacking

(Ahooja et al., 2022; Ballinger et al., 2020; Liang & Shin, 2021). Attitudes regarding the role of schools in HL maintenance likely also play a role. Indeed, some studies have shown that school teachers believe that HL maintenance is the responsibility of immigrant families, rather than of schools and school teachers (Cunningham, 2020; Weekly, 2020). Moreover, children's HL skills may not be recognized or valued. For example, Ahooja and Ballinger (2022) interviewed a small group of teachers in Montreal and found they tended to assess immigrant multilingual students based on monolingual standards and thus viewed such students as deficient in the SL, failing to recognize the students' multilingual abilities. One of the teachers in the study even blamed parents for the students' low French proficiency and felt immigrant parents should learn the SL alongside their children and increase its use at home, even though some scholars posit that parents who are not native speakers of the SL may not be good language models (Hoff, 2015). Despite challenges, families often express a desire to support their child's bilingual development and seek strategies to do so. Before introducing the strategies investigated in the dissertation research, I briefly discuss theories of child development and models of the home language and literacy environment that underscore the important role of parents and other environmental factors in children's language development.

Conceptual Frameworks Related to Child Development

Overarching my discussions are Bronfenbrenner's ecological system theory (Bronfenbrenner, 1981; Bronfenbrenner & Morris, 2007) and Vygotsky's sociocultural theory (Vygotsky, 1978). Bronfenbrenner characterizes child development as the result of children's direct interactions with their surroundings and the indirect influences of the interplay among subsystems proximal and distal to the child (Bronfenbrenner, 1981; Bronfenbrenner & Morris, 2007). Among the five subsystems, interactions between children and people in their immediate

microsystem are considered the proximal processes and the "primary engines of development" (Bronfenbrenner & Morris, 2007, p. 798). According to Vygotsky, children learn better and faster within the zone of proximal development scaffolded by adults and other capable peers (Vygotsky, 1978). For example, adults' verbal interactions, questions, and feedback become scaffolds to extend young children's language development. Through constant proximal interactions, children can internalize more advanced knowledge and turn it into voluntary attention, conceptual perception, and conscious memory (Wertsch et al., 2007).

The aforementioned theories underscore the importance of a supportive and nurturing environment for children and their development. Models describing the nature and impact of the home language and literacy environment (HLE) are also relevant to the dissertation studies. Some models consider a wide range of environmental influences. For example, drawing on Bronfenbrenner's ecological theory, Gregoriadis and Evangelou (2022) propose a multi-layered home learning ecosystem. The first layer comprises home learning interactions, home learning activities, and the physical home learning environment. The second layer includes parental attributes (e.g., SES, skills), parental psychology (e.g., expectations, efficacy), children's attributes (e.g., temperament, disposition), and children's outcomes. More distal systems, such as cultural beliefs, also affect the HLE. Other models are more focused. For example, an influential model proposed by Sénéchal (2006) focuses on the impact of parents' language stimulation strategies on children's language development. Empirical studies have shown that in addition to these strategies, features of the physical environment (e.g., the number of books at home), and language use in the home as reported by parents support young monolingual and bilingual children's language development (Georgiou et al., 2021; Inoue et al., 2020; Samudra et al., 2019; Sénéchal & LeFevre, 2002).

Beyond first language learning, the HLE also significantly influences foreign language learning, as highlighted in a study of Chinese children. Parental home literacy practices in English (the foreign language) such as reading English books, teaching English words, and accessing various English materials contributed to children's English vocabulary knowledge (Chow et al., 2017). As Chow et al. concluded, engaging in home literacy activities provided children with more opportunities to learn and actively use English, ultimately enhancing their language skills.

However, few researchers have conceptualized a model of HLE specific to bilingual children. Curdt-Christiansen (2014) addresses contexts where HL and SL are being acquired. Informed by Spolsky's language policy framework (Spolsky, 2009, 2012), Curdt-Christiansen proposes that the HLE of bilingual children involves language practices, language ideology, and language management. Language practices, the most influential component (Spolsky, 2012), refer to day-to-day and predictable language customs and interactions at home, such as the "one-parent, one-language" policy whereby (assuming a dual-parent home) one parent addresses their child in one language, and the other parent addresses their child in the other. Language ideology, measured by four interrelated dimensions: sociolinguistic, sociocultural, socioeconomic, and sociopolitical forces, is related to parental beliefs and concerns about bilingual learning (Curdt-Christiansen, 2014; Liang & Shin, 2021). Language management or language planning refers to parents' explicit attempts to modify language practices and beliefs to better suit the child's and the family's needs (Ahooja et al., 2022; Spolsky, 2009). For example, parents may actively shape their children's linguistic environment by controlling access to various resources. Limiting or encouraging exposure to certain media, like television, radio, and books, depending on their language, can be used as a method to manage the family's language practices.

Spolsky's language policy framework has also been applied to the learning of 'English as a Foreign Language' in China (Y. Gao & and Zeng, 2021). As the authors demonstrate, Chinese parents' beliefs about the value of English (ideology), their engagement in language/literacy activities like storybook reading or vocabulary teaching (practices) in English, and their deliberate efforts to create opportunities for English learning and use (management) collectively shaped children's proficiency and attitudes.

HLE in Chinese Families

The HLE in Chinese families is of particular interest, given the prevalent belief in parents as children's first teachers, which is written in traditional virtue: "养不教，父之过" ("To feed without teaching is the father's fault"; Wang, 2016). This belief is reflected in practice, as many Chinese parents are highly involved in informal teaching at home. In my previous study on Chinese parents' perspectives on children's play (Mao et al., 2023), parental involvement in language teaching was not specifically investigated. However, all interviewed parents expressed the importance of their role in facilitating their children's English learning. They established a home English environment and actively practiced English with their children. Similarly, the literature on HLE involving Chinese parents or immigrant Chinese parents identifies a wide range of language practices at home (C. Lau & Richards, 2021) and demonstrates their impact on children's language and literacy skills (J. J. Chen & Ren, 2019; C. Lau & Richards, 2021; Xu et al., 2017). The next section introduces particular language practices investigated in the present studies, namely dialogic reading and co-viewing.

While reading print books to children is common in families, the use of TV, touchscreens, and other digital devices is widespread among children, even infants (Strouse & Ganea, 2017a). These technologies captivate young learners through colorful animations, playful

sound effects, and interactive games designed for engagement. Thus, both approaches—encouraging interactive book reading and having meaningful conversations during media use (i.e., TV)—can enhance language learning.

Dialogic Reading and Coviewing as Language Stimulation Strategies

Compared to parents simply reading a book aloud to their child, dialogic reading (DR) makes significant changes to the role of parent and child during storybook reading. In DR, children are no longer viewed as passive listeners; instead, they are active participants and storytellers whose participation is facilitated by adults through questioning, encouraging, and expanding (Whitehurst & Lonigan, 1998). DR is based on three principles: children's active participation in parent-child dialogues is beneficial to their language development; immediate and informative feedback to children is valuable; and dialogic reading techniques should be tailored to children's growing abilities (Whitehurst & Lonigan, 1998). Building on these principles, adults are advised to prompt, evaluate, expand, and repeat their child's contributions (these four steps are represented by the acronym PEER). The prompts parents are expected to provide are Completion, Recall, Open-ended questions, Wh-questions, and Distancing questions, acronymized as CROWD.

As proposed by Strouse et al. (2013), parents can support their child's language by co-viewing and conversing about television programs or videos (CVC) and actively engaging the child in discussions and conversations about the program's content. This may include pausing the program or video to ask questions and encouraging children to participate and respond. According to Strouse et al. (2013), adults practicing this strategy support young children's language development by directing their attention (by being present, pointing, and labeling); providing linguistic and cognitive support via direct instruction; and giving social feedback by

linking content to real life and providing contingent comments and corrections. While DR and CVC appear to foster young children's language development (e.g., Ryan, 2021; Strouse et al., 2018; Troseth et al., 2018; Willard et al., 2021; Xu et al., 2017), the perspectives of parents regarding these language support strategies are needed to assess whether and how well they align with families' goals and needs.

The Importance of Parental Perspectives

Parental perspectives are important for several reasons. First, research suggests these perspectives inform the language experiences parents provide to their child, which, as alluded to above, predict language and emergent literacy. For example, Wu and Hindman (2024) analyzed data from a large longitudinal dataset and found that parents' views predicted the frequency with which parents read to their kindergarten-age child and the number of books in the home. These factors, in turn, predicted children's scores on a measure of oral language and emergent literacy. An indirect effect of parental beliefs on language development has also been reported for dual language learners by Hwang et al. (2022). These authors found that parents' beliefs affected home language practices which subsequently influenced their child's vocabulary.

Second, understanding parental perspectives is essential to assess whether parents find specific practices intended to support children's language development acceptable. Even evidence-based approaches may not be implemented at home if they conflict with parents' beliefs or established practices. High dropout rates in studies of parent-mediated interventions designed to support children's language or emergent literacy underscore this issue. For example, Justice et al. (2015) found that over half of parents who were taught strategies to support children's emergent literacy either never implemented them or stopped implementing them during their study. Indeed, Boyd and colleagues (2016) stress that involving the people expected

to adopt new practices—by seeking their perspectives and addressing their concerns—is critical. If the recommended approaches conflict with the participants' beliefs and established practices, the practices are likely be refused.

Third, much of the language practices promoted in research (e.g., dialogic reading studied in this project) have been developed within Western contexts, leaving significant gaps in understanding how parents from other cultural backgrounds perceive and adopt them. A review of the research literature on parent-child verbal interactions by MacLeod and Demers (2023) noted that such interactions are often interpreted through the lens of "white monolingual Anglo-American values" (p. 431). Cultural bias is also addressed in critiques of psychology's historical reliance on narrow, non-representative populations (i.e., Western, Educated, Industrialized, Rich, and Democratic or 'WEIRD') and the assumption that findings from these groups are universally applicable. In fact, comparative studies reveal significant cultural variations in parenting practices. For instance, Johnston and Wong (2002) found Chinese mothers were less likely than Canadian mothers to prompt their preschool-aged children to recount personal narratives or discuss non-shared events, instead favoring direct instruction. While such "directiveness" might be interpreted as parental dominance in Western cultures, Chao (1994) argues that in Chinese culture, it reflects "guan," a concept encompassing both discipline and care. These disparities underscore the risks of generalizing findings from WEIRD populations, as they may yield incomplete or culturally-biased conclusions about individuals' behaviors and development.

Frameworks from Implementation Studies

Behavioral scientists believe that to implement new or refine existing practices, we need to understand an individual's current behaviors and barriers to change (Atkins et al., 2017). The Theoretical Domains Framework (TDF) and the Exploration, Preparation, Implementation, and

Sustainment (EPIS) Framework are two widely used frameworks in implementation science. Both frameworks highlight the critical role of individual beliefs, perspectives, and life experiences in the implementation of new practices.

Aarons et al. (2011) underscore the importance of an "innovation-values fit" (p. 14), suggesting that new practices are more likely to be adopted when they align with an individual's cultural beliefs and attitudes. An individual's belief in their own ability to effectively implement a practice is another critical factor in the adoption of new practices (Aarons et al., 2011; Atkins et al., 2017; Boyd et al., 2016). Justice et al. (2015) provided an example of this factor in relation to parent-child reading. They identified caregivers' beliefs about their reading abilities and discomfort with reading as barriers to implementing strategies to support their child's early literacy. Individuals' attitudes toward an intervention, including their beliefs in the benefits of the intervention and willingness to change existing practices, can also significantly influence implementation outcomes (Boyd et al., 2016).

The Dissertation Studies

The overall goal of this dissertation was to investigate parents' experiences with and perspectives on specific language stimulation strategies (i.e., dialogic reading, co-viewing, and storybook reading assisted by a digital reading pen) in supporting children's bi- or multilingual acquisition, with the intent of refining the approaches to support bi- or multilingual development in ways that both parents and children enjoy and can maintain. Study 1 was carried out with Chinese parents living in China and data was collected between July 2021 and December 2021. Studies 2, 3 and 4 were carried out with the Chinese parents living in living in Montréal or surrounding areas from January 2024 to August 2024. All three studies involved the same set of parents and their child (aged 3-6 years). The studies received ethical approval from the Office of

Research at Concordia University (see Appendices A & B). Participants were recruited via ads (see Appendices C & D) on social media and online parenting forums and groups, using convenience and snowball sampling. All participants received a detailed consent form, provided in Mandarin and English (see Appendices E & F), and gave written consent prior to participating.

This dissertation starts with **Study 1** in which I explored Chinese parents' perceptions of DR and CVC, two strategies to support early language development, introduced above. Data was gathered through a parent questionnaire (see Appendix G) and focus group discussions (see Appendix H for the interview questions). The findings showed that DR was generally appealing to parents, and more appealing than CVC. The results provided initial support for introducing DR to Chinese parents to support early bilingual learning. However, the sample only included parents living in China and relied only on parental report; I did not examine how parents actually interacted with their child during storybook reading.

In **Study 2**, in order to gain a deeper and local understanding of how Chinese parents living in Montreal interact with their young child to support language development, I conducted a naturalistic observational study of 30 parent-preschooler dyads reading with a Chinese book and reading with a French or an English book and subsequently compared parent-child interactions in the two book language conditions. A questionnaire (see Appendix I) was also administered to understand participants' demographic features, language use at home, family reading experiences, and parental views on bi- or multilingualism. Results revealed that when reading either a French or an English book, parents used significantly more dialogic talk than when reading the Chinese book. Closer analyses of the data suggested that this was due to parents asking more literal questions when a book was in the SL, to facilitate story

comprehension or to teach vocabulary.

While Studies 1 and 2 introduced DR to parents, neither involved any instruction to parents. **Study 3** offered a DR workshop to parents and then investigated over an eight-week period how frequently they and their child engaged in DR and in what language, documented via reading logs (see Appendix J). The observations of storybook reading sessions reported in Study 2 were repeated at the end of the eight weeks of DR in Study 3, allowing pretest-posttest comparisons. The results showed that following the DR workshop, parents prompted decontextualized talk by their child and expanded their child's responses significantly more often than at pretest, irrespective of the book's language (HL or SL). Parents' perspectives on DR and its use at home were also gathered at the end of the study via focus group discussions (see Appendix K). The findings showed that while parents reported positive experiences with DR and a willingness to continue to use it, they had concerns regarding their knowledge about and/or skills in implementing DR, the divergence of DR from existing home practices, practical constraints, and their child's reactions to DR.

In Study 4, we report on a final set of observations conducted immediately after the posttest observations in Study 3. For these, parents and children were asked to read a storybook compatible with a digital reading pen (i.e., a pen that converts text to speech, see a demonstration video: https://drive.google.com/file/d/1oRDAQU2-eFbS9vDCEbGbu8G-Vy8eJXc8/view?usp=sharing), in the language of their choice. These observations were aimed at assessing whether and how parents used a digital reading pen to support language learning. The examination of the pen's impact was partly motivated by parents in Study 1 reporting use of a reading pen to support English learning. The reading logs and focus group discussions reported for Study 3 were reviewed anew, now in relation to use of the digital reading pen. The results

showed that when reading with the reading pen, parents used significantly fewer DR techniques than they did without the pen. Furthermore, in focus group discussions, parents shared that both they and their child had reservations about the use of the reading pen for various reasons presented in Study 4.

Original Contribution

The research is novel in the importance it places on parental views on language stimulation strategies. It assumes that parents have knowledge about their own practices and priorities that should be brought to bear on the intervention strategies recommended to them. Parental views and voices have rarely been studied in relation to DR, despite the ample research on this practice. Moreover, to the best of my knowledge, no studies have specifically explored parents' perspectives on CVC nor on the use of digital reading pens in the context of storybook reading. The present study aims to address this gap by explicitly seeking parental views. Parents' views are important from an equity standpoint, as they can provide insights into the diverse needs and perspectives amongst families, including those from minoritized groups, and ultimately contribute to educational practices.

Moreover, research on parents' views aligns with current intervention models in which parents are seen as important allies in their children's development (Snodgrass et al., 2017). By allying with parents, researchers can incorporate parental values and practices, which may in turn, make an intervention relevant and effective (Xu et al., 2023). If the strategies targeted in an intervention do not appeal to parents or fit with their practices and beliefs, parents may not adopt or maintain them. Justice et al. (2015), for example, found that over half of parents who were taught strategies to support children's emergent literacy either never implemented or stopped implementing the strategies during their study. This suggests that some aspect of the intervention

did not adequately reflect parents' needs. The literature on parent-mediated intervention has also noted the importance of using parents' native language to enhance participation and ensure that any new strategies introduced to parents can be carried out with fidelity (Lim et al., 2021). The current research addresses this issue; it was carried out by a Mandarin-English bilingual researcher (me) with the support of an English-French bilingual (my supervisor). This allowed most parents, 28/29 of whom were first-generation immigrants, to receive coaching and materials in their native language(s).

Another novel contribution of the dissertation research is the study of digital reading pens, a technology for reading commonly used in China. Most studies of this technology concentrate on older students, often in high school or above, and explore how digital reading pens facilitate vocabulary acquisition, reading fluency, or comprehension in structured educational settings (e.g., C.-M. Chen et al., 2016; Lin & Chai, 2014). However, the use of digital reading pens with and by younger children, particularly in informal, home-based environments, remains underexplored. Two exceptions are a study by Choi et al. (2020) and a very recent study by Wildt (2024). The study by Choi and colleagues (2020) examined the impact of digital reading pens on Korean preschool children. Their findings revealed that the use of this technology positively influenced children's interest in learning English. Wildt (2024) observed interactions between parents and their child (attending preschool and Grade 1) when reading with a digital reading pen in Germany. The study found that content-related talk was the most frequent type of parental comment, followed by behavior-related talk. However, Wildt's study did not include a comparison condition of parents reading print books.

While the Choi et al. study (2020) highlights the potential of digital reading pens to enhance early language learning motivation, and Wildt's study (2024) depicts parent-child

interaction patterns when reading books accompanied with the reading pen, Study 4 makes a novel contribution by investigating how digital reading pens affect parent-child interactions in multilingual households and provides a direct comparison between reading with a digital pen and reading traditional print books. Additionally, it explores parents' and children's perceptions of the device, including its perceived benefits and challenges. The findings provide valuable insights into how this technology can be effectively integrated into family literacy practices and has implications for researchers and designers of educational technology aiming to use digital resources to support early bilingual development.

The dissertation research is also unique in that it used multiple methods to investigate parents' experiences with and perspectives on supporting their child's early bilingual development, including reading observations, reading logs, and focus group discussions. The triangulation of these methods strengthens the validity and reliability of the study's findings and allows for a holistic understanding of the phenomena under investigation.

Study 1: Chinese Mothers' Perspectives on Supporting Young Children's Language Development Through Dialogic Reading and Co-Viewing

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Abstract

In this study, 16 Chinese parents with children aged 3–6 years were asked to share their perspectives on language practices with a focus on two strategies recommended in the research literature to support expressive and receptive language: dialogic reading (DR) and co-viewing and conversing about television programs or videos (CVC). Data was gathered through a parent questionnaire and focus group discussions. While recognizing the benefits of DR and CVC for language and cognitive development, parents expressed concerns about the effects of these practices on their child's engagement; potentially negative responses by their child to interruptions during book reading or co-viewing television/video; their own linguistic skills, particularly in English, a common second language in China and globally; and the demands of the practices on parents. These factors might prevent parents from implementing DR and CVC at home either in Mandarin, in a nonnative language, or both. We discuss the findings in light of sociocultural factors and recommend ways these language supports can be adjusted to address parental concerns, aiming to improve future practice and research.

Highlights

- This study investigated Chinese parents' perspectives related to reading to their children in a dialogic fashion and co-viewing television programs to support language development.
- Parents acknowledged the potentially positive impact of dialogic reading and co-viewing on children's language, cognitive, and social-emotional development.
- Parents expressed some reservations about the practices, including the screen time implicated in co-viewing, potential decreases in child engagement, and the demands on parents.
- The article suggests ways that dialogic reading and co-viewing can be adjusted to address the parents' concerns, aiming to improve future practice and research.

Chinese Mothers' Perspectives on Supporting Young Children's Language Development Through Dialogic Reading and Co-Viewing

Children's language experiences at home strongly predict their early language development and together the two lay a foundation for later language and literacy skills, academic performance, and social-emotional development (Attig & Weinert, 2020). Given this, various ways of stimulating young children's language development and emergent literacy have been proposed and examined in research, including approaches parents can implement at home. Two such approaches are dialogic reading of storybooks (DR; Whitehurst & Lonigan, 1998) and co-viewing and conversing about television programs or videos (CVC; Strouse et al., 2013). Each of these assumes that dialog is an important vehicle for helping children make sense of experience, and when centered on storybooks or television or video with storylines, provide parents with opportunities to enrich their child's language and knowledge of story features that can help them understand and compose written stories once they begin to read and write.

While the research literature suggests that coaching parents to use DR or CVC will positively affect children's language and narrative skills (e.g., Elmonayer, 2013; Lever & Sénéchal, 2011), parents' perspectives on the interactive strategies embedded in DR and CVC have seldomly been studied (Kotaman, 2007). Yet, parents' views are important for two reasons. First, research suggests they inform the language experiences parents provide to their child, which, as alluded to above, predict language and emergent literacy. For example, Wu and Hindman (2024) analyzed data from a large longitudinal dataset and found that parents' views predicted the frequency with which parents read to their kindergarten-age child and the number of books in the home. These factors, in turn, predicted children's scores on a measure of oral language and emergent literacy (referred to in the paper as a "reading measure"). An indirect

effect of parental beliefs on language development has also been reported for dual language learners by Hwang et al. (2022). These authors found that parents' beliefs affected home language practices which subsequently influenced their child's vocabulary.

Second, parental perspectives are needed to determine whether parents find specific practices intended to support children's language acceptable. Even approaches that have been shown to be effective in a research context may not be adopted by parents for at-home use if they do not fit with their practices and beliefs. Indeed, high drop-out rates have been observed in some studies of parent-mediated interventions aimed at supporting children's language or emergent literacy. For example, in a study encouraging parents to draw children's attention to print during storybook reading (Justice et al., 2011), a quarter of caregivers dropped out. In a second study with a similar aim (Justice et al., 2015), only 34% of parents completed the program, whereas other parents either never started (44%), dropped out late (7%), or only applied the techniques they were taught sporadically (15%). Based on the assumption that parents' views can influence their behaviors and inform their acceptance or rejection of approaches intended to facilitate children's language development, the present study explores parental views on DR and CVC. As noted above, the literature about parents' perspectives on such strategies is scant but important to guide future practice and research. Indeed, as Michie et al. (2008) propose, participants' attitudes and beliefs are key factors influencing their willingness to adopt new practices introduced by researchers.

Moreover, given that DR and CVC approaches were developed and have been promoted largely in the Western context, we know little about how parents in other cultural contexts might receive them. Based on a review of the research literature on parent-child verbal interactions, MacLeod and Demers (2023) found that such interactions are often interpreted with regard to

"white monolingual Anglo-American values" (p. 431). According to the authors, this bias can lead researchers and practitioners to perceive variation in parents' communicative behaviors negatively. For an example of such variation, Johnston and Wong (2002) found that Chinese mothers were less likely than Canadian mothers to prompt their preschool-age child for personal narratives or discuss non-shared events, and were more inclined towards direct instruction. While such "directiveness" might be associated with parental dominance in Western cultures, Chao (1994) suggests that in Chinese culture, it is informed by "guan", a concept which encompasses both discipline and care. Given cultural variations in communicative behaviors and how they are perceived, this study explores Chinese mothers' use of and views on DR and CVC, two approaches to supporting young children's language researched in Western contexts. These approaches may not fully align with Chinese parents' practices and values. By gathering Chinese parents' perspectives, we hope to contribute to the development of language stimulation approaches for children that are both culturally appropriate and effective.

Dialogic Reading and Co-viewing

Compared to parents simply reading a book aloud to their child, DR makes significant changes to the role of parent and child during storybook reading. In DR, children are no longer viewed as passive listeners; instead, they are active participants and storytellers whose participation is facilitated by adults through questioning, encouraging, and expanding (Whitehurst & Lonigan, 1998). DR is based on three principles: children's active participation in parent-child dialogs is beneficial to their language development; immediate and informative feedback to children is valuable; and dialogic reading techniques should be tailored to children's growing abilities (Whitehurst & Lonigan, 1998). Building on these principles, adults are advised to prompt, evaluate, expand, and repeat their child's contributions (these four steps are

represented by the acronym PEER). The prompts parents are expected to provide are Completion, Recall, Open-ended questions, Wh-questions, and Distancing questions, acronymized as CROWD.

Studies have shown that DR is beneficial for various aspects of children's language, such as expressive vocabulary (Dicataldo et al., 2022; Şimşek & Işıkoğlu Erdoğan, 2021), receptive vocabulary (Dicataldo et al., 2022; Kim & Riley, 2021; Şimşek & Işıkoğlu Erdoğan, 2021), phonological awareness (Elmonayer, 2013; Kim & Riley, 2021), print knowledge or word recognition (Dicataldo et al., 2022; Y.-L. Zhou, 2021) and narrative skills (Grolig et al., 2020; Lever & Sénéchal, 2011). In a meta-analysis focused on vocabulary, Mol et al. (2008) found a larger effect of DR for children of pre-kindergarten vs. kindergarten age. However, in a more recent meta-analysis of the effects of DR on the expressive and receptive language skills of children aged one to six, no age effects were found (Dowdall et al., 2020); DR exhibited a positive effect on language skills regardless of age that increased with intervention duration. For instance, when considering only the 10 studies with longer intervention periods, Cohen's d, a measure of effect size, rose from 0.41 for the full set of studies to 0.54 for expressive language and from 0.26 to 0.34 for receptive language. In addition to the positive effects of DR on linguistic abilities, there is evidence that DR helps improve children's reading attitudes (Chow et al., 2018), reading interest (Chow et al., 2008), and participation (Şimşek & Işıkoğlu Erdoğan, 2021), as well as parents' confidence in reading to their child (Chow et al., 2008).

As conceived by Strouse et al. (2013), parental co-viewing of television or videos with their child involves actively engaging in discussions and conversations about the content. This may include pausing the program or video to ask questions and encouraging children to participate and respond. According to Strouse et al. (2013), adults practicing CVC support young

children's language development by directing their attention (by being present, pointing, and labeling); providing cognitive support via direct instruction; and giving social feedback by linking content to real life and providing contingent comments and corrections.

While the literature on the effectiveness of CVC is less vast than for DR, there is evidence that children older than 2 years learn new words from videos if co-viewers provide responsive and contingent support (Roseberry et al., 2009; Strouse et al., 2018; Troseth et al., 2018). Troseth et al. (2018) compared toddlers' word learning in four conditions: a responsive speaker in person, an unresponsive speaker in person, a responsive speaker on video chat, and an unresponsive speaker on pre-recorded video. The results showed that toddlers learned the new word only when the speaker was responsive and in person. The authors propose that toddlers may need additional support, such as co-viewing with an adult, to understand that the information presented on video is relevant and generalizable to the real world.

Parental Perspectives on DR or CVC

Despite the evidence that DR and CVC benefit young children's early language and emergent literacy, very few studies specifically examine parents' perspectives on DR, and to the best of our knowledge, no study has explored parents' perspectives on CVC. When parents' perspectives on DR have been investigated, they were a relatively minor part of the research (Chow et al., 2008; Tsybina & Eriks-Brophy, 2010; Zevenbergen et al., 2018). For example, Chow et al. (2008) conducted a post-intervention follow-up by administering a questionnaire to assess parents' perceptions of and engagement with DR. The results revealed that the majority of parents (over 80%) reported that they liked DR and used it at home. Tsybina and Eriks-Brophy (2010) asked parents to respond to statements such as "My child/I enjoyed the DR program; I learned from this DR program; This program helped my child's language development; I will

continue using this technique" (p. 545). The responses indicated a high level of satisfaction among parents.

Zevenbergen et al. (2018) extended this work, conducting follow-up interviews to explore parents' perspectives on DR. Parents expressed that they favored DR structure, enjoyed reading time with children, felt good when their child showed learning and reading ability, and would recommend DR to others. But they also noted difficulties in applying DR, such as in remembering questions and maintaining children's interest in the stories. Kotaman (2007) also found some dissatisfaction amongst parents; some expressed that questioning children during storybook reading gives the activity a compulsory air and turns it into a formal educational task. For example, one parent stated, "I guess when I ask questions, she is seeing it as homework or she is feeling like I am testing her instead of fun storybook reading" (p. 204). Parents also claimed that the frequent use of questions led to both parents and children feeling bored and made reading too lengthy. However, some of the interview questions in Kotaman's study were leading. For example, Kotaman asked parents "What kind of difficulties did you encounter while you were applying this dialogic technique and how did you overcome these difficulties?" (p. 202), potentially setting a negative tone regarding DR.

The Present Study

The present study examined Chinese parents' perspectives on both DR and CVC to assess their views of the approaches and based on these, make recommendations on how to adjust the strategies to be relevant and acceptable to Chinese families seeking ways to stimulate their child's language. We addressed the following questions: What language practices are Chinese parents (living in mainland China) using to support their child's language development at home, in Mandarin or any other language? What are these parents' experiences (if any) with

DR and CVC as strategies for supporting children's language? What are their views on these strategies? To examine these issues, the study relied primarily on data from focus group discussions, consistent with a phenomenological approach which aims to understand issues from participants' perspectives and based on their everyday experiences (Liamputtong, 2011). These data were complemented by mothers' responses to a parent questionnaire about the home language environment.

Method

Participants

Following ethical approval of the study from the ethic research office at Concordia University, the study was announced via online parenting forums and groups, such as https://www.pcbaby.com.cn/ and https://www.babytree.com/index.php, as well as to members of the first author's personal network. The snowball method was also utilized, wherein individuals who contacted the researcher as potential participants were subsequently invited to share the information with individuals who satisfied the recruitment criteria (Creswell, 2012). To participate in the study, parents had to meet only one inclusion criterion: be a parent of a child between three and six years old. In total, 17 parents were recruited but one parent ultimately did not participate as she forgot the meeting time. All participants received a detailed consent form in Mandarin and provided written consent prior to participating. As shown in Table 1, all the parents who volunteered for the study were mothers and met the sole inclusion criterion of having a child aged 3–6 years. The majority of mothers were aged between 30 and 39 years and 15 out of 16 parents described their families as middle-income; the majority had a college degree or above.

Table 1

Demographic Information

Pseudonym	Age	Educational Degree	City	Child 1	Child 2	Group
Zhi	30-34	Bachelor	Shanghai	Boy, 5 y.o.		In-person
Lu	30-34	Bachelor	Shanghai	Girl, 4 y.o.		
Na	30-34	Bachelor	Shanghai	Girl, 3 y.o.		
Hao	35-39	Bachelor	Shanghai	Girl, 3 y.o.		
Qi	35-39	Bachelor	Hefei	Girl, 5 y.o.	Boy, 3 y.o.	Virtual 1
Hong	30-34	Bachelor	Chengdu	Boy, 5 y.o.		
Fan	40-44	Bachelor	Shanxi	Boy, 8 y.o.	Boy, 5 y.o.	
Jia	30-34	Bachelor	Shanghai	Girl, 4 y.o.		
Wan	35-39	College	Tianjin	Girl, 3 y.o.		
Mei	35-39	Bachelor	Shanghai	Girl, 6 y.o.	Boy, 4 y.o.	
Ling	30-34	Master	Chengdu	Girl, 4 y.o.		
Rui	30-34	Bachelor	Tianjin	Boy, 5 y.o.	Boy, 1 y.o.	
Xin	25-29	Master	Tianjin	Boy, 3 y.o.		Virtual 2
Cheng	35-39	Bachelor	Xuzhou	Boy, 7 y.o.	Boy, 3 y.o.	
Qing	25-29	Bachelor	Shandong	Boy, 3 y.o.		
Bo	30-34	Bachelor	Wuhan	Boy, 6 y.o.		

Measures and Procedures

Home Language and Literacy Environment Questionnaire

Mothers were asked to respond to a questionnaire regarding their home language and literacy environment. The questions, inspired by existing measures (Sénéchal et al., 1998), were based on their relevance to our research questions and interests. Their focus is shown in Table 2. The data gathered from the questionnaire were used to describe some aspects of the home environment and contextualize data from the focus group discussions.

Focus Groups

The first author conducted three focus groups: one group which met face-to-face in Shanghai and two which met through video conferencing, a strategy that allowed us to bring

together parents from varied geographical locations. Each focus group session lasted from 1.5–2 h (average 1.66 h) and was audio recorded. They involved two segments: one devoted to DR, and one devoted to CVC. We began each segment by showing parents a demonstration video illustrating the relevant practice (i.e., DR or CVC). To create the demonstration videos, the first author invited the child of a friend to engage in DR and CVC with her in Mandarin. The child provided assent for his participation in the demonstration video and the parent provided consent for her child to participate (this parent did not participate in focus group discussions). Two 3-min videos were created. After showing the video clip, we asked parents to share their perspectives.

We developed the focus group questions based on our research objectives, the scant studies addressing parental views on DR or CVC (Kotaman, 2007), and recommendations in the literature for conducting focus group discussions (Liamputtong, 2011). These include using a semi-structured format to allow for flexibility in exploring participants' experiences and perspectives. While we scripted some questions (e.g., "What do you think of the interactions between the adult and child in the video?"; "How might the interactions contribute to a child's language development in their native language or another language?, and "Do you have interactions like the ones in the video with your child?"), we also asked follow-up questions based on participants' responses; for example, some parents spontaneously shared their concerns about English learning, and we followed their lead by asking them to elaborate on these.

Data Collection and Analysis

NVivo 2020 software was used to facilitate coding and data analysis. Braun and Clarke's (2006) thematic analysis technique guided data analysis, with each author assuming distinct roles in the different phases of analysis. The first author transcribed the discussions, translated the transcribed material from Mandarin to English in the same document (to permit understanding

by non-Mandarin speakers), and coded the bilingual transcripts. In the first two phases of analysis (i.e., data familiarization and initial code formation), inductive coding was implemented to be open to participants' perspectives (Patton, 2015), resulting in 161 initial codes. The second author reviewed all initial codes, and the authors identified patterns and derived themes through a collaborative process and following Glaser and Strauss' (1967) constant comparative method. By comparing codes and collating them into potential themes, we reduced the initial codes to 121 and generated seven initial themes. We further reviewed the initial themes and compared them to the refined codes and relevant extracts, the entire dataset, and the research questions to ensure the accuracy, uniqueness and representative of each theme. The findings are reported below, sequenced in line with our research questions.

Findings

Language Practices

Descriptive statistics derived from the Home Language and Literacy Environment Questionnaire are shown in Table 2. Mothers reported a high frequency of storybook reading experiences. Additionally, 12 of the 16 mothers reported having more than 50 children's books at home. Over 80% of mothers read bedtime stories to their children "often" or "very often"; storybook reading at other times of day was relatively less frequent, with about 75% of mothers responding "sometimes" or "often". Other language practices or use of resources were less frequently reported by mothers, such as visiting a library or bookstore, or watching television (the child alone or with parent). The questionnaire also included two open-ended questions regarding their child's learning of a language other than Mandarin. Fourteen of the 16 mothers reported that their child was learning English at school, through private tutoring (online or offline), or at home with parents. During the focus group interviews, mothers were asked

whether they had used DR or CVC at home in the past. Half of the mothers reported that they used DR to some extent at home, and a third of the mothers had engaged in CVC.

Table 2

Descriptive Statistics: Home Language and Literacy Environment

	Mean (N = 16)
Numbers of books in the home[a]	4.75
Numbers of educational toys in the home[a]	3.00
Frequency of reading to child/week (bedtime)	4.19
Frequency of reading to child/week (other time)	3.50
Frequency of visits to library/bookstore	2.00
Frequency of extended conversation with child	3.19
Frequency of child watching television (weekdays)	2.75
Frequency of child watching television (weekends)	3.06
Frequency of co-viewing television with child	2.69

Note: [a] For the number of books and educational toys, parents selected from the following ranges: 1 = less than 5, 2 = 5-10, 3 = 11-20, 4 = 21-50, 5 = more than 50. For the remaining items (frequencies), parents selected from 1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = very often

In the focus group discussions, mothers also spontaneously shared their thoughts on how language learning takes place and related topics. Constant comparative analysis identified 102 statements which were synthesized to four subthemes: child development (27 statements), language development (26 statements), television (27 statements), and parental self-evaluation (22 statements). Regarding beliefs about child development, most mothers expressed a child-centered perspective, as exemplified below, showing a willingness to respect the child's developmental stage, follow the child's interests, apply a play-based learning approach, and make friends with their child.

> **Xin**: I need to accompany him…We're equal and not like mom and son. He and I explore the cartoons or stories together.
>
> **Wan**: Since she was very little, I never emphasize explicit teaching. Generally speaking,

if I want to teach her something, I will say: “Let’s play.”

In terms of language development, 67% of mothers’ statements involved a comparison between their child’s development in Chinese and English as well as between their practices in the two languages, as revealed by the quotes below. Eight mothers explicitly expressed that they worried about English learning, so they would spend more time on practicing English. However, they were not confident in their own English. Some mothers even felt guilty about their efforts compared to other mothers. Additionally, mothers reported gaining knowledge from friends, professional articles, books, and podcasts, as shown in the first excerpt.

> **Na:** I heard from an early childhood specialist, before three years old, a certain part in child’s brain is under development. So if you expose the child to authentic language materials, the child will develop native-like language skills.
>
> **Hong:** I think he [my child] is in the golden period for language acquisition, therefore, I would like him to experience different types of language, including our Sichuan dialect, Mandarin and English.
>
> **Qing**: Because we have a lot of Chinese books, he can easily access Chinese. So, I purposefully pay attention to English.
>
> **Cheng**: I worry my pronunciation will negatively impact his English learning.

When talking about television, mothers spontaneously expressed their concerns: 81% of statements in this category were related to the belief that television is not good for learning and that watching television/screen time would hinder reading, but also stated that television could be used, at times, as a reward, a tool to learn English, or a treat, as exemplified in the following quotes:

> **Bo:** I worry once he gets used to watching television, he won’t like reading. Reading is a process that needs relatively more imagination and concentration. So if he really wants to watch television, he will approach me like “Mom, I’d like to watch English cartoons, so please let me watch them.” For example, previously, he enjoyed watching cartoons like Arthur and Peppa Pig, both of which have Chinese and English versions. Although he

actually preferred the Chinese version of cartoons, he knew if he asked to watch it in the Chinese version, I would not agree.

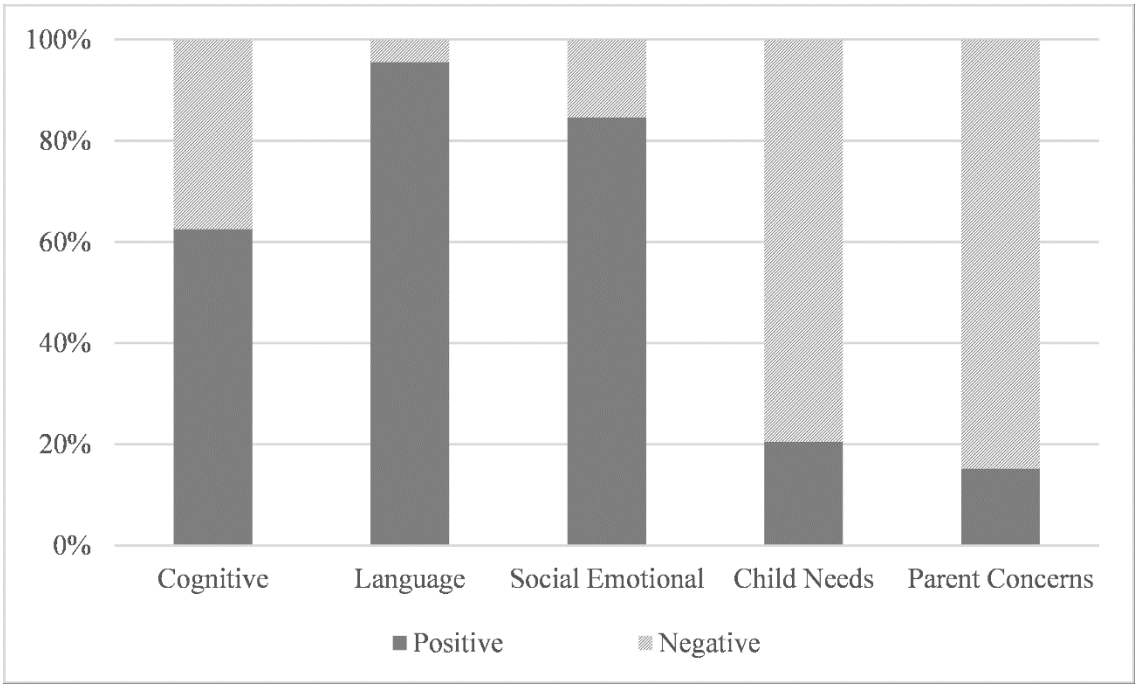
Rui: In terms of watching television, from the standpoint of parents, we often only allow our kids to watch television when we're busy, such as with chores and cooking, so that the child will not interrupt what we're doing.

Perspectives on DR and CVC

Mothers made a total of 191 statements expressing their perspectives on DR and CVC. The statements were coded as shown in Fig. 1 and numbered from 39 to 48 statements per coding category, except for social-emotional development, which had only 13 statements. Mothers generally felt that DR and CVC would be good for children's cognitive growth, language (and later literacy), and social-emotional development, as shown by the proportions of positive comments in these areas in Figure 1.

Figure 1

Percentage of Positive and Negative Comments on DR and CVC Combined, by Themes



To elaborate on the findings in Fig. 1, mothers said adult scaffolding would help foster

cognitive aspects of early childhood development, such as observational skills, attention to details, logical thinking, and subject-specific learning (e.g., mathematics, science). Moreover, as can be seen in the following except from Zhi, they noted the potential benefits of dialogic questioning for later academic learning. According to the mothers, engaging children in conversations could help expand children's vocabulary and sentence structure, develop a habit of reading, and improve their reading skills. Also, they described doing something together with their child as "engaging".

> **Zhi:** One writing assignment in grade one looks like DR. Students will be asked to read pictures and write compositions…This assignment is exactly the same as what dialogic questioning recommends. For example, [based on pictures], the child needs to describe what the weather is like today, what I am doing, why I did XYZ, how I feel when doing XYZ, how XYZ will affect surrounding people, and what I've learned from this story…So I would suggest applying DR when children are young. Then later on, they will know how to write a story themselves.

But mothers were also concerned about the potential negative influences that DR and CVC techniques might have on children. Most concerns focused on cognitive development, and applied to both DR and CVC. Specifically, some mothers wondered if asking questions would be harmful to the development of concentration and others worried that their child would lose opportunities to develop independent questioning and complex thinking skills.

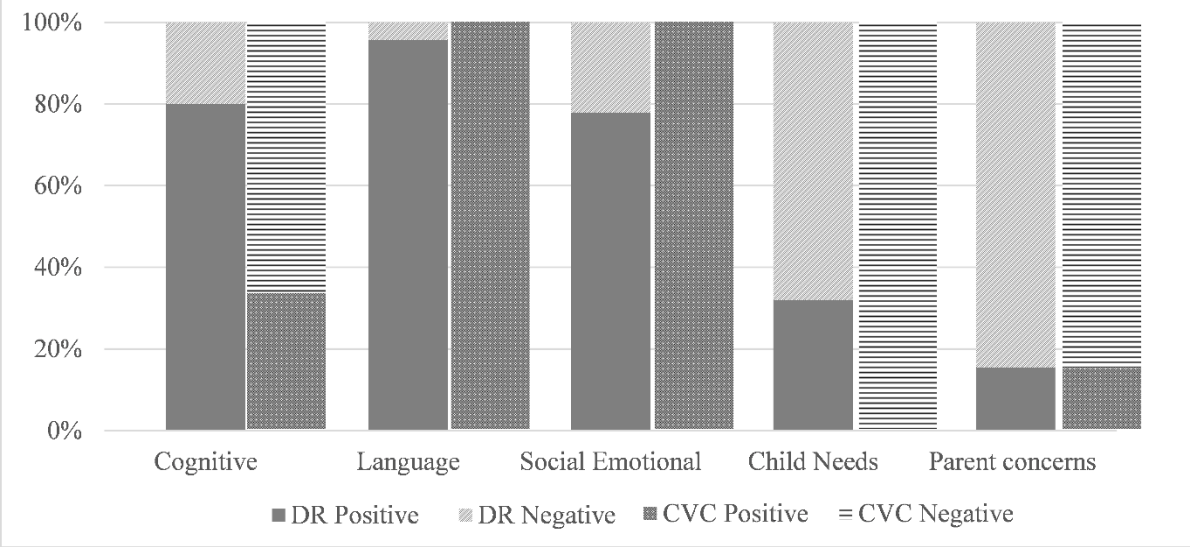
> **Jia:** I find one major drawback of this technique is that she won't develop the ability to pose questions.
>
> **Qi:** However, I find this method has a problem. For example, as for books like Butt Detective, as he [my child] already knows the ending, [if I ask him questions], he will rely on his memories to recall who the thief is and who has stolen the rainbow diamonds. From my perspective, instead of using logical and inferring skills, he is using rote memorization ... However, I don't know how to guide him to think and infer… This is what I struggle with most at this moment.

Additionally, mothers made general comments regarding the ability of DR and CVC to meet their child's needs and address their concerns, as shown in the final bars of Fig. 1. These statements are elaborated in a later section.

We also compared mothers' comments on DR and CVC. First, we observed fewer comments about CVC (77) than DR (114), probably because watching and co-viewing television was less frequently practiced by the mothers at home as displayed in Table 2. Second, as shown in Figure 2, the valence of statements regarding DR and CVC were different; mothers had more negative comments about CVC (56%) than DR (43%).

Figure 2

Percentage of Positive and Negative Comments on DR Versus CVC by Themes



As the mothers explained, they would like their children to watch television programs without interruptions; similar to mothers Jia and Qi who questioned the effects of dialog techniques above, other mothers felt interruptions to television watching might interfere with their child's concentration. In addition, mothers thought co-viewing would not help with the development of independent and logical thinking since television programs "feed" everything to

children, as expressed by Fan.

> **Fan:** When watching cartoons, children actually think less, and they are passive learners. The knowledge is drilled into them by images and narratives, so they don't have a chance to think independently.

In terms of language development, although most mothers believed that both DR and CVC can benefit children's language learning, they perceived the focus of DR and CVC as different. Mothers believed that DR could cater to children's interests and encourage them to take initiative in leading conversations, whereas CVC might benefit children's English learning and ease mothers' stress about interacting in English. Thus, despite mothers' strong concerns about exposure to television, they were more likely to view CVC as a compromise to compensate for their lack of English skills.

> **Zhi:** Allowing children to watch television to learn English is more like a compromise as many Chinese parents don't speak English. They let television take the teaching role.
> **Hao:** Television is only for learning English. We won't allow children to watch television to learn Chinese, instead we think television is bad for learning.

As Figures 1 and 2 show, most comments by mothers related to child needs and parent concerns were negative (79 and 85% of comments, respectively). Based on their current home interactions, mothers felt that DR and CVC would not satisfy their child's needs. For example, they were sure their child would consider questions as interruptions and would therefore refuse to or be reluctant to respond to them, as represented in an exchange between mothers in the focus group presented below. Some mothers expressed it would be especially difficult to use DR when reading a new book, as children would be eager to know what happens next. Also, some mothers worried that asking questions is too test-like and would lower a child's confidence if they could not answer the questions.

> **Na:** I think if I ask questions continually like the Researcher [shown in the demonstration

video], she [my child] will feel I'm annoying.

Zhi: Yes, this boy [in the demonstration video] is genial and cooperative.

Lu: Perhaps it's because the Researcher is not his mom. If it's his mom watching with him, he will say, "Mom, stop!".

Zhi: My son would ignore you. Until now, every time he watches television, he is super focused. Your questions and other conversations won't reach him.

Na: Exactly. They can't hear you.

Regarding 'parents' concerns' (i.e., concerns of parents about themselves), mothers commented that the DR and CVC techniques place a lot of demands on parents, including on their time and energy, their linguistic skills if implemented in English, and their questioning techniques. As one mother said, DR and CVC are very "mom-consuming". Even though most mothers reported reading to their child often, they stated that especially after returning from work outside the home, they might be too tired to read with their child in a dialogic manner. Wan raised a unique concern about her ability to follow the programs her child watches, while echoing mothers (quoted above) who expressed concerns about interrupting children during co-viewing:

Wan: If you ask me to co-view cartoons with her, honestly, I can't understand the programs she is watching. When I join in halfway, trying to understand the plot, I have to ask her "who is he", "what's happening", and she is not willing to talk to me.

Also, many mothers mentioned that their child liked repeating reading of one book. In this case, mothers said they would have difficulty generating new questions, and some, such as Hao just below, suggested they would feel bored asking the same questions repeatedly.

Hao: I find when I read to her once, a few days later, she will ask me to read it again. From my perspective, I have already read it, why one more time? I feel I have nothing new to deliver.

A small number of mothers thought that DR would ease parents' burden by involving children in leading the dialogs, whereas CVC when watching English shows could lessen

demands for English speaking by parents. Indeed, helping their child acquire English as a second language was a concern for many mothers (8 out of 16). However, some doubted whether their English was sufficiently proficient to engage in dialog and pose questions in English. They also worried that their English pronunciation would negatively affect the development of pronunciation and intonation of their child, or simply found it burdensome, as expressed in the following comment:

> **Wan**: DR is very friendly to Chinese learning, but it's difficult to apply in reading English books. It's too much for parents.

Future Use of DR and CVC

Mothers were also asked about their willingness to apply DR or CVC at home in the future. Half of the mothers expressed a definite "yes" to DR, and half of them said they would tailor this technique to meet their child's needs and characteristics. The issues mothers raised that might affect the implementation of DR included book content, the child's familiarity with a particular book, and the child's age. Regarding book content, mothers mentioned that if the plots were very intriguing, they might not use DR, to avoid a situation where the child might urge mothers to not interrupt the story. The mothers also felt it would be better to use DR when children are familiar with the books, whereas with unfamiliar books, DR could disrupt the child from following the storyline. These two perspectives were voiced by Qing and Na in the following excerpts. Mothers also said that DR needs to be tailored to the child's age; for example, they said that when reading with children aged 5 years or above, DR might not be engaging for them. Therefore, it would be better to let the child lead the conversation and initiate questions.

> **Qing:** My idea is to find suitable books. Because some books are very text-heavy and the illustrations are not good, they are not good for intriguing dialogues. In my opinion, if the

kids don't want to interact with you, there is something wrong with the books, not the child.

Na: I will follow Lu's way, skim the book quickly first, then the second or third time, I will incorporate dialogic questions.

As for co-viewing, five mothers said they would not use it because they do not like television and would like to restrict their child's television time as much as possible. Most mothers (N = 9) would apply co-viewing only conditionally, according to the types and complexity of television programs. For example, some said they would only co-view complex content and educational programs with their child, as Wan expressed:

Wan: When she is older, for example, reaching the age to watch documentaries or Animal World or the like, I think I need to co-view with her, at least we adults also need to watch such programs. However, if it is Peppa Pig, I won't co-view with her.

Discussion

In this study, we sought answers to three related questions, the first about the practices used by Chinese parents (in our sample, mothers) to support their child's language development at home; the second related to the mothers' experiences with DR and CVC, two strategies for supporting children's language employed by researchers in Western contexts; and the third related to their views on DR and CVC, based on their experience (if any) and/or verbal explanation and video demonstrations by the first author on each approach.

Language Practices

The mothers' practices were captured by a questionnaire as well as the focus group discussions. According to the questionnaire responses, book reading was frequent, and most families had more than 50 children's books at home. While number of books is not a direct measure of language practices, it has been shown to predict children's reading performance across 25 countries (Park, 2008). However, when mothers in the focus groups were asked

whether they engaged in DR prior to the present study, half had not, and the other half had done so only sporadically. CVC was used even less, although television is highly accessible within China, with 97% of families (urban and rural) owning one in 2016 (China's National Radio and Television Administration, 2018). The reasons for this are explored in the following section on parents' perspectives on DR and CVC.

In the focus groups, some participants spontaneously brought up practices related to English teaching and learning and this topic generated discussion in the group. The mothers' interest in English might reflect the Chinese elementary school curriculum, where English classes begin in grade three nationally and even earlier in some cities like Shanghai, and are emphasized as much as Chinese language and mathematics courses as demonstrated by Mao (2020). As suggested by Mao (2020), this curricular emphasis might reinforce parents' belief that mastering English will give their children advantages, such as increased access to prestigious universities, wider job opportunities, and a higher social class in the future. Some mothers in our study also stated that children would develop Chinese as a first language rather naturally, while second language learning might require concentrated effort.

The mothers' concern with English teaching and learning could also reflect, more broadly, a high level of involvement in their child's education, reported for Chinese parents in other studies (E. Y. H. Lau et al., 2011; Mao et al., 2023) and indirectly observed through high levels of private tutoring for children in China (Ministry of Education, 2021). High parental engagement in education amongst Chinese families has been attributed by Wang (2016) to a centuries-old belief that "To feed without teaching, is the father's fault (养不教, 父之过)" (p. 6); thus, the responses by mothers in the present study could reflect culturally-rooted beliefs about their roles and responsibilities.

Perspectives on DR and CVC

Regarding their views on the practices, the mothers were particularly skeptical about the effectiveness of CVC, and stated concerns about television's potential negative impact. While according to Michie et al.'s (2008) guidelines for developing and evaluating interventions, parents' confidence in CVC could be enhanced by highlighting its positive effects on young children's language development and story comprehension (e.g., Strouse et al., 2013), we would hesitate to recommend CVC for Chinese parents of young children with demographic characteristics like those in the present study. In our research, parents viewed television as a special treat and entertainment. Perhaps regular viewing of television went against their views on the importance of diligence, a value deeply rooted in Chinese culture (Wang, 2016). Notably, however, mothers in our study felt CVC could be useful in supporting second language development, suggesting an openness to technologies that could assist their child's learning.

Parents in this study also expressed concerns about their ability to pose questions (a practice inherent to DR), particularly when repeatedly reading their child's favorite books and reading in English. Interestingly, Zevenbergen et al. (2018) found that middle-income families did not encounter challenges in employing dialogic questioning techniques. In the present study, the majority of parents (15 out of 16) appeared to be of middle socio-economic status (SES). The discrepancy in findings between the two studies may be attributed to the fact that parents in our study were sharing thoughts on DR and CVC before ever trying the strategies themselves. It is also important to consider the findings within the broader context of cultural variations in parent-child interaction styles. As documented in Johnston and Wong (2002), Chinese parents did not place the same emphasis on eliciting children's language as Canadian parents and placed a higher value on direct instruction and teaching. It is crucial to build on parents' existing strengths

and cultural practices. For example, DR training for Chinese parents could incorporate questioning strategies that focus on particular child outcomes such as the acquisition of vocabulary or print concepts, and having specific goals could potentially appeal more to parents.

Mothers were invited to voice their views on engaging in DR or CVC not only in Mandarin, their native language, but also in English. Parents' low confidence in their English proficiency, coupled with concerns about the potential negative impact of their pronunciation on their child's English development, is consistent with findings from Mao (2020), where even a mother who was an English teacher in a middle school in China refrained from teaching her own daughter English due to such concerns. Parents' beliefs about their capabilities could discourage them from using DR and CVC to support second/additional language learning. To empower parents, openly discussing the presence of accents in various languages could help challenge deficit views of second language learners and boost parent's confidence in themselves when reading in a second language. Question banks for specific books could also be provided to further build parents' confidence in using dialogic questioning techniques when supporting child's learning in non-native languages, while as discussed above we need to ensure questions are framed appropriately and resonate with parents' existing interaction patterns.

Some mothers were reluctant to use DR or CVC, and noted the potential emergence of negative emotions on the part of the child or themselves due to perceptions of DR or CVC as testing; interruptions to the flow of interaction incurred by questioning; parental boredom with certain books or children's television programs/videos; and the parental burden associated with these activities, also reported in Kotaman's (2007) study. These concerns could be addressed in research or practice by working collaboratively with parents to tailor the practices to the content of books or television programs, individual family preferences, and the child's age or

developmental stage. With respect to age, Mol et al.'s (2008) meta-analysis showed that kindergarten children benefited less from DR than younger preschoolers, and suggested that the older children might have required less adult support to follow stories and thus preferred the stories not be interrupted. To reduce children's perceptions of being tested or frustration with interruptions, parents could use dialogic questioning techniques only once children are familiar with a book or, if CVC were adopted, once a program has been viewed at least once in its entirety. Finally, the literature does not recommend an ideal "dosage" of questions for either DR or CVC, but the frequency of questioning is an issue that can be explored with parents as their insights can, and in our view should, help shape practice.

Implications

The high levels of involvement in education reported by parents in this study suggests an openness to programs designed to support children's language development. To effectively engage parents, program designers should explicitly acknowledge parents' dedication to their children's education and provide clear, practical guidance on language-support strategies. Additionally, it is crucial to address parental concerns, such as those expressed by parents in this study, to ensure that strategies can be integrated to family routines.

One potential barrier to parents implementing language-support strategies is limited knowledge and skills in specific strategies and concerns about their language proficiency and a subsequent lack of confidence in their abilities. To address these challenges, a well-designed parenting program should offer tools and resources that boost parents' confidence and competence; for example, for DR, parent tipsheets and suggested questions for specific books and pages within them can provide clear direction. Video demonstrations showcasing strategies can also be an invaluable resource. For parents who wish to support a child's second language

but are not entirely confident in their own abilities in that language, bilingual storybooks with side-by-side translations and audio recordings in both native and nonnative languages could be beneficial. Adapting DR techniques to accommodate different languages may also be effective—for instance, parents could read in the second language, but ask dialogic questions in their native language, or alternate between languages by using their native language for higher-demand questions (e.g., inferential or distancing questions) and the nonnative language for simpler, literal questions.

Although the parents in this study did not value television highly, they recognized the potential of technology to support their child's language learning and reduce the demands of storybook reading. Collaboration of parents and researchers or program developers could lead to the design of technologies that support parent-child interactions while addressing parental concerns. For example, for parents who find daily reading too demanding, audible books augmented with built-in questions reflecting DR techniques could be helpful. To alleviate concerns about screen time, programs could also offer clear guidelines on balancing technology use with other activities, and emphasize interactive and purposeful engagement over passive consumption. Equipping parents with knowledge and tools to use technology effectively can be a powerful pathway to fostering children's language development.

Limitations and Future Directions

Our research has its limitations. First, the sample is limited in that it was small, comprised uniquely of mothers, and somewhat homogenous in terms of parental educational level and other indicators of SES (i.e., income and occupation). Fathers are often underrepresented in research, particularly in studies related to child development, parenting, and family dynamics (Panter-Brick et al., 2014). However, fathers may play a unique role in

supporting children's language development. As one study has shown, they often employ more relaxed and playful approaches to literacy activities, which can foster greater autonomy and engagement in children (Liu & Hoa Chung, 2022). Fathers may also have similar or different reaction to DR than mothers in the same family. In a more recent study, we conducted a study of parents who have emigrated from to China to Canada, mothers occasionally reported sharing DR strategies (following a workshop on DR) with the child's father and subsequent changes in the father's behaviour. While one mother reported that both she and her husband were more patient and more willing to listen to and communicate with their son when reading to him, another father found DR a burden, contrary to the child's mother. Additionally, the perspectives of grandparents would be of interest, given that grandparent involvement in childcare in China ranges from 50 to 70% (Luo et al., 2020).

Although this study welcomed participants with varied SES, most had middle SES backgrounds. Parents from lower SES backgrounds often have different experiences and perspectives than those from middle SES. For instance, in Zevenbergen et al. (2018), parents from lower SES backgrounds reported a less positive experience implementing DR than middle SES parents. It would thus be of interest to intentionally recruit Chinese families of low SES to share their views on DR and CVC. If families of low education levels were to be interested in these practices, one could tailor support to the families' needs. For example, in a recent study alluded to above, we provided Chinese immigrant parents with books to implement DR as well as a tipsheet with sample questions and ideas for engaging the child. Parents found these useful and resources like these could be similarly helpful to low SES parents. Moreover, to effectively support lower SES families, researchers should recognize the barriers these families may face in accessing resources. One approach is to provide families with materials directly or connect them

with local libraries and organizations that lend such items as a short-term solution. Alternatively, in homes with limited resources, one could introduce "elaborative reminiscing," in which parents engage children in discussions about past experiences. This method requires no additional materials and has been shown to enhance children's language skills, social-emotional development, and autobiographical memory, as noted by Salmon and Reese (2016).

A second limitation related to methodology is the focus group design. As in any focus group, participants could have been influenced by others in the group (Liamputtong, 2011). Future studies could begin with individual interviews to avoid this and follow-up with a focus group, thus providing parents with an opportunity to talk with other parents – something they seemed to enjoy in our study.

Finally, parents were asked to comment on DR/CVC after viewing only two short videos; in on-going research, we are investigating Chinese parents' perspectives after they participate in DR training informed by findings from the present study and then implement the strategies at home over several weeks. It will be interesting to see how Chinese parents perceive these strategies after using them. One could also observe and compare parent-child interactions while using DR and CVC versus other media, as media features could influence the interactions. For example, interactive e-books with embedded questions might reduce the number of questions and prompts a parent might provide to a child in comparison to DR and CVC or could include animations that direct parent-child dyads to particular parts of a story.

Conclusion

This study explored Chinese parents' language practices with their preschool-age child and focused on their perspectives on DR and CVC: strategies for supporting young children's language development reported in the research literature. Parents agreed that these two

techniques would benefit children's language development, aspects of cognitive development, and social-emotional skills. However, parents also expressed concerns about watching television, a key part of CVC, and had reservations about how well both DR and CVC satisfy parents' and children's needs. For example, they were sure their child would consider adult questions as unwanted interruptions and would refuse to respond to them. Some parents qualified this point of view, pointing out, for instance, that it would be difficult to use dialogic reading especially when reading a new book, as children are eager to know what is happening next. Some parents worried that asking questions could lead children to perceive storybook reading or watching television as testing situations, and might undermine a child's confidence if they could not answer the questions. Moreover, parents expressed concerns about the demands the techniques place on parents' time, energy, questioning skills, and English skills when/if the practices were implemented in that language. The study provides valuable information that can be used to develop language interventions that empower families from all backgrounds to support their children's language growth and are based on the premise that "quality" parent-child interaction is not defined by a single or standard set of practices.

Connecting Study 1 and Study 2

In Study 1, parents recognized the cognitive, social emotional, and linguistic benefits of DR and CVC. However, when they were explicitly asked to reflect on drawbacks of the approaches, they noted potential challenges in maintaining their child's engagement, negative reactions from their child to interruptions during reading or CVC, limitations in their linguistic proficiency—particularly in English, which is prevalent in China—and the demands placed on parents by these practices. Such concerns could act as barriers to implementing DR and CVC at home, whether in Mandarin, a nonnative language, or both. Parents expressed additional concerns about screen time associated with CVC. In contrast, all parents expressed interest in using DR at home and obtaining advice in how to mitigate the challenges they noted. Thus, in the remaining studies, we investigated DR with Chinese-Canadian families.

The sample in Study 1 consisted exclusively of parents living in China, and their reading practices were not directly observed. This left gaps in understanding their reading styles and interactions with their child during storytelling and across languages. Study 2 aimed to address these limitations by observing 30 parent-preschooler dyads from families residing in Montreal, where at least one parent had emigrated from China. The dyads participated in storybook reading sessions under two conditions: reading a book written in Chinese (HL condition) and reading a book written in French or English (SL condition), based on the parent's preference. This study extends the literature on parental reading styles in bilingual contexts by providing empirical observations of how the book's language affects parent-child interactions during storybook reading, thus offering a more nuanced analysis than was available in Study 1. Study 2 also sheds light on how Chinese parents support their child's bilingualism, but in a new context of immigration and in the presence of heritage and societal languages.

Study 2: Raising Young Children in Multilingual Montreal: Chinese-Canadian Parents' Language Choices and Storybook Reading Style

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Abstract

This study examined how Chinese-Canadian parents living in a multilingual environment interact with their young child to support language learning during storybook reading. Thirty parent-preschooler dyads living in Montreal, Quebec where French is the dominant language and English is also widely spoken, participated. Parents were observed sharing a storybook with their child with a Chinese book and a French or an English book, depending on parental choice. The results showed that parents and children preferred to interact in Chinese even when reading a French or an English book. Results also revealed that when reading either a French or an English book, parents used significantly more dialogic talk than when reading the Chinese book. Specifically, parents asked more literal questions to assess whether their child understood the vocabulary and text or to teach vocabulary. In both conditions, parents asked few inferential and distancing questions that place higher cognitive demands on children but are important to story comprehension and foster their engagement with reading. The findings can guide interventions with immigrant families to optimize parental support of language learning in bilingual and multilingual contexts and promote positive experiences for both parents and their child.
Keywords: early bilingualism, immigrant families, storybook reading, parental reading style, dialogic reading

Raising Young Children in Multilingual Montreal:

Chinese-Canadian Parents' Language Choices and Storybook Reading Style

Parents' role in children's language and literacy development has received significant research attention, as evidenced by numerous studies on the home language/literacy environment (HLE) (e.g., Burgess et al., 2002; Kluczniok et al., 2013; Sénéchal, 2006). The HLE, including family socioeconomic status (SES), the physical environment (e.g., the number of books at home), language use in the home as reported by parents, language stimulation strategies implemented by parents, and parental perceptions of language development, has been shown to predict young children's language development in monolingual contexts (Krijnen et al., 2020; Sénéchal, 2006; Silinskas et al., 2020). There are also studies demonstrating similar effects for bilingual children (J. J. Chen & Ren, 2019; Dong & Chow, 2022; O'Brien et al., 2020; Scheele et al., 2010; Sénéchal & LeFevre, 2014) who now make up 18% of all children aged 0-15 years in Canada (Schott et al., 2022) and over 20% of the school-aged population in some regions of the United States (National Center for Education Statistics, 2024).

Storybook reading is one context in which bilingual or multilingual parents might support language development either in only the child's heritage language (HL) to support HL maintenance or in any of the languages in the family's repertoire to promote their child's bi- or multilingualism. While there is research testing the degree to which frequency of storybook reading by such parents predicts young children's language growth (as reviewed in the next section), there is little research on how they engage in storybook reading and the language(s) they spontaneously select for this activity. A study by Quirk et al. (2024), reviewed in detail below, is the exception. These authors studied children living in the same region as participants in our study: Montreal, the largest city in the province of Quebec, where French is the official

language and predominant language of schooling, and English, Canada's other official language, is also widely spoken. They focused on French-English bilingual families. In contrast, our study focused on immigrant families speaking Chinese as a HL but also the societal languages (SL) of French and/or English to some degree.

For immigrant children whose HL is different from the SL, parents might choose to consistently use the HL to support its maintenance. HL maintenance has been associated with positive outcomes in various areas, including SL learning (Paradis et al., 2021), academic achievement and later college attendance (Jang & Brutt-Griffler, 2019), socio-emotional well-being (Kilpi-Jakonen & Kwon, 2023), better parent-child relationship and family well-being (De Houwer, 2015), and strong multicultural identities (Mu, 2015). Parents might also use language-support strategies more frequently when reading in their HL versus the SL due to their greater ease in their HL. Conversely, parents could prioritize the SL, because they perceive knowledge of the SL as an asset and a protective factor preventing their child from being marginalized based on their Chinese linguistic and ethnic identity, or even being overidentified as having a language delay due to limited proficiency in the SL (Cheung et al., 2024; Wehbe, 2024). Thus, parents might provide greater linguistic support when reading SL books to their child. The aim of this study was to gain a deeper understanding of how Chinese parents living in a multilingual environment interact with their young child to support language development in both or all of their child's languages during storybook reading.

Storybook Reading and Language Development

Studies have examined the impact of parent-child book reading in various cultural and linguistic contexts and found that it supports HL vocabulary and oral language skills. For example, a study conducted in Singapore by Li and Tan (2016) revealed that parent-child reading

in Chinese (HL) predicted their child's Chinese oral language skills. Similarly, focusing on bilingual learners in the U.S., Lewis et al. (2016) reported growth in children's Spanish (HL) vocabulary and oral comprehension due to parent-child book reading and Ryan (2021) found positive effects of storybook reading on children's French (HL) vocabulary.

Studies have also examined the impact of parent-child book reading on the SL for children exposed—uniquely or additionally—to a different home language. O'Brien et al. (2020) found that reading in English (SL) had a significant moderate effect on English vocabulary and reading skills. In a study that focused on Chinese-English dual language learners from low SES backgrounds in the U.S., J. J. Chen and Ren (2019) found that storybook reading in both languages was positively associated with children's language skills in the HL and SL. However, Willard et al. (2021) found that storybook reading by parents in the HL and SL led only to positive effects on the child's HL. It is worth noting that in studies by O'Brien et al. (2020) and J. J. Chen and Ren (2019), parents' proficiency in the SL was an important factor in children's SL growth. Hoff (2015) posits that when parents are not native or proficient speakers of a language (e.g., the SL), their language input is less effective in facilitating their child's SL learning than the input of native SL speakers, such as teachers and peers.

The language in children's books is one factor explaining the relationship between storybook reading and child language development. Logan and colleagues (2019) analyzed the number of words of the most circulated children's books and estimated that preschool children whose parents read picture books daily will be exposed to 78,000 words a year. The language in storybooks is also lexically diverse. For example, Montag et al.'s study (2015) showed that 100 storybooks contained 1.72 times more unique words than child-directed conversations and the ratio became larger as the number of books in the sample increased. Thus, young children whose

parents read books with them regularly receive larger and more diverse language input, a positive factor in children's language development (Hoff, 2006; Montag et al., 2015).

Parents' Storybook Reading Styles

Some parents have been observed to read storybooks to their child without requiring the child's response or participation; they ask only or primarily yes/no questions and direct the child's behaviour (e.g., directing them to turn pages), but show little stimulation of their child's language (Brannon et al., 2013; Huebner & Meltzoff, 2005; Whitehurst et al., 1988). Huebner and Meltzoff (2005) observed, for example, that when parents in their study read to their child, they barely engaged them, regardless of the child's age and parent's education level, and their child's total number and mean length of utterances during the reading was low. After parents received instruction on dialogic reading, a form of interactive reading intended to encourage child participation in book-related discussions, they displayed significantly more language support strategies. There was also a significant increase in the number and length of the child's utterances.

In the context of bi- or multilingual environments, there are few studies that examine parental reading style or the factors affecting it. In one study, conducted in Montreal by Gonzalez-Barrero et al. (2021), English-French bilingual parents reported that they often translated words and switched between their dominant and non-dominant languages during reading. Also conducted in Montreal, Quirk et al. (2024) observed how English-French bilingual parents read and interacted with their child. Language proficiency in both languages was relatively high for both parents and children, although parents did rank one language as their dominant one. Observations showed that parents provided high-quality reading interactions in both languages but used more language support strategies in the non-dominant language. Parents

also used more code-switching and translanguaging techniques when reading in their non-dominant language. Li and Fleer's case study (2015) focused on the reading styles of immigrant families. They observed a father who asked his daughter to read an English book in Chinese. When the child refused, the father demonstrated reading the English book in Chinese and engaged the child in conversation about the book in Chinese. Li and Fleer raised concerns about how the conflict between the child's motivation to read in English (SL) and the parents' desire to use Chinese for storytelling (HL) might affect the parent-child relationship. Notwithstanding these studies, there is limited knowledge regarding the reading styles and language support strategies that bi- or multilingual parents, especially immigrant parents, employ with their children and how language choices may impact these.

The Present Study

The present study is a laboratory-based study of 30 parent-preschooler dyads from families living in Montreal in which at least one parent had emigrated from China. The dyads were observed during storybook reading in two 'book language' conditions: reading with a Chinese book (HL condition) and reading with a French or an English book, according to the parent's preference (SL condition). Specifically, this study strived to answer:

- What languages do parents and children use during storybook reading when the text is in Chinese (HL condition) vs. when the text is in French or English (SL condition)?
- What language support strategies do parents use during storybook reading in each of the two conditions, and how does book language affect the frequency and diversity of the observed strategies?

Methods

Participants

Following ethics approval from Concordia University, we recruited immigrant Chinese parents and their child aged 3-6 years old from Montreal, Quebec, using convenience and

snowball sampling. We posted recruitment flyers on social media and distributed the ad via a local Chinese immigrant service centre. We also asked the recruited participants to share information about the study with parents they thought would be interested in participating. Thirty families joined the study, with 28 mothers and 4 fathers attending the lab sessions during which storybook reading was observed. For most of the families (n = 28), the same parent read to the child in the two conditions. In two mixed-ethnic families, the mother read to the child in Chinese and the father (one from France and one from Israel) read to the child in French or English, respectively.

Participants' demographic information is shown in Table 1. As the table shows, most of the families were from middle SES backgrounds, and parents had very high levels of education. This could reflect immigration policies in Canada that favor applicants with high levels of education, language ability, and work experience (Government of Canada, 2024). Except for one parent born in Canada, parents were first-generation immigrants in Canada and four parents had arrived in Canada relatively recently (i.e., had immigrated to Canada only within the last three years). In addition, three families were of mixed ethnicity with mothers from China and fathers from either France or Israel. Except for four children, all children were born in Canada.

Table 1

Demographic Information (N = 30)

	Mean	SD
Parent Characteristics		
Parent Age	37.73	4.76
Education Mother [a]	4.37	.61
Education Father [a]	4.27	.78
	N	**%**
Family Income		
Low income	2	6.7%
Middle income	23	76.7%
High income	5	16.7%

Child Characteristics		
Only Child	15	50.0%
Boy	16	53.0%
Child Age		
3 years old	7	23.3%
4 years old	15	50.0%
5 years old	4	13.3%
6 years old	4	13.3%
Child Born in Canada	26	86.7%

Note. [a] Education: 1 = Junior high school or below, 2 = Senior high school/ Vocational school, 3 = College diploma, 4 = Bachelor's degree, 5 = Master's degree or above.

Materials

Survey

Following consent, parents were asked to fill out a questionnaire designed based on previous work with bilingual families (De Houwer, 1999, 2018; Luk & Surrain, 2019). The questionnaire included sections on demographic information, language use at home, family reading experiences, and parental views on bi- or multilingualism.

Books

Since the same parents will be invited for a second-round observation in an ongoing study, we selected two set of books for the storybook reading sessions based on the following criteria: follows a simple storyline, contains some degree of humor to attract children aged three to six years, and is available and comparable in all three languages. The chosen books were from the *Frankin* series written by Paulette Bourgeois and Brenda Clark: *Franklin and the Thunderstorm* (Bourgeois & Clark, 2011a) and *Franklin's New Friend* (Bourgeois & Clark, 2011b), and the Chinese versions (respectively, Bourgeois & Clark, 2011c, 2011d) and French versions (respectively, Bourgeois & Clark, 2002, 2000) of these same books.

Procedures

Observations of Storybook Reading

The observations took place in a research space at the host university. While the parents were completing the questionnaire, the first author established rapport with the child by playing with a standard set of toys selected for the study. Once the child was comfortable, the child and parent were led to a 'reading' area in the same room. The camera was set up behind a two-way mirror in an adjacent room and a microphone was fixed to a wall in the reading area. The parent and child were invited to read storybooks together under two conditions: a Chinese book (HL condition) and, according to parental choice, either a French or English book (SL condition). The French book was chosen by 14 parents. The book language was counterbalanced (i.e., half of the parents began with the HL condition and half with the SL condition). Within these conditions, book title was also counterbalanced.

Prior to reading, parents were given an opportunity to review the books although the majority declined to do so. Parents were not given instructions about how to read with their child or what language to use as the study aimed to collect naturalistic data that might reflect parent-child interactions at home. Each reading session lasted 10-15 minutes separated by a 10-minute break, when the dyad was offered drinks and snacks. When the dyad was engaged in reading, the researchers left the room to avoid parents and children feeling they were being supervised or distracting them but observed the sessions from behind the two-way mirror.

Transcription and Coding

The parent-child interactions were audio and video recorded. The transcription process involved three steps: AI-generated automated transcription based on audio recordings (to which parents agreed on the consent form), review and revision of the transcript by a trained research assistant while listening to the audio recording, and a final review and revision of the transcript by the first author while viewing and listening to the video footage.

We developed a coding manual (see Appendix L) based on the previous literature on dialogic reading (Whitehurst et al., 1988) and parent-child reading behaviors (Munzer et al., 2019; Strouse & Ganea, 2017b) to capture parent's and child's language choice and use, as well as parental language support strategies. The first author coded all data and a research assistant coded a randomly selected portion of the data (20%). Inter-rater reliability was good: Krippendorff's $\alpha = .85$ (Krippendorff, 2019). All disagreements were resolved after discussion between the first author and the research assistant.

Language Choice and Use. The language of the book was categorized as Chinese, French, or English (the latter depending on parental choice). Each utterance by the parent and child during the reading sessions was also coded for language use using the same categories.

Parent Utterance. The coding of parental utterances had two layers. First, informed by previous studies conducted by Munzer et al. (2019) and Strouse and Ganea (2017b), parental speech was coded by the first author to one of the following five categories: (1) content-related talk, (2) reading text from books, (3) attention-directing and procedure-related talk, (4) off-task conversation, and (5) uncodable (e.g., if a parent's utterance was unintelligible or its intent was unclear). Drawing on categories from the dialogical reading protocol (Whitehurst et al., 1988), content-related utterances were further coded into seven types: (1) asking the child to complete a phrase/sentence, (2) asking a literal question (i.e., question for which the response can be located in the text or pictures), (3) asking an inferential question (i.e., question which requires the child infer a response based on the text and world knowledge), (4) asking a distancing question (i.e., question that invites children to relate the text to their own ideas or experiences), (5) evaluating the child's response, (6) expanding the child's idea, and (7) repeating the child's speech. These subtypes are referred to collectively as "dialogic talk" in the results. Questions that required only

a “yes” or “no” response were categorized as such. Utterances that did not fit into the categories of dialogic talk or yes/no questions — for example, parents responding to their child’s questions — were classified as “other”.

Results

Home Language Environment

The results from the parent questionnaire are presented in Table 2. As the table shows, except for three mixed-ethnic families that applied a ‘one-parent, one language policy’, the families primarily used Chinese at home. Parent and child use of a Chinese language were significantly and strongly correlated: $r_s = .811$, $p < .001$. Additionally Chinese was reported as the dominant language for both parents and their child. According to paired t-tests, parents and children were, on average, more proficient in Chinese than in French or English (all ps $< .001$). Dominance of Chinese was also reflected in the language practices parents reported on the questionnaire, namely, significantly more exposure to and greater frequency of reading Chinese books compared to the other two languages ($p < .01$).

Table 2

Language Use and Environment at Home

	Chinese Mean (SD)	French Mean (SD)	English Mean (SD)
Parent language use [a]	79.92% (22.71%)	8.82% (14.00%)	8.93% (13.29%)
Child language use [a]	71.30% (22.40%)	15.30% (16.13%)	13.70% (17.32%)
Parent language proficiency [b]	8.08 (2.42)	4.23 (1.95)	5.60 (2.04)
Child language proficiency [b]	6.67 (2.31)	3.20 (2.01)	3.03 (2.28)
Numbers of books [c]	3.40 (1.13)	2.43 (1.30)	2.73 (1.25)
Frequency of reading [d]	3.53 (1.04)	2.73 (.91)	2.63 (.96)

Note. a. Daily language use: rating range = 0% – 100%; b. Language proficiency: rating range = 0 – 10; c. Number of books: 1 = Less than 10 books, 2 = 11-20 books, 3 = 21-50 books, 4 = 51-100 books, 5 = More than 100 books; d. Reading frequency: 1 = Never, 2 = Once a week, 3 = Several times a week, 4 = Once a day, 5 = Several times a day.

Parental Perception About Bi- or Multilingualism

Parents' responses to questionnaire items regarding bi- or multilingualism are presented in Table 3. Their ratings indicate that they held positive perceptions about bi- or multilingualism for its cultural and practical value, as found in previous studies (Curdt-Christiansen, 2009, 2014; Zhang & Slaughter-Defoe, 2009). However, unlike previous studies (Curdt-Christiansen, 2014; Liang & Shin, 2021), parents did not report concern about language confusion and SL delay, although they did worry about HL loss or attrition. Informal talks with parents during breaks in the reading sessions confirmed this set of findings. Guided by their beliefs, parents in this study place greater emphasis on using Chinese at home as discussed earlier. Parents also valued their role in supporting language development, but rated lower their knowledge about how to help their child learn Chinese, French, and English.

Table 3

Parental Perception About Bi- or Multilingualism

	Mean	SD
Living in Canada, it is also important for my child to be able to communicate with relatives in Chinese.	4.83	0.53
Speaking more than one language will help my child succeed in the long term.	4.97	0.18
My child will be confused if he/she learns two or more languages at the same time.	2.33	1.30
I worry that my child's French and/or English will be delayed if we only speak Chinese at home.	2.00	0.98
I think my child will naturally learn French and/or English when he/she goes to school.	3.80	1.10
I'm worried that my child will slowly lose the Chinese language.	3.80	1.00
Parents play an important role in their child's language development.	4.63	0.61
I think parent-child reading helps early language development.	4.80	0.41
I know how to help my child learn Chinese.	3.30	1.09
I know how to help my child learn French.	2.70	1.15
I know how to help my child learn English.	2.80	1.19

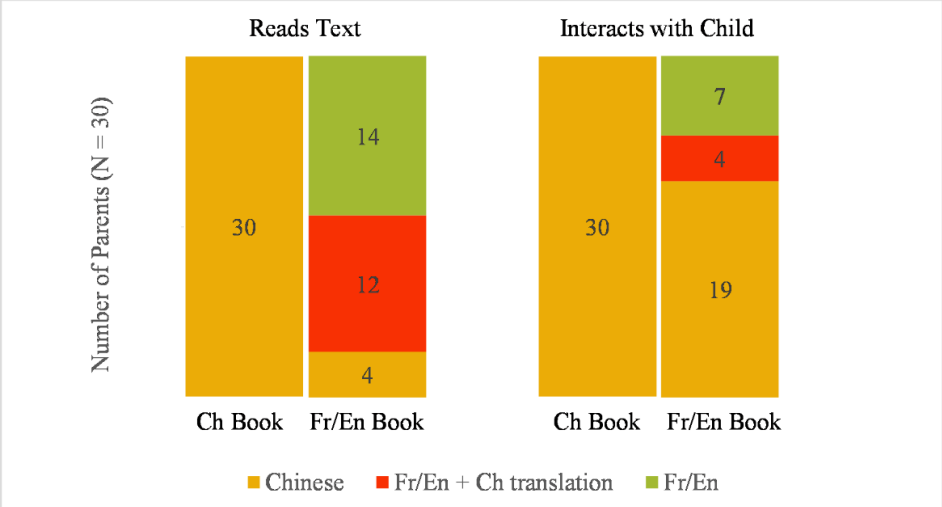
Note. The items are based on 5-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Language Choice and Use

Figure 1 shows the language(s) that parents chose for reading the storybook text and interacting with their child during the observation sessions. When it was a Chinese book, parents read the text and interacted with their child in Chinese. However, in the SL condition, parents often read in Chinese. Specifically, 14 parents read in the book language, four parents translated the texts to Chinese and read to their child in Chinese, and 12 parents read the text in the book language but translated it to Chinese right away to facilitate their child's story understanding, as shown in the excerpt of consecutive utterances by one parent below. Book text read by the parent is in quotes, followed by translations or comments made by the parent in Chinese, and translations of the Chinese in parentheses for the sake of readers.

Figure 1

Parents' Language Use When Reading and Interacting with Child



Parent 27:

"He doesn't look very friendly, whispered Beaver."
他说, 他悄悄的跟他说, 他看着不是很友好 (*He said, he whispered to him, he doesn't look very friendly)*.

嗯, Franklin 跟他单独在教室里 (*Hmm, Franklin and he stayed in the classroom alone)*.

"Mr. Owl told the class that moose had come from a different place far away."
老师跟他说, 他从一个很远很远的地方来 *(The teacher told him, he had come from a*

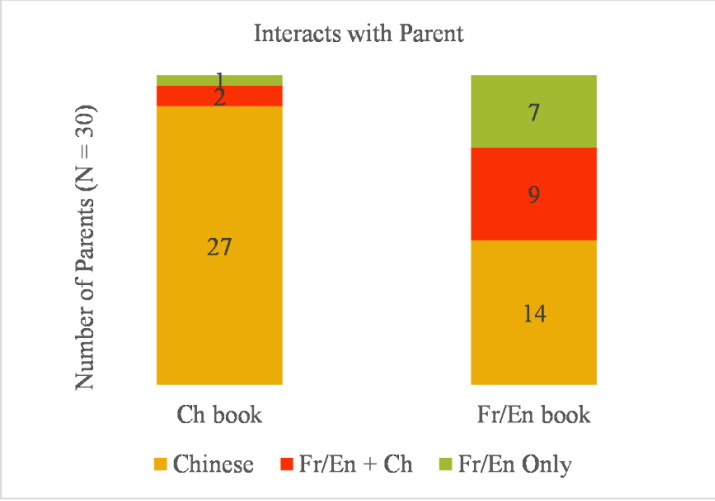
place far far away.)

"Franklin, said Mr. Owl, I'd like you to be a buddy for Moose."
老师说, 我想让你成为他的好朋友 (*The teacher said*, *I'd like you to be his good friend).*

Within the category of content-related utterances, 19 parents engaged their child in conversation only in Chinese; 4 used both Chinese and the book language (e.g., asked the same question in both languages); and 7 used only the book language. Chi-square goodness-of-fit test comparing the parents using Chinese (alone or with book language, n = 23) to parents using only the book language (n = 7) was significant χ^2 (1) = 8.53, p = .003. In Figure 2, children's language use in the SL condition showed a similar pattern as that of parents: most used only Chinese (n = 14) or a combination of Chinese and book language (n = 9) vs only the book language (n = 7). The chi-square test was identical to the parents': χ^2 (1) = 8.53, p = .003. These results showed that parents and children preferred to interact in Chinese even when reading a SL book.

Figure 2

Children's Language Use When Interacting with Parent



Parents' Language Support Strategies

As shown in Table 4, in both conditions, almost half of parents' utterances were devoted to reading and explaining the texts, and about 30% of the utterances was to dialogic talk and

yes/no questions, but this proportion varied considerably from parent to parent, ranging in the HL condition from 1.8% to 39.15% and from 7.78% to 44.83% in the SL condition.

Table 4

Parents Reading Style

	Chinese book			Fr/En book		
	Mean	SD	%	Mean	SD	%
Reads Text	79.10	22.04	49.51%	90.17	44.91	46.67%
Dialogic Talk[a]	35.73	24.52	22.37%	48.77	34.89	25.24%
Yes/No Questions[a]	14.50	9.39	9.08%	15.63	16.76	8.09%
Other Content Talk[a]	12.50	9.74	7.82%	22.53	17.09	8.33%
Attention Directing	17.93	10.87	11.22%	16.10	11.19	11.66%

Note. [a] These are the subcategories of content-related utterances (see section on transcription and coding).

Analysis of covariance (ANCOVA, with book order as the covariate) showed that when reading in the SL condition (i.e., the French or English book), parents used significantly more dialogic talk than they did in the HL (i.e., Chinese book) condition ($F = 17.78$, $p < .001$, partial $\eta^2 = .39$). We also examined the diversity in types of dialogic talk. Parents used significantly more diverse types in the SL condition ($M = 5.03$, $SD = 1.25$) than the HL condition ($M = 4.77$, $SD = 1.14$, $p < .001$, partial $\eta^2 = .33$). Although we counterbalanced the order of book language, we found significant interaction effects for the frequency ($F = 12.49$, $p = .001$, partial $\eta^2 = .31$) and diversity ($F = 16.73$, $p < .001$, partial $\eta^2 = .37$) of dialogic talk, as shown in Figure 3.

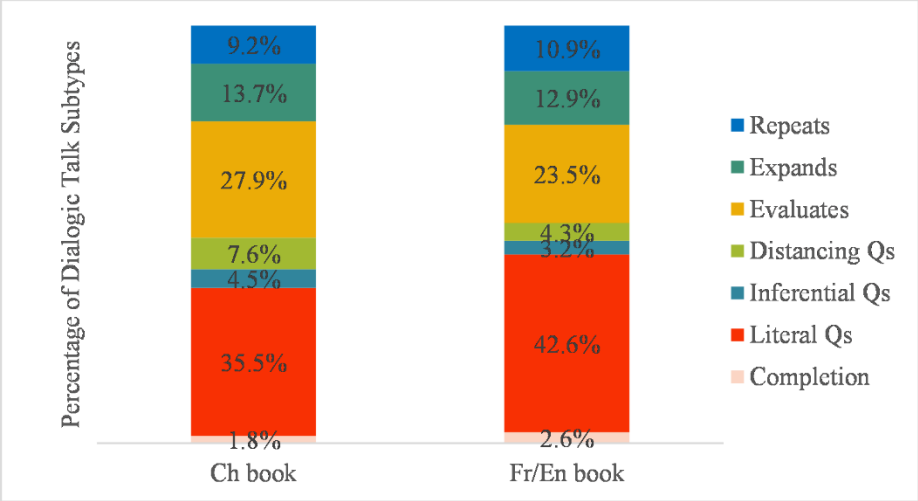
We examined further parents' dialogic talk between conditions. The mean proportions of each type of dialogic talk are provided in Figure 4. Parents displayed a similar pattern in the two conditions with a large portion of their talk devoted to literal questions and evaluations of their child's responses to questions or prompts (e.g., yes, you're right!). Parents asked only a small percentage of inferential or distancing questions in both conditions.

Figure 3

Frequency and Diversity of Dialogic Talk by Book Language and Book Order

Figure 4

Subcategories of Parental Dialogic Talk



Paired t-tests, reported in Table 5, further showed that the greatest difference between conditions was for literal questions, with the result nearing significance (p = .008) once a Bonferroni correction for multiple comparisons was applied (p = .007).

Table 5

Dialogic Talk Subtypes: Comparison of HL vs SL Conditions

	HL (M/SD)	SL (M/SD)	Mean difference (HL vs SL)	t	df	p
Completion	.63 (1.71)	1.1 (3.56)	-.47	-.85	29	.405
Literal Qs	12.57 (12)	21.37 (17.32)	-8.80	-2.87	29	**.008**
Inferential Qs	1.6 (3.57)	1.53 (2.84)	.067	.081	29	.936
Distancing Qs	2.7 (4.64)	2.17 (3.1)	.53	.66	29	.518
Evaluation	9.97 (7.79)	11.47 (8.48)	-1.50	-1.14	29	.264
Expansion	4.9 (3.65)	6.27 (6.56)	-1.37	-1.08	29	.289
Repeat	3.27 (3.99)	5.3 (6.84)	-2.03	-1.66	29	.108

To further understand the results for literal questions, we examined correlations between these and children's language proficiency (as reported by parents). English proficiency was not correlated with the use of literal questions, but French proficiency was negatively correlated (r_s = -.489, p = .006). Parents tended to ask literal questions to assess whether their child understood the vocabulary and text or to teach vocabulary, as shown in the following excerpts from transcripts of parent-child reading sessions in the SL condition.

> **Parent 16:** Blesses, 大概知道是什么意思吗? *("Blesses", what does it mean?);* Arnaud l'escargot, c'est qui? *(Arnaud the snail, who is it?)*
>
> **Parent 27:** "He rubbed his eyes..." 啥叫 rubbed his eyes *(What does "rubbed his eyes" mean)*? ; "Please give a warm welcome to the new classmate." 新的小朋友来了, 你要做什么? *(What will you do when a new student comes?)*
>
> **Parent 28:** 闪电[法语]叫什么? *(What is lightning in French?);* 小蜗牛[法语]什么? *(What is snail in French?)*
>
> Note. Translations of the Chinese are provided in parentheses.

Discussion

This naturalistic observational study explored how Chinese-Canadian parents living in a multilingual environment interacted with their young child during storybook reading to support

their language and participation in storytelling. We provided parents and their child with books in their HL (Chinese) and an SL (French or English, according to parental choice) and investigated how the language of the books related to parents' and children's language choices and parents' language support strategies.

Language Dominance for Interaction and Conversation

The parent responding to the survey identified Chinese as the dominant language for both themselves and their child, and in most cases, also for another parent in the home. They also reported owning more books and reading more frequently in Mandarin or, for one family, Cantonese, than in other languages. These results indicate that parents were interested in maintaining their HL, as has been reported previously for Chinese immigrant families (Curdt-Christiansen & Morgia, 2018; Zhang & Slaughter-Defoe, 2009). Parents' language use and practices also reflected their perception about bi- or multilingualism for its cultural and practical value (Curdt-Christiansen, 2009, 2014; Zhang & Slaughter-Defoe, 2009). Curdt-Christiansen (2009) posits that the language parents select to use and the language practices they provide for their child at home are shaped by their beliefs.

Observations of parents' and children's reading behaviors were also consistent with the survey results. When presented with a book in their HL and dominant language, the parent and their child tended to interact in that language, as was also observed in Quirk et al. (2024), and the SL was rarely observed. However, when presented with a book in the SL, both parents and children counted on their HL to interact and converse, as shown by frequent switches from the SL text to Chinese. This finding aligns with one of three main reasons for code-switching cited by Paradis et al. (2021): language dominance, overlap across languages, and activation of both languages during speech production. Another possible explanation for the findings in the SL

condition could be parents' and children's low proficiency in the SL as reported by parents. Parents might prioritize the HL to accommodate to their child's language proficiency and thus support comprehension (Kremin et al., 2022; Quirk, Brouillard, & Byers-Heinlein, 2024), or might feel better able to support their child's language by interacting in the HL given their own level of SL proficiency.

Translanguaging for Language Learning

Interestingly, while parents in our study tended to use their HL more, they used more language support strategies (i.e., more frequent and diverse types of dialogic talk) when reading books in the SL condition (i.e., the non-dominant language in the family), especially when the SL book was read first. These results, in line with findings from Quirk et al. (2024), were primarily due to parents translating the French or English texts into Chinese and asking children to say words in French or English: a strategy that could have been intended to enhance their children's comprehension and learning of the SL. Parents in a study by Kremin et al. (2022) similarly facilitated their child's understanding of a non-dominant language by translating or teaching vocabulary. Parents have also been observed to use more contact and pointing gestures to support their child's understanding when using their non-dominant language versus their dominant one (J. Zhou et al., 2024).

These strategies can be considered translanguaging practices defined as "multilingual, multisemiotic, multisensory, and multimodal resource[s] that human beings use for thinking and for communicating thought" (L. Li, 2018, p. 26). One translanguaging practice Li discussed is for interlocutors to draw upon their entire linguistic repertoires, for example, by using their HL to explain a concept or vocabulary encountered in the SL, as was observed in this study. While recent studies have shown that translanguaging is effective for enhancing a weaker language

(Lewis et al., 2016), it might also be an effective strategy to help children maintain their HL while they acquire an SL. Parents use of the HL in reading SL books observed in the present study was, in essence, a method of ensuring or increasing HL input. Furthermore, when bi- or multilingual children enter school and SL becomes their dominant language, a reverse translanguaging practice—using SL to support HL maintenance—could be beneficial.

Patterns of and Variability in Dialogic Talk

Some parents in our study frequently engaged their children in dialogic talk, while others seldomly did. A high level of individual variation was also observed in Quirk et al.'s (2024) study of bilingual families. Moreover, regardless of the languages of the books, parents' dialogic talk involved a high number and proportion of literal questions to label pictures, teach vocabulary and check text comprehension. Accordingly, very little talk was devoted to inferential and distancing questions. Towson et al.'s (2017) systematic review of dialogic reading intervention studies also found that for studies providing details about dialogic talk, distancing questions were less common than open-ended and wh-questions. Additionally, research shows that many educators do not ask inferential questions during storybook reading with preschoolers (Zhu & Pesco, 2024). Inferential and distancing questions have been described as involving placing higher cognitive demands on children as they require analysis, reasoning, and perspective-taking (Collins, 2016). Collins emphasized that these types of questions are essential for story comprehension, inferential thinking, and fostering active engagement with reading. Given that our study focused on immigrant children with varying levels of proficiency in their HL and SL, the parents might have thought that inferential questions were too cognitively challenging for their children. However, Collins (2016) demonstrated that high cognitive demand discussions during storybook reading had a positive effect on children's story comprehension,

particularly their ability to answer inferential questions, even for those with low L2 proficiency.

Limitations and Future Directions

Our research has its limitations. A larger and more varied sample could be included in future studies to augment the generalizability of the findings. For example, future studies could include families from various SES backgrounds. SES is often regarded as an important factor in children's bilingual or multilingual development. Research shows that SES affects this development through parental language practices (Scheele et al., 2010). Parents from higher SES backgrounds tend to engage more in conversation with their children, focusing on eliciting responses rather than just giving instructions (Hoff, 2006). Therefore, the inclusion of families with varied SES backgrounds could deepen our understanding of reading practices in bilingual or multilingual homes.

Another limitation to the present study was the limited analysis of children's responses to their parents' questions and initiations to their parents. A future direction could be an in-depth analysis of the existing data in terms of the content and function of children's utterances. Furthermore, we could nuance our analysis by examining parents' reports of their children's language proficiency or observations of the children's expressive language within the interactions and its relationship to parental input. Research has shown that children play a dynamic role in shaping parent-child reading. Parents are constantly interpreting their child's verbal and nonverbal cues and adapting to the child's engagement levels (Preece & Levy, 2020).

Future studies could also involve observations of parents and children in a more naturalistic setting and context. Parents in this study reported that they often read to their child before bedtime and let their child choose the book; thus, observations at home could provide an interesting contrast with data collected in a lab, as they were in the present study.

Finally, parents can be provided with training on dialogic reading given that the parent questionnaire in our study suggested that parents are not confident about how to support their children's language learning in both the HL and SL. More importantly, observation data revealed that some parents rarely engaged their child in dialogic talk and many parents asked few inferential or distancing questions. In immigrant families, parents are not only often considered responsible for passing on their HL to their children (Cunningham, 2020; Weekly, 2020) but are also expected to provide SL input at home (Ahooja & Ballinger, 2022). Thus, implementing an approach to reading and interaction that could enhance language stimulation in the home environment is especially important. In an ongoing study, we are pursuing this direction by providing workshops on dialogic reading to parents and assessing their impact on parental language support strategies.

Conclusion

This study investigated how Chinese-Canadian parents read and interacted with their child. Both parents and children used their HL more frequently than the SL, regardless of the language of the book, a result that could have positive implications for HL maintenance. While parents used the HL more often, they used more language support strategies when reading SL books, particularly the strategy of asking literal questions to support story comprehension and vocabulary learning. However, in both conditions, parents rarely engaged their children in inferential and distancing discussions that require a higher level of cognitive demand and thus promote more advanced language development. The findings can guide interventions with immigrant families to optimize parental support for language learning in bilingual and multilingual contexts and promote positive experiences for both parents and their child.

Connect Previous Studies and Study 3

Study 3 builds directly on Study 2 which revealed that parents spontaneously employed some interactive reading strategies when reading books in HL and SL but did not assess how explicit instruction on DR would influence their reading behaviors or how parents would perceive its practical use at home. Study 3 also relates to Study 1 which provided preliminary evidence regarding Chinese parents' views of DR as a potential tool for early bilingual learning. However, parents' perspectives in that study were based on prior knowledge and two short videos illustrating DR.

Study 3 expands the focus of the two preceding studies by investigating how parent-child interactions evolve after parents received DR instruction. It also explored parents' perspectives on DR after parents used DR at home over eight weeks and logged each session. Through a combination of quantitative and qualitative methods, Study 3 advances our understanding of how instruction on DR affects parent-child interactions during storybook reading in bilingual families and of parents' views of those interactions: a factor neglected in the literature on DR but key to parents' use of DR outside a research context.

Study 3: Dialogic Reading in Multilingual Contexts: Chinese-Canadian Parents' Practices and Perspectives

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Submitted to *Journal of Child Language*

Abstract

This study examines how parent-child interactions evolve following dialogic reading (DR) instruction for parents and explores parents' perspectives on DR. Chinese-Canadian parents (N = 29) and their three- to six-year-old child participated. Data was gathered via a questionnaire, observations of the dyads while reading a Chinese and a societal language book, reading logs, and focus groups. Following instruction, and irrespective of the book's language, parents prompted and expanded their child's talk significantly more often than at pretest and children's responses correlated highly with parents' talk. Parents reported positive experiences with DR and a willingness to continue using it, but expressed concern regarding their knowledge or skills, divergence of DR from home practices, practical constraints, and child resistance. The findings indicate DR's potential to enrich parent-child interactions but also highlight challenges in sustaining DR that can inform practice with families raising their child with more than one language.

Keywords: dialogic reading, interactive reading, early bilingualism, immigrant families, parental perspectives

Dialogic Reading in Multilingual Contexts: Chinese-Canadian Parents' Practices and Perspectives

Bronfenbrenner's ecological systems theory posits that child development is shaped by children's direct interactions with their immediate environment (microsystem) and more distant systems (Bronfenbrenner & Morris, 2007). Within the microsystem, the interactions between children and the individuals closest to them, such as parents, are recognized as proximal developmental influences. Vygotsky's sociocultural theory aligns well with this perspective, underscoring the crucial role of children's life experiences and the input they receive from their surroundings. According to Vygotsky (1978), children's development is fostered when adults (or more capable peers) provide scaffolds within a child's zone of proximal development.

During dialogic reading (DR), an interactive reading approach that aims to engage children as active participants in storytelling, adults provide scaffolding by asking questions, offering explanations, and establishing connections between the text and the child's existing knowledge (Whitehurst & Lonigan, 1998), which allows children to interact with the text on a deeper level than they could independently (Vygotsky, 1978). More specifically, adults are guided by Whitehurst and Lonigan (1998) to **p**rompt, **e**valuate, **e**xpand, and **r**epeat children's responses and initiations (strategies represented by the PEER acronym). Prompting includes inviting children to **c**omplete phrases, **r**ecall events in the story, and respond to **o**pen-ended and **w**h- questions, as well as **d**istancing questions that invite the child to link the story to their own experience (these prompts are acronymized as CROWD).

Indeed, a substantial body of research has shown that DR predicts various aspects of young children's language and emergent literacy, including their expressive and receptive vocabulary (Dicataldo et al., 2022; Kim & Riley, 2021; Şimşek & Işıkoğlu Erdoğan, 2021),

phonological awareness (Kim & Riley, 2021), print knowledge or word recognition (Dicataldo et al., 2022; Y.-L. Zhou, 2021) and narrative skills (Grolig et al., 2020; Lever & Sénéchal, 2011). In addition, when used by parents, strategies inherent to DR – such as asking open-ended questions, prompting predictions, and making connections to real-world experiences – have been shown to enhance children's ability to make inferences, draw conclusions, and understand complex ideas (Collins, 2016).

Although the benefits of DR for preschool-age children are well-documented, studies investigating parent-child book reading during this period show that parents either engage children minimally or are variable in terms of implementing and sustaining strategies to engage the child introduced to them by researchers. For an example of the former, Huebner and Meltzoff (2005) found that parents generally engaged little with their children during storybook reading, irrespective of the parent's educational background. For an example of variability amongst parents, Justice et al. (2015) found that over half of parents who were taught strategies to support children's emergent literacy either never implemented them or stopped implementing them during their study. These findings raise important questions, namely why do some parents drop out of intervention studies, and why might other parents maintain newly-learned techniques at home even after intervention? In addressing such questions, Boyd and colleagues (2016) suggest that the perspectives of people who are asked to implement new practices are needed; without these, practices are likely to be met with resistance.

Parental voices regarding DR specifically are often missing in the literature, as are their views on reading with their child in the various languages present in their environment. The present study aims to remedy this silence by introducing Chinese-Canadian parents to DR as a means of supporting language at home and by exploring their experiences with and views on DR

following a 'try-out' period. By allying with immigrant parents, we hope to devise recommendations for parents wishing to diversify their language support strategies while incorporating their values and preferences.

Frameworks from Implementation Studies

While studies have found that parents can implement DR effectively, we know little about whether parents sustain this practice outside research contexts. The continued use of new practices once research ends are recognized challenges across different fields, including education, early childhood intervention, and healthcare, and have been attributed to barriers such as individual beliefs, organizational features, and resource limitations (Aarons et al., 2011; Boyd et al., 2016; Justice et al., 2015). To address barriers, frameworks such as The Theoretical Domains Framework from health science (Michie et al., 2008) and the Exploration, Preparation, Implementation, and Sustainment (EPIS) Framework from the child welfare field (Aarons et al., 2011) have been proposed and are used to interpret some of the findings from the present study. Both frameworks highlight the critical role of individual beliefs, perspectives, and life experiences in the implementation of new practices.

Aarons et al. (2011) underscore the importance of an "innovation-values fit" (p. 14), suggesting that new practices are more likely to be adopted when they align with an individual's cultural beliefs and attitudes. An individual's belief in their own ability to effectively implement a practice is another critical factor in the adoption of new practices (Aarons et al., 2011; Boyd et al., 2016). Justice et al. (2015) provided an example of this factor in relation to parent-child reading. They identified caregivers' beliefs about their reading abilities and discomfort with reading as barriers to implementing strategies to support their child's early literacy. Individuals' general attitudes toward an intervention, including their beliefs in the benefits of the intervention

and willingness to change existing practices, can also significantly influence implementation outcomes (Boyd et al., 2016).

In addition to the value of parental perspectives suggested by implementation frameworks, the views of immigrant parents are important from an equity standpoint. Their views can provide insights into the diversity of needs and perspectives amongst families, including those from minoritized groups, and can ultimately inform educational policies and practices. Furthermore, it is important to consider DR from the perspective of parents who are raising their child in multilingual contexts, including those who speak a language at home that is different from the prevailing societal language (SL) (i.e., a heritage language; HL). Quirk et al. (2024) studied 641 parents' responses to an open-ended survey question regarding their primary concerns about raising their children multilingually. One major concern was the potential negative impact of multilingualism on language development, a concern sometimes exacerbated by advice to parents from professionals to speak only one language (the societal one) to their child (De Houwer, 2015). By understanding and addressing parental concerns, interventions can be tailored to better fit family dynamics and language practices, leading to more effective and sustainable outcomes.

DR in Various Contexts

DR has been shown to be effective in various cultural contexts and by speakers of various languages such as Chinese/Mandarin (Dong et al., 2024; Y.-L. Zhou, 2021), Turkish (Şimşek & Işıkoğlu Erdoğan, 2021), Bangla (Opel et al., 2009), French (Thomas et al., 2020), Italian (Dicataldo et al., 2022), and German (Grolig et al., 2020). DR can also be a means of supporting bilingual or multilingual development amongst children speaking a heritage language (Chacko et al., 2018; Huennekens & Xu, 2016; Pappas et al., 2012; Y.-L. Zhou, 2021). For example,

Huennekens and Xu (2016) examined the effects of DR on emergent literacy skills in preschool-aged dual-language learners living in the US. DR was carried out uniquely in Spanish, the children's HL, but the results showed significant growth in children's English (SL) and Spanish at posttest.

HL maintenance is an important factor in the well-being of immigrant families (De Houwer, 2015). For young children speaking a HL at home, but acquiring a SL early in childhood (e.g., at daycare), continuing to use the HL is critical to avoid language loss and foster *harmonious bilingualism* (De Houwer, 2015, 2021) — that is, experiences with bilingualism that are subjectively positive for all family members, avoid interpersonal conflict, and support family well-being. DR, investigated in this study, could be a means of supporting HL and could additionally provide opportunities for parent and children to explore texts written in the HL(s).

The Present Study

The present study examines the effects of DR instruction on parents' reading styles, as well as parents' views of DR. Parents attended a workshop where they learned how to implement DR and were provided with illustrated storybooks in the HL (Chinese) and in the predominant SLs (French, and English) that they could optionally use to implement DR at home over an 8-week period. Before and after this period, parent-child dyads were observed in two conditions: (a) reading with a Chinese book (HL condition) and (b) reading with a French or an English book (SL condition), according to the dyad's preference. Following the 8-week period, parents participated in a focus group to share their experiences with DR as a means of supporting their child's language development and to discuss the factors that motivated or impeded their use of DR. The three research questions were: (1) How do parents' reading styles vary by time (i.e., before and after receiving DR instruction) and book language (i.e., Chinese book vs. French or

English book)?; (2) How do children respond to DR?; (3) What are the Chinese-Canadian parents' experiences with and views on DR, including the factors that motivate or impede their use of DR at home?

Methods

Participants

Following ethics approval by Concordia university, we recruited parent-child dyads in the Greater Montreal area by announcing the study on social media, circulating the ad at a local community centre serving the Chinese-Canadian community, and via snowball sampling. To be included in the study, parents had to have a child between the ages of three and six years and be interested in raising their child to be multilingual (as identified in the recruitment ad). The ad was distributed in Mandarin, and thus implicitly targeted Mandarin speakers.

Thirty families joined the study, and only one family dropped out at the midpoint of DR implementation. The participants showed a high commitment to the study, as shown by their participation in reading observations and focus group discussions, in addition to the at-home implementation of DR and completion of reading logs. The reading logs were submitted by 16 parents every week (i.e., for each of the eight weeks) and an additional 8 parents submitted them for seven of the eight weeks. The five remaining parents submitted logs for at least four weeks, and voluntarily explained that for the other weeks, they had either forgotten to complete the logs or had encountered special circumstances, such as illness.

Amongst the 29 families, most parents (79.3%) reported "middle" income levels (with 6.9% reporting low income and 13.8% high) and had obtained at least a bachelor's degree (93.1% of mothers, 86.2% of fathers). The relatively high socioeconomic status (SES) found in the sample is congruent with immigration policies in Canada that favor high levels of education,

language ability, and work experience (Government of Canada, 2024). Except for one parent born in Canada, parents were first-generation immigrants in Canada and four parents had immigrated to Canada within the last three years. In addition, three families were of mixed ethnicity, with mothers from China and fathers from either France or Israel. Amongst the 29 children (15 boys, 14 girls), 86.2% were born in Canada, and about half had siblings (51.7%). Most were 4 years old (48.3%), and the remainder were 3 (24.1%), 5 (13.8%) or 6 (13.8%) years old. Regarding school attendance, 24 (82.8%) of children were attending childcare or preschool centers and the rest of the children were in kindergarten (also considered to be preschool in Quebec) or, in just a few cases, Grade 1.

Measures, Materials, and Procedures

Questionnaire

Information about demographics, children's language exposure and language use at home and daycare or school, and number of children's books and frequency of reading to children by parents was collected via a parent questionnaire.

Pre-Post Observations

Prior to and following DR implementation (described next), we conducted observations in a research space at the host university that had a two-way mirror, allowing parents and children to engage with one another without a researcher in the room. The parent and child were invited to read storybooks together under two 'book language' conditions: a Chinese book and, according to parental choice, either a French or an English book. The French book was chosen by 16 parents. The book language was counterbalanced (i.e., half of the parents began with the Chinese book and half with the French or English book). Each reading session lasted about 10-15 minutes separated by a 10-minute break. Within these conditions, book title was also

counterbalanced. The chosen books were from the *Frankin* series written by Paulette Bourgeois and Brenda Clark: *Franklin and the Thunderstorm* (Bourgeois & Clark, 2011a) and *Franklin's New Friend* (Bourgeois & Clark, 2011b), and the Chinese versions (respectively, Bourgeois & Clark, 2011c, 2011d) and French versions (respectively, Bourgeois & Clark, 2000, 2002) of these same books. The transcribed and coded observations served as outcome measures, as elaborated in the Data Analysis section

DR Workshop and Implementation at Home

Given that parents in past studies of DR have raised concerns about remembering the dialogic prompts (Mao & Pesco, 2025; Zevenbergen et al., 2018), and the overlap between open-ended, wh- and distancing questions in the CROWD prompts, we distinguished the prompts in our study somewhat differently. Namely, we distinguished open-ended questions (which include -wh questions) as literal, inferential, or distancing. Literal questions were defined as those for which the answer was located in the text or pictures, whereas inferential questions required children to infer a response based on their understanding of the story and world knowledge (Collins, 2016). We continued to define distancing questions as those that allowed the child to link their experience to the text (Zevenbergen et al., 2018).

To ensure that parents would have opportunities to participate in discussion and accommodate parents' schedules, the workshop was offered to small groups of parents (5-10 parents per group). Four workshops took place virtually and one in person, with each lasting 1-1.5 hours, depending on the size of the group. In the workshop, the first author explained to parents the DR techniques, demonstrated how to ask DR questions using a Chinese storybook, and presented example questions that parents could ask. Then each parent was asked to demonstrate asking DR questions using a different Chinese storybook and feedback was

provided by the first author.

At the workshop, parents were also provided with material and instructions to implement DR techniques over eight weeks. These included a DR guidebook providing: (1) an explanation of DR and its purpose, (2) an illustration of DR using a Chinese picture book, and (3) question banks in each language that parents could optionally refer to. These materials were inspired by the kit entitled Read Together, Talk Together (Pearson Early Learning Group, 2006) and material from the Iowa Reading Research Center (Folsom, 2017). Parents were encouraged to spend about 10 minutes a day in DR. Parents were also given 15 books written for children of the ages in our study: five Chinese books from the *Rabbit Waiwai* series (Waiwai Rabbit Early Education Team, 2012), five French books from the *Je Lis Avec Pat Le Chat* series (Dean & Dean, 2019), and five English books from the *Curious George* series (Rey & Rey, 2011). Each of the books was accompanied by a two-page tipsheet providing a brief summary of the book, reading tips, and prompt examples. We let parents decide whether or not to use the books we provided and made clear to parents that the books we provided were optional.

Reading Logs

Parents were asked to engage in DR daily and to log the reading three times per week on a sheet we provided, including: the date, book title, estimate of reading time in minutes (check options), level of enjoyment (select emoji), and comments. Parents were contacted over the phone or other social media platforms on a weekly basis to remind them to implement DR and complete the logs and to discuss any issues parents raised.

Focus Group Interviews

After observation, parents returned for focus group interviews. In total, five online focus groups with four to seven parents in each group were conducted and each focus group lasted 1.5-

2 hours (average length 1.73 hours). Focus groups were conducted in Mandarin and discussions in the focus group were recorded and transcribed verbatim. We scripted some questions for the focus group based on a previous study of Chinese parents living in mainland China (Mao & Pesco, 2025) and the variables of interest in this study, but also followed parents' lead in the discussions. We began with broad, open-ended questions regarding reading experiences at home, namely "How did you read with your child before you participated in this study" and "How does that compare to how you are reading to your child now?". We then proceeded to ask questions such as the following: "How and when do you use DR with your child? How did your child respond to DR? Have you found that DR has already had or will have effects on your child's development? If yes, can you tell me more? Did you encounter any difficulties in using DR? How did you manage these difficulties? Will you continue to apply DR? Why or why not?"

Data Analysis

Research questions 1 and 2 were addressed by coding parent-child interactions deductively based on a coding manual (see Appendix L) created for this purpose (Munzer et al., 2019; Strouse & Ganea, 2017b; Whitehurst et al., 1988). The first author coded all data and a research assistant (a trained graduate student in the education field) coded a randomly selected portion (20%) of the data. Intercoder reliability was good to excellent according to Krippendorff's α which corrects for chance agreement, with values of .85 at Time 1 and .93 at Time 2 (Krippendorff, 2019). All disagreements were resolved after discussion between the first author and the research assistant. The coded data was examined using two-way repeated measures analysis of variance (ANOVA) in SPSS 29, with book language and time as the repeated measures. Proportional data was used in several analyses to control for differences in the length of parent-child reading.

Research question 3 was answered based on data from the weekly reading logs completed by parents over the 8-week period of implementing DR and focus group discussions following this period. The reading log data was analyzed with descriptive statistics. To interpret the focus group discussions, we analyzed some of the data using codes that we had derived inductively in a previous study investigating the views of parents living in mainland China on DR (Mao & Pesco, 2025). Given, however, that some of our questions were different than in the previous study, we also employed inductive coding and used constant comparative analysis (Glaser & Strauss, 1967) to identify emergent themes and patterns. Intercoder reliability, calculated for all codes using Krippendorff's α, was .88.

Results

Language Exposure, Use, and Proficiency

Most of the children (62%) were exposed to all three languages simultaneously at home before the age of three, as shown in Table 1. The remaining children were exposed to two languages before age three (one of which was Mandarin or Cantonese) and a third language (i.e., French or English) at a later age. However, exposure to French or English at home was minimal for all children, at less than 10%. Furthermore, parents in the 15 families with more than one child reported Chinese was the primary language used for communication among siblings.

Table 1

Language Exposure, Use, and Proficiency

	Chinese	**French**	**English**
Onset age of language exposure	%	%	%
From birth	100	27.59	20.69
Before 3 years old	-	48.28	65.52
After 3 years old	-	24.14	13.79

Language use at home	Mean % (SD)	Mean % (SD)	Mean % (SD)
Parent[a]	79.74 (23.09)*	8.95 (14.23)	8.90 (13.52)
Child[a]	71.03 (22.73)*	15.52 (16.39)	13.79 (17.61)
Language proficiency	M (SD)	M (SD)	M (SD)
Parent[b]	8.02 (2.44)*	4.19 (1.97)	5.55 (2.05)
Child[b]	6.66 (2.35)*	3.14 (2.01)	3.00 (2.31)

Note. [a] Range 0-100%; [b] Ratings 0-10. * $p < .001$ for paired t-test comparing Chinese to French and Chinese to English (French-English comparison ns)

Prior to the study, parents reported a greater emphasis on reading in Chinese than in other languages, as indicated by owning more books and engaging in reading activities more frequently in Chinese, as shown in Table 2. Parents' reading practices were also reflected in their reading logs. The logs culminated in a total of 1,015 entries, with parents reporting that they had read with their children 3 to 7 times per week. Over half (56.1%) of the reading log entries indicated that parents read in Chinese (based on choice), while the remainder referred to reading in French, English, or a combination of the two.

Table 2

Home Reading Practices

	Chinese M (SD)	**French** M (SD)	**English** M (SD)
Numbers of children's books [a]	3.38 (1.15)*	2.41 (1.32)	2.72 (1.28)
Frequency of reading [b]	3.52 (1.06)*	2.72 (0.92)	2.62 (.098)

Note. [a] Number of books: 1 = < 10, 2 = 11-20, 3 = 21-50, 4 = 51-100, 5 = >100; [b] 1 = Never, 2 = Once a week, 3 = Several times a week, 4 = Once a day, 5 = Several times a day; * $p < .01$ for paired t-test comparing Chinese to French and Chinese to English (French-English comparison ns)

Taken together, the data indicate that Chinese was the dominant home language for parents and children. French and English, however, was sometimes used by parents voluntarily to implement DR. Moreover, these languages predominated in the educational programs attended by children, with over half of the children (55.2%) attending a childcare, preschool or school

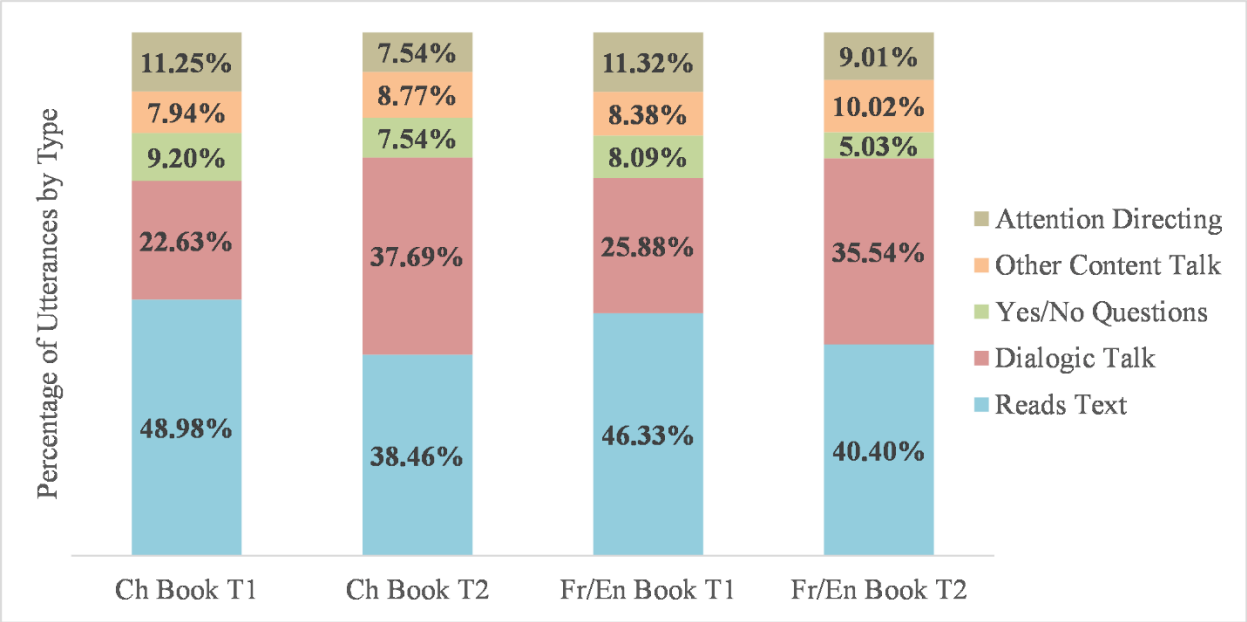
where French was the medium of care or instruction, and the remainder attending settings where English (24.1%) or both French and English (20.7%) were used.

Parents' Reading Style

Figure 1 displays the type of talk parents used while reading a Chinese book and French or English book to their child. As shown in the red bars, parents increased their dialogic talk and decreased reading the book text (blue bar) and asking yes/no questions (green bar) from Time 1 to Time 2, in both conditions. The proportion of dialogic talk varied by parent, ranging from 16% to 55% in the HL condition (SD = 10.69%) and from 12% to 71% in the SL condition (SD = 13.78%).

Figure 1

Parental Utterances by Book Language and Time



Note. T1 = Time 1 (pretest); T2 = Time 2 (posttest)

A two-way repeated measures ANOVA was conducted to evaluate the effects of book language and time on the frequency of parents' dialogic talk calculated as a proportion (i.e., number of utterances within a category/total number of utterances). The results are presented in

Table 3 ('DR overall'). The frequency of DR increased following the DR instruction, as shown by the main effect of time. The effect of book language and the interaction of book language with time were each nonsignificant. We further examined the mean proportions of each type of dialogic talk. As Figure 2 shows, parents asked more distancing questions, expanded more on the child's ideas, and evaluated the child less (e.g., "Yes, you are right") at Time 2. These differences were confirmed via a series of two-way repeated measures ANOVAs, also presented in Table 3. The remaining comparisons were nonsignificant once a Bonferroni adjustment was applied. An effect of book language was only found for 'distancing questions' which were greater in the HL condition. All of the other interactions were nonsignificant.

Table 3

Parental DR Subtypes: Effects of Book Language and Time

DR Overall & Subtypes	Book Language			Time			Book Language * Time		
	F(1, 28)	*p*	η²	*F*(1, 28)	*p*	η²	*F*(1, 28)	*p*	η²
Overall	0.48	.493	.02	48.19	**.001**	.63	2.82	.105	.09
Completion	0.47	.498	.02	1.65	.209	.06	1.65	.210	.06
Literal Qs	6.85	.014	.20	6.90	.014	.20	0.54	.468	.02
Inferential Qs	0.71	.407	.02	6.98	.013	.20	.09	.772	.00
Distancing Qs	14.04	**.001**	.33	8.68	**.006**	.24	1.96	.173	.07
Evaluates	0.87	.359	.03	22.84	**.000**	.45	6.24	.019	.18
Expands	0.50	.485	.02	106.77	**.000**	.79	1.48	.234	.05
Repeats	0.55	.464	.02	7.05	.013	.20	0.06	.807	.00

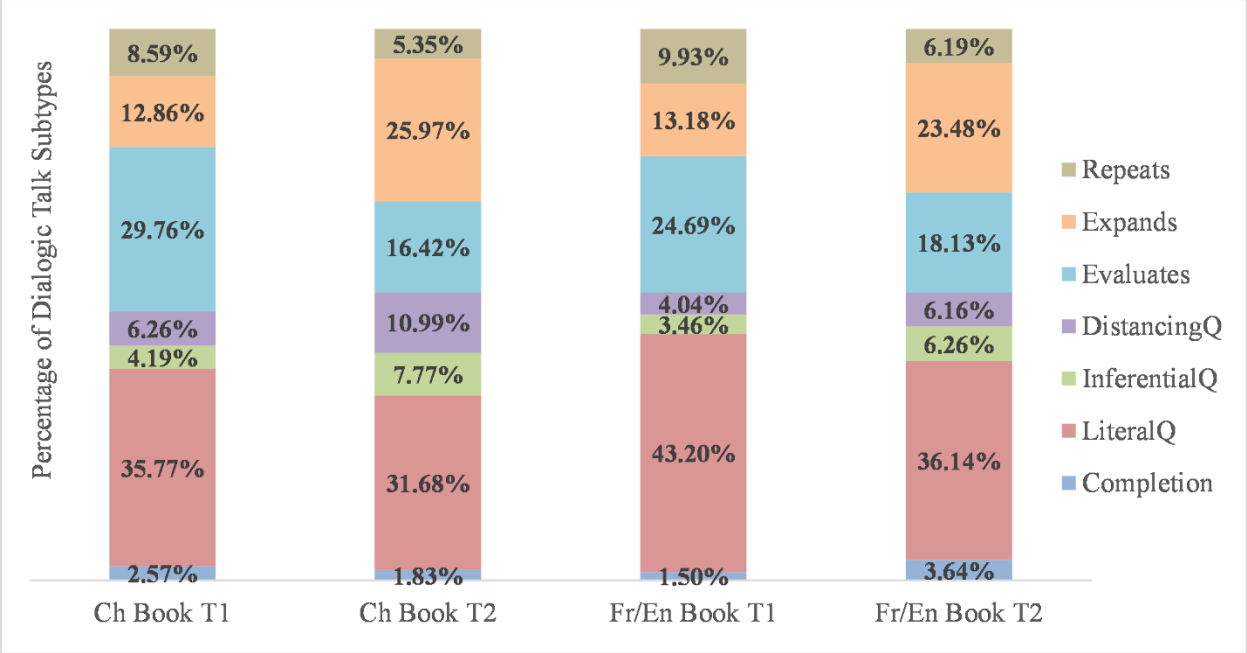
Note. Bonferroni-adjusted $p \leq .007$.

The diversity of dialogic talk was calculated by counting the number of different dialogic reading prompts. The effect of time was significant: F (1, 28) = 45.63, $p < .001$, partial $\eta^2 = .62$. This result indicated that following the DR workshop and implementation at home, parents used significantly more types of dialogic talk. This result can be attributed to parents' heightened use of higher cognitive demand questions, such as inferential and distancing questions, at Time 2, as

reported above. However, no significant effect was found for book language: F (1, 28) = 0.70, p = .409, partial η^2 = .02. The interaction of book language and time was also nonsignificant: F (1, 28) = 0.85, p = .363, partial η^2 = .03.

Figure 2

Proportions of Parental DR Subtypes by Book Language and Time



Children's Talk

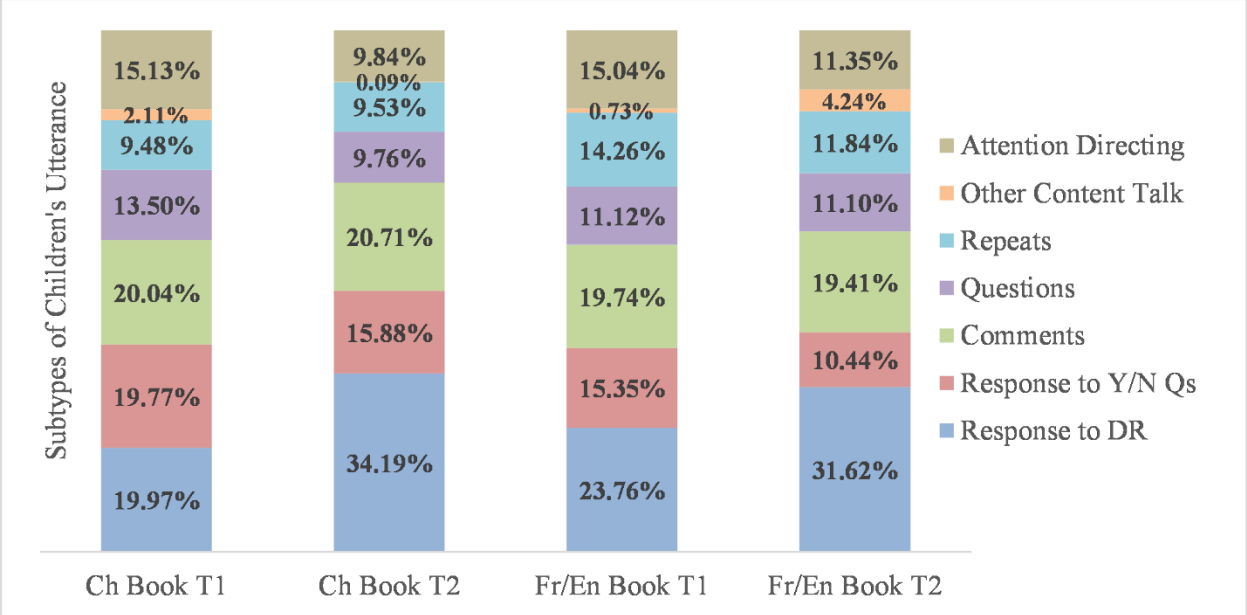
Figure 3 displays the type of talk children engaged in during the reading sessions with their parent. It shows an increase in proportion of dialogic talk and a decrease in the proportion of yes/no questions and attention-directing talk. For responses to dialogic talk, a two-way repeated measures ANOVA showed a significant main effect of time: F (1, 28) = 17.58, p <.001, partial η^2 = .39. The other effects were not significant; for book language, F (1, 28) = 1.71, p = .202, partial η^2 = .06, and for the interaction of book language with time, F (1, 28) = 2.55, p = .122, partial η^2 = .08.

Spearman correlations between parents' dialogic talk and yes/no questions and children's

responses to these types of talk were also examined. First, dialogic talk by parents and children was highly correlated: r_s (27) = .92 in the HL condition, and .91 in the SL condition, $p < .001$. Yes-no questions by parents and yes-no responses by children were similarly highly correlated: r_s (27) = .93 in the HL condition and .93 in the SL condition, $p < .001$. The results could be due to children following their parent's lead; as parents' talk in these categories expanded or decreased, so may have children's. However, as we discuss below, parents reported growth in their child's language over the course of the study, and thus it is also possible that parents were adapting their talk to their children's questions and comments, and that the children's talk therefore accounted partly for the observed correlations.

Figure 3

Children's Utterances by Book Language and Time



Parents' Experiences with and Perspectives on DR

To answer our third research question regarding parents' experiences with and views on DR, including the factors that motivated or impeded their use of DR at home, we drew upon the

weekly reading logs and the focus group discussions. The findings are organized to three areas which roughly follow the line of questioning in the focus groups: changes in parents and children, enjoyment of parents and children, and difficulties encountered by parents and children.

Changes in Parents and Children

We began the focus group discussions by asking parents to compare their current reading practices with their practices before the study and went on to ask how they applied DR techniques at home and what changes, if any, they had observed in themselves and/or their child. The central themes were changes in parent behaviours, change in mindset, and the cognitive and linguistic development of the child.

To elaborate on the first theme, the majority of parents reported incorporating more DR techniques, which included greater prompting of their child's participation, asking more questions, and posing more advanced, non-literal questions. These changes are consistent with our statistical analysis of the observational data reported above, as well as with the reading logs. In the vast majority of the log entries (89%), parents reported having employed the DR approach either throughout the reading of the entire book (32%) or parts of the book (57%). The reasons that parents did not always apply DR are discussed in a later section.

Regarding mindset, over one-third of parents described a shift in their attitude toward reading, as alluded to in the excerpts just below. For example, while some parents had previously viewed reading as a task, they now approached it with greater patience and focus, aiming to create a more engaging experience for their child. Additionally, about one-third of parents shared that their child had developed a stronger interest in reading, leading to parent-child reading becoming their home routine.

> **P26:** We also read at night, usually before going to bed. Prior to this research, when we want her to go to sleep quickly because we're tired, we used to be more

rushed and perfunctory about it—treating it like a task to get done quickly.

P9: I think the impact on us as parents both for me and my husband, we've become a bit more patient. Now, we're more willing to take our time, to really finish the book slowly rather than just rushing to get through it and move on to bedtime. For instance, we're more inclined to prepare a little, allow more time, and read the book thoughtfully, which makes it more meaningful.

P3: I think my son has become more interested in reading books than before, and now he insists I read him a story every night.

Parents also observed growth in their children's cognitive abilities, including improvements in their attention to detail, imagination, concentration, and logical thinking. As illustrated in the next set of excerpts, they also noted changes in their child's language. Over half mentioned improvements in vocabulary and narrative skills in Chinese, French, or English, with some also reporting progress in their child's story retelling skills and comprehension. While some parents felt certain that their child's language gains (e.g., acquisition of new vocabulary) came from the books they were reading, others were unsure if improvements (e.g., the child making more narrative comments or being more talkative) were due to DR or their child's natural growth.

P12: He now uses some Chinese conjunctions he learned from the books when he talks with us.

P30: For example, after reading *The Unique Rabbit* (与众不同的兔子) which she's been really into lately, she'll say, "I'm going to be a unique XYZ today," or ask me, "Am I unique today?". She's applying all of that to her life now. [note: the child used a Chinese idiom (与众不同) for "unique"; idioms are rare in children's daily language and similar to advanced vocabulary in English].

P18: After reading the story a few times, he can tell me the synopsis. He'll then share the story with his father, which I think is wonderful.

Enjoyment of Parents and Children

Parents were also asked to recall the enjoyment level of their child and themselves during DR. Consistent with the records from the reading logs, the majority (26/29) of parents reported that they enjoyed DR and would continue using it at home, and 23 parents observed that their child enjoyed DR (other parents expressed reservations, as discussed below). Parents discussed the reasons why they and their children enjoyed DR, highlighting the following themes: opportunity for parent-child bonding, higher levels of interaction and engagement for both parents and children, joy in witnessing their child's growth, and the child's enjoyment in being able to actively respond and engage with their parent during reading, creating a rewarding experience for them.

> **P4:** Like other parents have said, it's rare to have the opportunity to be truly patient, listen to your child's ideas, and really hear them out. I think it fosters good communication for us... The communication between the father and son has also improved. His dad has become more patient and willing to listen to what his son is thinking, rather than simply concluding that he's being silly or noisy. I think it's wonderful.
>
> **P8:** She will feel like she is able to respond. Additionally, she often asks us many questions [during reading], I feel that she finds fulfillment in this, enjoying both asking questions and being able to respond to them. She seems genuinely happy doing so.

Difficulties Encountered by Parents and Children

Lastly, parents were asked to share any difficulties they encountered with DR. Only six parents reported having no issues. The rest raised concerns about applying this method daily, referring to both their own and their children's point of view. From the parents' side, some perceived asking DR questions, interacting in non-native languages, and selecting suitable books as burdens. To elaborate, parents found it challenging to pose engaging and varied questions,

especially when reading the same book multiple times. They also struggled with using DR when reading in languages they were not fully proficient in (e.g., French and English). Additionally, some parents mentioned that DR is not suitable for every book and expressed uncertainty about how to select appropriate ones. A more practical concern was the high demand DR places on parents, particularly in terms of time and energy, considering most of the parents were also employed outside the home.

> **P9:** Yes, I agree with the previous parent. I think the questions you provided were very helpful and made the reading process much smoother—my child also enjoyed answering them. But when I try to come up with my own questions, I sometimes struggle to think of as many, especially when I'm tired at night and don't feel like putting in so much effort … It feels like a bit of a burden for the dad as well. He's often tired and finds it difficult to come up with questions on his own. He'll sometimes think, "Our child should understand the story and if not, she can just ask me." He prefers it that way, where the child asks questions if there's something she can't understand, and he responds when needed.
> **P5:** I'd like to add to what P10 mentioned about reading in different languages. In our family, we stick to English and Chinese books—I read those to him. For French, I've hired a high school student to read to him. I don't insist on DR in French since it would be too demanding, so we just keep it casual.
> **P6:** I feel that not all books are suitable for DR. Some books just don't work well with this method, but we're not really sure how to tell which books are appropriate and which aren't.
> **P19:** Another issue is that this process can be very time-consuming. Previously, it took ten minutes to read a book, but now it can take up to thirty minutes. I feel we need enough energy to handle this properly.

The parents also identified some factors that would prevent children from engaging in DR such as the content of books, the language of books, and the length of DR sessions. Some parents noted their child was less engaged when they did not enjoy the book, whether due to the

content or the language of the book. Children also tended to get bored and impatient if there were too many questions or if the reading sessions became too lengthy. Below are some excerpts from parents regarding their child's responses to DR or certain books.

> **P11:** Among books in Chinese, English, and French, he seems most interested in the Chinese books, followed by the French ones, with English being his least favorite. This might have to do with our home language environment and the language of his preschool.
> **P13:** In general, she enjoys the dialogic reading techniques, but sometimes she gets too excited to find out what happens next and rushes to turn the page.
> **P17:** It depends on the questions I ask. If he's not interested in a question, he gets impatient, especially at bedtime when he's already tired. He'll say things like, "I've already answered that," or "I've already said that." However, if it's a question he finds interesting, he's more willing to engage, though he doesn't always enjoy it.
> **P22:** I've noticed that by the third time reading, she starts to get a bit resistant, saying things like, "Mom, we've read this so many times!" By the fourth time, she gets noticeably impatient, finding the repetition too much.

Discussion

The present study examined parent-child interactions during storybook reading within Chinese-Canadian families in Montreal, the impact of instruction on DR provided to parents, and parents' perspectives on DR following a period of using it intentionally at home. The discussion begins with consideration of parents' reading style and children's responses to it and then turns to parents' experiences with and views on DR. Throughout the discussion, we integrate recommendations to address the challenges identified by parents in using DR.

Parents' Reading Style and Children's Responses

Research has consistently demonstrated that DR can be effectively mastered by parents with appropriate training (Huebner & Meltzoff, 2005; Whitehurst et al., 1988). Similarly, after

receiving DR training, Chinese-Canadian parents in the present study incorporated more DR techniques and engaged in less verbatim reading. Parents also posed more cognitively demanding questions, such as distancing questions, and expanded their child's responses more often. These practices are particularly valuable, as decontextualized talk and expansions foster children's cognitive skills and language (Collins, 2016).

This study extends the literature on DR effectiveness by examining Chinese-Canadian parents' styles when reading a Chinese book (the dominant language of the families and a minoritized language in the Canadian context) versus a book in English or French (the local societal languages) before and after a DR workshop. At Time 1 – that is, before the DR workshop – parents predominantly used their dominant language for interaction and conversation, irrespective of the book's language. This observation aligns with findings from Quirk, Brouillard and Byers-Heinlein's (2024) study. At Time 2, Chinese remained the primary language for reading and interaction; however, the kinds of prompts parents provided when reading an English or French changed over time (see Figure 2). This finding highlights the potential for DR to be effectively utilized even when a parent is reading a book in a language that is not their dominant one.

A book language effect (shown in Table 3) was observed only for distancing questions (more frequent in the HL condition) and, without a Bonferroni adjustment for multiple comparisons, for literal questions (more frequent in the SL condition). It is possible that both reading and interacting in Chinese freed parents to go beyond the text to elicit the child's personal experience in relation to the events in the story. Conversely, when reading in both their own and their child's less dominant language, parents might ask more literal questions to bolster children's comprehension of that language (Kremin et al., 2022). Indeed, our findings suggest

that parents tailor the practices to their goals and to their child's and own language proficiency.

Aligning with previous studies (Blom-Hoffman et al., 2007; Huebner & Meltzoff, 2005), following DR instruction for parents, children's responses to DR questions increased in number, while responses to yes/no questions decreased, and their responses correlated highly with parental DR strategies during these interactions. This finding could reflect the transactional nature of parent-child interactions during storybook reading (Patel et al., 2021) whereby parents' communication styles influence how children respond, and children's responses, in turn, shape how parents adapt their language and questioning approaches. This back-and-forth exchange creates a positive feedback loop that encourages further participation and enhances language development.

Parents' Experiences with and Views on DR

Facilitators

Drawing on the implementation literature, we identified two factors that could facilitate the adoption of new practices: beliefs about their benefits and positive emotions associated with the practices. We relate our findings regarding DR to these factors in the next two sections.

***Beliefs about Benefits*.** With regard to benefits, parents in our study observed language growth in both Chinese and French and/or English in their child. While gains in language were not tested directly in this study, previous studies discussed in the literature review (e.g., Huennekens & Xu, 2016; Y.-L. Zhou, 2021) found that DR had a positive effect on children's language. Like Montreal parents in a study by Quirk, Brouillard, Ahooja, et al. (2024), parents in this study also perceived multilingualism as beneficial to their child. Thus, engaging in DR seemed to fit with parents' beliefs: an important factor in the adoption of new practices (Aarons et al., 2011; Boyd et al., 2016).

Positive Emotions. Beliefs and emotions can significantly affect individuals' behavior and willingness to adopt new practices or change existing ones (Michie et al., 2008). Most parents in our study expressed that both they and their child enjoyed DR and would continue using it at home. Their positive feelings about DR centred on the opportunity DR provides for parent-child bonding, higher levels of interaction and engagement for both parents and children, joy in witnessing their child's growth, and child's enjoyment in their participation and contribution to reading. A substantial percentage (over one third) of parents noted a difference in their "mindset" around reading and reported a more patient approach. This change, in turn, fostered children's interest in parent-child reading which helped establish it as a home routine. Similarly positive experiences with DR have been found in a previous study by Zevenbergen et al. (2018). The parents in that study expressed that they enjoyed reading time with children and felt good when their child showed learning and reading ability. Together, the findings from that study and our study suggest that positive emotions about DR can be powerful motivators and facilitators of change.

Barriers

As just discussed, parents held positive views of DR. Nonetheless, a few potential barriers to sustaining DR were raised by parents, including limited knowledge and skill, divergence from existing practice, practical concerns, and emotional barriers. These are discussed next along with suggestions for how to address them.

Limited Knowledge and Skill. Parents in our study had concerns about their ability to adequately adapt DR questions to children's interests and cognitive levels (Boyd et al., 2016; Michie et al., 2008). The recall of unfamiliar DR prompts has also been reported in previous studies (Kotaman, 2007; Mao & Pesco, 2025; Zevenbergen et al., 2018). To overcome

knowledge and skill barriers, both Boyd et al. (2016) and Michie et al. (2008) emphasize the need for sufficient instruction. In our study, the initial workshop was supplemented by materials to help parents get familiar with various DR questions: parent notes for each book and potential DR questions for each page. Parents expressed that this helped them with DR. However, given the parents' concerns, the materials could be refined by distinguishing prompts that require literal responses from those that require more advanced responses, such as inferences, predictions, and connection to personal experiences (Read et al., 2023).

Parents in our study also recognized that DR might need to be adapted to children's familiarity with a book or its content. Following Read et al. (2023), we suggest that parents could use more complex DR questions once a child is familiar with a book, and use literal questions to introduce new vocabulary and concepts more heavily when introducing a new book. Different types of books also lead to different conversations (Read et al., 2023). To address this issue, researchers or practitioners could guide parents to booklists organized by children's age or books reviewed in terms of the language they might require of children (e.g., https://www.hanen.org/information-tips/lets-go-for-a-drive).

Divergence from Existing Practice. Boyd et al. (2016) emphasize that individuals' existing practices can influence their willingness to adopt new practices. This is particularly relevant to concerns raised by parents in this study. As discussed above, many of the families use their HL (e.g., Chinese) primarily at home, which has also been observed in previous studies (S. H. Chen et al., 2021). This is a positive finding for HL maintenance. At the same time, immigrant parents express concerns about exposing their child to SLs (Quirk, Brouillard, Ahooja, et al., 2024). For parents who wish to expose their child to some degree to the SL at home, we suggest three ways that parents can promote meaningful interactions even when they

are reading a book written in a SL.

First, dyads could listen to audio books in the SL, but parents could still engage their child in interaction in the HL, as parents often did in the present study. This approach allows parents to participate in DR without feeling pressured to read fluently in a language they are less comfortable with. Second, parents could focus on asking literal questions to support the child's vocabulary development and comprehension in the SL, a strategy that can be effective even if parents are not entirely fluent in the SL, as it focuses on the basic meaning of the text. Third, as one parent suggested, engaging siblings who are more fluent in the SL or hiring a babysitter fluent in those languages can provide additional opportunities for children to experience reading in those languages, while allowing the parents to continue to use the HL and thus encourage its maintenance.

Practical Concerns. Parents noted limited time and energy, resulting from demanding schedules and various life commitments, amongst the challenges in consistently implementing DR at home. This challenge is not unique to DR interventions and has been observed across various family-based programs designed to support early childhood development (Justice et al., 2015; Zevenbergen et al., 2018). To support families in incorporating DR regularly, parents could be encouraged to engage in shorter reading sessions and to limit the number of prompts they provide per book, or family members other than parents could engage in reading with the child. Parents could also use some of the DR prompting strategies during non-reading activities, incorporating them into existing daily routines, such as bedtime routines, car rides, or mealtimes. For example, one parent in the present study found that the DR instruction inspired her to engage her child in dialogue during their daily bus commute, adapting the DR prompts to the conversational context.

Emotional Barriers. A significant factor in adopting DR noted by parents in this study was children's emotional responses. Children who do not enjoy the books selected for DR, get tired of extended questioning, or find the overall experience unengaging are less likely to participate willingly, potentially leading parents to abandon the practice. This highlights a crucial consideration that is implied in the "emotion" domain within the theoretical domains framework (Michie et al., 2008): the emotional experience of the 'recipient' of an intervention (i.e., in our case, the child) which can directly influence the implementer's (the parent's) behavior. In the current study, while most children found the practice enjoyable overall, certain aspects, like specific book choices or the length of questioning sessions, negatively affected their experience.

To address this barrier, as mentioned above, parents could be provided with guidance and resources for choosing books that align with their child's interests, developmental level, and attention span. Involving their children in book selection and allowing them to lead the pace and direction of the reading experience could lead to a more positive experience for the child. According to a large-scale survey in mainland China, although parents often acted as the primary decision-maker when selecting children's books in English, children still exerted agency by asking parents to reread books they enjoyed and by rejecting those they disliked (Zou, 2023). As Zou proposes, encouraging children's active participation in book selection can foster a more enjoyable and engaging reading experience for both children and their parents. Lastly, parents can adjust the length of reading, and the number of questions based on their child's cues.

Limitations and Future Directions

This study offers valuable insights into how immigrant families interact during storybook reading prior to and after DR instruction and their perspectives on DR; however, several limitations should be acknowledged. First, the sample is relatively homogenous, consisting

predominantly of mothers from middle SES backgrounds with high levels of education. This limits the generalizability of findings to families from lower SES or less-educated populations. Furthermore, the predominance of families with two Chinese-speaking parents – rather than families where parents each speak a different language – could influence how DR might be perceived. Future studies should seek to diversify participant demographics by including families from varied SES levels, educational backgrounds, ethnic compositions, and fathers and other caregivers.

A second limitation of the study relates to the scope of the analysis of the parent-child interactions. In this study, we examined only correlations between adults' and children's dialogic talk. A more detailed and sequential analysis could illuminate the semantic contingency between parents' and children's utterances and how the child's contributions shape the interaction (thus recognizing bidirectional influences).

A final limitation is the lack of children's voices regarding their experiences with DR; while we heard about the child's responses to DR from parents in the focus groups, we did not hear directly from children. Children's preferences could directly influence the adoption and sustainment of DR. Future research could thus investigate children's perspectives. Although children in our study were quite young (three to six years old), previous research indicates that children of this age can report on their own experiences when methods are suited to their developmental level (Brown & Perkins, 2019). This inclusion would provide a more holistic understanding of using DR as a method to support language development, ensuring that DR is tailored to meet both parents and children's needs.

Conclusion

This study examined changes in parent-child interactions during storybook reading before

and after parents received DR instruction. Observational data were supplemented with parents' experiences with and perspectives on DR, gathered through weekly reading logs and focus group discussions. Our findings revealed that following DR instruction, parents significantly increased their use of dialogic talk, regardless of the language of the books and children's responses correlated highly with parents' talk. More specifically, parents engaged in more decontextualized talk, such as asking distancing questions and expanding on their child's responses.

In exploring parents' experiences with and perceptions of DR, we found that both parents and children generally enjoyed DR sessions and expressed a desire to continue the practice at home. This enthusiasm stemmed from positive beliefs about the benefits of DR and the positive feelings and experiences fostered during these interactions. However, parents also reported challenges that could hinder their ability to sustain DR in the long term. These included difficulties in formulating effective DR questions and selecting appropriate books, discomfort engaging in DR in non-native languages, practical constraints such as limited time, and occasional resistance from children due to negative experiences with DR. To address these concerns, we proposed potential solutions aimed at making DR more accessible and adaptable to a variety of families' needs, including immigrant families living in multilingual contexts.

Connecting Previous Studies and Study 4

Study 4 builds on Studies 1–3 by investigating the effects of a digital reading pen (a technology to support reading) on parent-child interactions. Study 1, of parents living in China, highlighted parental concerns about co-viewing and engagement in English, while also noting that many parents reported using digital reading pens to support English learning. Studies 2 and 3 respectively examined the reading styles of Chinese immigrant parents living in Quebec and their use of DR after a workshop on it and at-home practice for eight weeks. In the workshop, parents were also introduced to a technology to assist reading, namely a digital reading pen.

In this study, we compared the reading of the print-only books (fully examined in Study 2 and 3) with highly similar books tailored for use with the reading pen, given prior research indicating that traditional print books and digital storybooks are read differently (Eggleston et al., 2022; Munzer et al., 2019; Parish-Morris et al., 2013). Study 4 explores whether the reading pen complemented traditional DR strategies or was used by parents to support their child's language development in any or all of their languages. This study contributes to the field by offering insight into how the reading pen technology affects parent-child reading interactions, addressing both the potential benefits and limitations of integrating this digital tool into home literacy practices.

Study 4: Chinese-Canadian Parents' Use of and Perspectives on a Digital Reading Pen

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Abstract

The study examines how Chinese-Canadian families used a digital reading pen to support their child's participation in interactive reading. Twenty-nine parents and children (M_{age} = 4;2) engaged in reading at home for eight weeks, following a parent workshop on interactive reading and the digital pen, and were observed before and after this period. Parents also shared their perspectives in focus groups. Findings revealed that while parents enjoyed interactive reading, they found the pen reduced their child's engagement and often viewed the pen as a toy or tool for independent reading rather than a facilitator of parent-child interaction. Despite these reservations, parents found the pen eased the demands of reading in their non-native language and promoted child autonomy. The study contributes to understanding how innovative technologies are or might be used in multilingual families to support young children's bi- or multilingualism and highlights the need for practical strategies to optimize their use.

Keywords: digital book, digital reading pen, interactive reading, parental perspectives, early bilingualism

Chinese-Canadian Parents' Use of and Perspectives on a Digital Reading Pen

Bilingualism is increasingly recognized as a cognitive and cultural asset, including for immigrant children whose families strive to preserve their heritage language (HL) while facilitating the acquisition of the dominant societal language (SL, De Houwer, 2015). However, fostering bilingualism within immigrant households can be a complex process, shaped by parents' linguistic capabilities, cultural practices, and access to educational resources (Ahooja et al., 2022; Ahooja & Ballinger, 2022; Curdt-Christiansen, 2014; Liang & Shin, 2021). Amongst the practical suggestions proposed in the literature to support bilingualism is dialogic reading (DR). Characterized by interactive and scaffolded parent-child discussions during storybook reading, DR has been shown to support linguistic and cognitive development amongst monolingual children (Kim & Riley, 2021; Lever & Sénéchal, 2011; Whitehurst & Lonigan, 1998) as well as bi- or multilingual children (Huennekens & Xu, 2016; Pappas et al., 2012; Y.-L. Zhou, 2021). Despite its efficacy, immigrant families may face unique challenges in implementing DR, especially when engaging with books in SL.

Digital reading tools could be an avenue for addressing these challenges. These tools can read aloud text in multiple languages, potentially alleviating parents' anxiety about their own linguistic limitations and promoting children's engagement with texts (Kucirkova, 2019; Yang, 2016). However, the effectiveness of these tools in fostering bilingual development and maintaining parent-child interaction remains underexplored. Previous studies have noted mixed findings, with some suggesting that digital reading tools reduce dialogic interactions (Eggleston et al., 2022; Munzer et al., 2019; Parish-Morris et al., 2013), while others highlight their potential to support independent reading (Strouse & Ganea, 2017a; Vaala & Takeuchi, 2012) and development in one or both of their languages (Choi et al., 2020; Yang, 2016).

This study seeks to bridge this gap by investigating the use of DR and digital reading pens in Chinese-Canadian immigrant families. The study builds on prior research by incorporating a workshop on DR and the reading pen, an eight-week home implementation of DR and the pen, and observations of parent-child reading with or without the pen and in HL and SL conditions, as well as focus group interviews with parents regarding their perspectives. Specifically, it examines (1) How do parents' reading styles differ as a function of book format (reading pen vs. print-only book) and language (societal vs. heritage language), (2) How does children's talk during the storybook reading differ as a function of these same variables mentioned above, and (3) What are the parents' experiences with and views on using the digital reading pen. By focusing on Chinese-Canadian families, this research provides insights into how bilingualism is navigated in multilingual immigrant households, offering implications for educational practices and future interventions designed to support bilingual development.

Digital Reading Pen

A variety of terms have been used to refer to digital versions of children's books, including *digital books, electronic books, and e-books*. There are also differences amongst the books in terms of the presence or absence of multimedia (e.g., built-in audio narration, sound effects, music, animation), interactivity (e.g., embedded games or activities, touch-activated actions) and augmented reality (e.g., characters popping up in the real world) (Kucirkova, 2019). When animations and sound effects are present, their frequency also varies widely (de Jong & Bus, 2004; Trushell et al., 2001).

Books coupled with a digital reading pen combine the features of traditional books and digital books. Digital reading pen kits contain print books and a scanning pen that is used to activate read-alouds of text or single words, prompts such as questions, and sound effects, all of

which are stored on microchips hidden throughout the book. By placing the pen point on texts or pictures in the printed book, they can be read aloud. Reading pens have different modes and functions depending on their design. The pen I used and provided to families is developed by a Chinese company, Baby Tadpole. It is compatible with two types of books: those pre-designed for pen use and those customized by users, an innovative and unique feature compared to other reading pens. For the latter, users can record audio corresponding to the text or supplementary content and attach special stickers to the book. When the pen touches these stickers, the recorded audio is activated. A photograph of the pen and a customized book is shown in Figure 1 and a video demonstrating the pen's use can be viewed at the following link: https://drive.google.com/file/d/1oRDAQU2-eFbS9vDCEbGbu8G-Vy8eJXc8/view?usp=sharing.

Figure 1

The Digital Reading Pen and A Customized Book

Storybook reading using digital books has been extensively investigated. Results show that, especially when parents are actively involved, young children's exposure to digital books produces similar or greater gains in vocabulary, story comprehension, and phonological

awareness than print books (de Jong & Bus, 2004; Strouse & Ganea, 2016; Takacs et al., 2014; Zucker et al., 2009). Studies have also found that for bilingual children, digital books can improve both of their languages (Verhallen et al., 2006; Yang, 2016). However, researchers are also concerned that animations and sound effects in digital books may overstimulate children (Kucirkova, 2019; Trushell et al., 2001; Zucker et al., 2009). While they attract young children's attention, increase engagement, and maintain participation, if they are too many, children may be cognitively overloaded and distracted (Bus et al., 2015). For an example of the latter, de Jong and Bus (2002) found children spent 43% of their time playing games when digital books contained these.

Parents' reading styles have also been examined in relationship to the format of the book: print or digital. These studies have shown that parents engage in more content-related talk (e.g., evaluative comments, dialogic questions) when reading print books and more procedural language when reading digital books (Eggleston et al., 2022; Munzer et al., 2019; Parish-Morris et al., 2013). For example, Parish-Morris et al. (2013) showed that parents who read print books with their 3-year-old children engaged in more conversations and questions to guide the comprehension of the story and encourage the child to relate the story to real-life experiences. On the other hand, parents who read digital books used more language related to reading procedures, such as clicking, turning the page, or touching a character to trigger a song. Such differences might be because parents assume that digital books are to promote independent reading (Strouse & Ganea, 2017a; Vaala & Takeuchi, 2012). Parents, however, may behave differently when using a digital reading pen, and when reading in a SL, as examined in the present study.

Most studies of digital reading pens concentrate on older students, often in high school or

beyond, and explore how the technology facilitates vocabulary acquisition, reading fluency, or comprehension in structured educational settings (e.g., C.-M. Chen et al., 2016; Lin & Chai, 2014). However, the use of digital reading pens with and by younger children, particularly in informal, home-based environments, remains underexplored. Two exceptions are a study by Choi et al. (2020) and a very recent study by Wildt (2024). The study by Choi and colleagues (2020) examined the impact of digital reading pens on Korean preschool children. Their findings revealed that the use of this technology positively influenced children's interest in learning English.

Wildt's (2024) research explored parent-child interactions with a popular digital reading pen used in German households. The study found that talk related to the book's content was the most frequent type of parental comment, followed by procedure-related talk (e.g., asking children to turn the book pages or to engage with the digital pen). However, as Wildt pointed out, parents engaged in proportionally less content-related talk compared to the amount of such talk by parents reported in studies of reading traditional print books (Wildt, however, observed only interactions with the reading pen and not with print-only books). Wildt also found, based on parent report, that two-thirds of the child participants used the pens independently at home. This finding highlights that the reading pen's design enables children to engage with it autonomously, even at a young age.

Methods

Participants

This research is part of a three-part study investigating DR by Chinese-Canadian families. All three studies involved 29 families, with most parents reporting a "middle" income level and holding at least a bachelor's degree. Among the parents, 28 were first-generation

immigrants. Four parents had moved to Canada within the last three years, and the others had been in Canada for more than four years. The children were predominantly born in Canada and included 15 boys and 14 girls. The majority, 72%, were between 3 and 4 years old, while the remainder were 5 or 6 years old. About half of the children (51.7%) had siblings. Most of the children (82.8%) attended childcare or preschool centers in one of the SLs, with the remainder enrolled in kindergarten or, in a few cases, Grade 1, again in the SL. Thus, all children were regularly exposed to at least two languages.

Materials and Procedures

DR Workshop and Implementation

Parents first participated in a DR workshop conducted either via Zoom (four groups) or in person (one group), and carried out DR at home for eight weeks following the workshop. The workshop included explanations about DR, demonstrations using a Chinese storybook, opportunities for parents to role-play, and feedback sessions. In this workshop, parents were also shown how to use the digital reading pen. Parents were then asked to engage in DR and the reading pen for eight weeks, at least 3 days per week, and for a minimum of 10 minutes each time. They were provided with DR guidelines, a set of 15 books (customized by the researchers to be compatible with the reading pen), and a digital reading pen. The book set consisted of five Chinese books from the Rabbit Waiwai series (Waiwai Rabbit Early Education Team, 2012), five French books from the Je Lis Avec Pat Le Chat series (Dean & Dean, 2019), and five English books from the Curious George series (Rey & Rey, 2011). Parents and children were also told they were welcome to read any other book of their choice.

Reading Logs

During the 8-week DR implementation described above, parents were asked to complete

reading logs provided by the researcher which included labelled spaces for the date, book title, estimated reading time, emojis to indicate level of enjoyment, the use of DR and the digital reading pen, and any additional comments.

Observations

Following the eight-week period of DR practice, parents and children visited a research space and the dyads were videorecorded during storybook reading. The parent was asked to read three books with their child with a 10-minute break between the readings. The first two were print books, with all dyads (N = 29) reading one Chinese book and either a French (n = 16) or an English book (n = 13) based on the parent's preference. The third book was a book designed for use with the digital reading pen, offered in Chinese, French, or English (same title). Among the 29 families, 16 chose to read a Chinese book, 7 selected a French book, and 6 opted for an English book. When the dyad was reading, the researcher left the room but observed and recorded the dyad via a one-way observation mirror.

The storybook reading sessions were transcribed in three steps: AI-assisted automated transcription, review and revision by a graduate research assistant (RA) based on audio recordings, and a final review by the first author using video recordings. Parents' and children's utterances were then coded deductively using codes adapted from previous studies (Munzer et al., 2019; Strouse & Ganea, 2017a; Whitehurst et al., 1988). The coding was implemented using Delve software designed for qualitative data analysis (https://delvetool.com/).

Parent utterances were categorized into five types. The first was 'pen/parent reads text,' which referred to instances where either the digital reading pen or the parent read the book's text aloud. The second category was 'dialogic reading', capturing instances where parents employed DR techniques to prompt their child to talk (e.g., to discuss the literal content of the story or the

child's personal experiences). Another category, 'yes/no questions,' encompassed questions requiring simple affirmative or negative responses, while 'other content talk' referred to requests for clarification or comments related to the book's content that did not fall under the previous categories. Finally, 'attention-directing talk' was used to identify instances where parents redirected the child's attention back to the book, instructed them to turn pages, engaged them in interacting with the digital reading pen, or provided other procedural guidance related to the reading activity.

Children's utterances were similarly classified. 'Response to DR' and 'Response to Yes/No questions' represented the children's replies to parents' DR prompts and yes/no questions, respectively. 'Questions' referred to inquiries initiated by the child about the book's content, while 'comments' captured remarks related to the book's content, initiated by the child. Instances where the child repeated the parent's utterances, or the text read aloud by the pen, were coded as 'repeats.' Additionally, 'attention-directing talk' was used to describe instances where the child redirected the parent's attention to the book.

Focus Group Interviews

After the observations, focus group interviews were conducted to explore parents' experiences with and perspectives on DR and the digital reading pen, key to the present study. Each focus group included 4–7 parents and lasted 1.5 to 2 hours. The focus groups were divided into two parts: the first explored parents' use of and perspectives on DR, while the second focused specifically on their experiences with and opinions on the pen. Sample questions included, "From the logs, I can see you used DR sometimes. Can you tell me more about how and when you used it with your child? How do you and your child like it?" and "Describe how you and your child used the digital reading pen. How do you and your child like it?" The focus

group data was analyzed using deductive and inductive coding, as elaborated in Study 3, and again carried out using Delve software.

Results

Coding Reliability

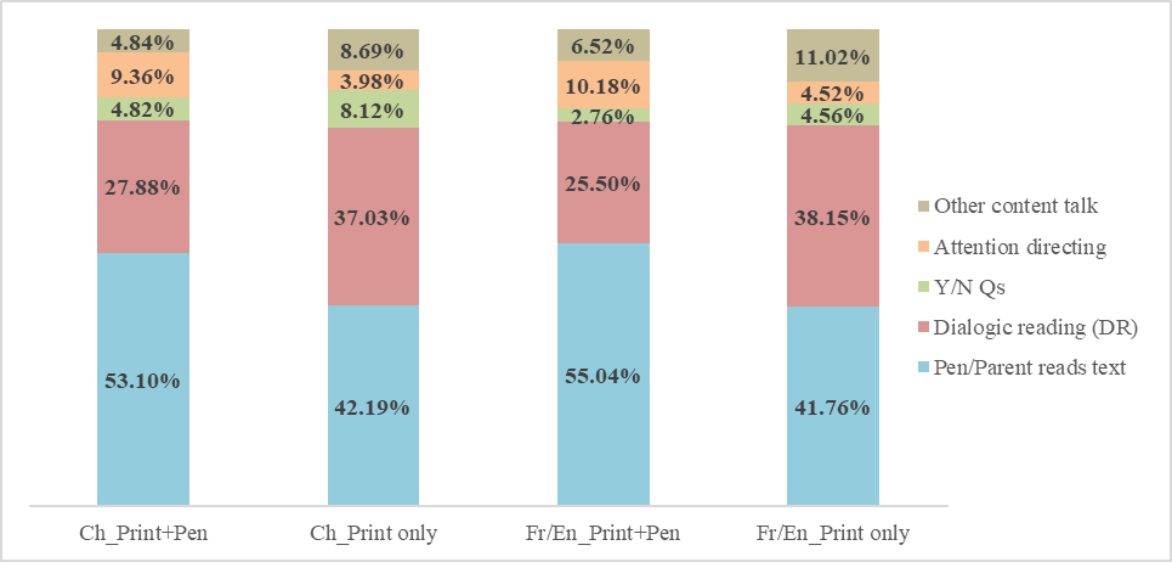
A research assistant (a trained graduate student in the education field) coded 20% of the transcripts of the reading observations and focus group interviews. Inter-rater reliability was strong for each: Krippendorff's $\alpha = .93$ for reading observations and Krippendorff's $\alpha = .88$ for focus groups.

Parental Use of DR

Figure 2 illustrates parents' reading styles when reading print books alone or coupled with a digital reading pen (this variable is referred to henceforth as 'book medium') and when reading either a Chinese book or a French/English book ('book language'). The results indicate that parents used fewer DR techniques when reading books with the reading pen compared to the print book alone.

Figure 2

Parental Utterances by Book Medium and Book Language



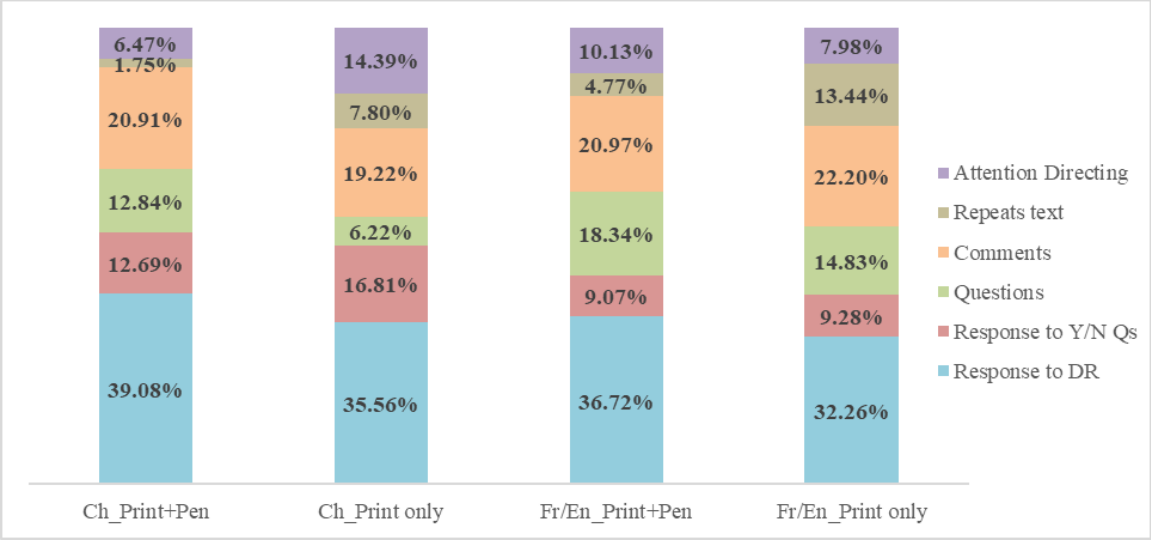
An ANCOVA test, with children's previous experiences with digital book reading entered as a covariate, showed a main effect for book medium: F (1, 27) = 5.08, p = .033, partial η^2 = .163. This effect was small but consistent across both the HL and SL conditions, with no significant interaction observed: F (1, 27) = 0.25, p = .62, partial η^2 = .01. The covariate, prior experience with digital book reading, did not significantly influence parents' use of DR techniques: F (1, 27) = 0.43, p = .519, partial η^2 = .016.

Children's Response to Book Medium

Figure 3 focuses on children's utterances during the reading sessions. ANCOVA showed no significant main effects of book medium on the type of children's utterances: F (1, 27) = 2.08, p = .161, partial η^2 = .074. No interaction was observed between the book medium and book language (F (1, 27) = 0.23, p = .636, partial η^2 = .009), and prior digital book reading experience (the covariate) had no significant effect on the type of children's utterances: F (1, 27) = 0.001, p = .979, partial η^2 = .000. These findings highlight that while the reading pen affected parents' reading strategies, it did not significantly influence children's verbal engagement during reading.

Figure 3

Children's Utterances by Book Medium and Book Language



Use of the Digital Reading Pen

When dyads had the opportunity to choose the book language in the digital reading pen condition, 75.9% of parents (n = 22) asked their child to choose. In contrast, when books were offered in print format only, but the language could be chosen (i.e., in the SL condition), only 17.2% (n = 5) of parents let the child choose. Additionally, when the pen was being used, parents gave children some control over the reading process. Some children took charge of both the pen and turning the pages (n = 12), while others (n = 11) shared control of the reading pace with their parents. Despite these findings, when parents were asked about their own and their child's opinions about the reading pen, only 11 parents and 11 children said they liked the pen; the remainder either had neutral or ambivalent views (Parents n = 15, Children n = 10) or disliked it (Parents n = 3, Children n = 8). These opinions may have contributed to the relatively low levels of reading pen usage reported in reading logs. Based on the reading logs (N = 1015 entries), parents used the pen only 27.2% of the time.

Parents' Perspectives and Children's Reactions

To further understand parents' perspectives on the digital reading pen, we explored their reservations, which revealed four key themes: reading flow and efficiency (n = 11), technical issues (n = 9), negative mindset: it's just a toy (n = 8), and limited book resources (n = 7). Many parents felt the pen disrupted the natural flow and efficiency of reading. For instance, Parent 10 explained that her daughter quickly turned the pages, making it difficult for the mother to engage and interact without interrupting her child's enthusiasm. This frustration often led parents to abandon the pen during reading sessions. Some parents reported difficulties using the pen, finding it less user-friendly compared to traditional print books. Another concern revolved around a negative perception of the pen as more of a toy than an educational tool, which reduced

its appeal for some families. Additionally, limited book resources compatible with the pen further discouraged its use.

> **P10:** In our home, my daughter uses the pen mostly on her own. While she listens to the story as she reads with the pen, I find it challenging to get involved and interact with her. Typically, I only have the chance to engage with her and discuss the story after she finishes a page. However, she often turns the pages quickly, moving on to the next one right away. I don't want to interrupt her flow, so I usually let her continue.
>
> **P8:** Sometimes, the digital reading pen isn't very responsive and fails to read the text aloud. When that happens, my daughter keeps poking the book repeatedly. To avoid this frustration, I don't let her use the pen at all and instead read the book to her myself.
>
> **P13:** My child likes the pen because she sees it as a toy. And also, it has music and rhythms, so she really enjoyed using it outside reading time.
>
> **P7:** We don't have many books that are compatible with the pen. We only have an English book series, which he reads with the pen, along with the books you provided. For the rest of our books, we have to read them ourselves.

Parents also noted their children's reservations toward the pen, which centered around three themes: impatience and distraction (n = 12), preference for human interaction (n = 9), and dislike of book content (n = 6). Several parents observed that their child became bored or easily distracted while using the pen. For example, Parent 27 shared that her daughter often pointed at non-textual elements to activate sound effects instead of focusing on the story's content. About one-third of parents noted that their child preferred being read to by their parents, emphasizing a preference for the warmth and interaction of human involvement over the automated features of the pen. Additionally, some children rejected the pen simply because they did not find the book content interesting, which further diminished its utility. These insights highlight significant barriers to the effective adoption of the digital reading pen, suggesting the need for

improvements in its design and usability, as well as broader considerations for its integration into family reading practices.

> **P19:** She can read two or three pages, but after a while, she gets bored, and her interest doesn't last.
>
> **P27:** I've noticed that when she reads with the pen, sometimes she doesn't point at the sticker to read aloud the text. Instead, she likes pointing at the animal images, like the rabbit. When she points at it, the rabbit makes sounds, which she finds very amusing. She keeps pointing at it and doesn't end up reading the text.
>
> **P23:** We used the pen for the first few days, but the child lost interest because it's not a human voice. It feels less vivid, so we eventually stopped using it.
>
> **P10:** We don't use the pen every day. We mainly read the books you gave us, but she doesn't always seem very interested in some of the content.

Excerpts from the transcripts of storybook reading reflect some of the reservations of parents and their child toward the digital reading pen. In these excerpts, presented below, parent-child dyads were interacting in Chinese while engaged with a Chinese book coupled with the digital reading pen. In excerpt 1, the child had a question regarding the location of a character that initially went unanswered because the recording, activated by the pen, continued. The excerpt shows that the pen's automated narration can interrupt the natural flow of interaction, as parents must adapt their responses to the pace of the pen or struggle to engage in deeper dialogic exchanges while the audiorecording plays. In excerpt 2, similarly the parent asked an inferential question about the source of a noise in the story, expecting the child to infer the response. However, the child ignored the question as the pen continued reading the text. Instead, the child made unrelated comments, echoing parents' observations that their children sometimes get distracted when using the pen. By analyzing these excerpts, we can better understand how the pen shapes the dynamics of parent-child reading and identify opportunities to improve its use to

enhance engagement and interaction.

Excerpt 1

Pen Reading: ...它那小小的黑黑的壳里, 它真希望小伙伴们马上找到它.
He curled up in his small dark shell and waited.
Child1: 妈妈, 他哪里?
Mom, where [is] he?
Pen Reading: 富兰克林想...
Franklin was thinking…
Child1: 妈妈, 他哪里?
Mom, where [is] he?
Pen Reading: ...会有人来吗? 他们...
Would somebody come? They…
Child1: 妈妈, 他哪里?
Mom, where [is] he?
Pen Reading: ...什么时候能来啊.
When would they come?
Mom1: 他森林啊.
He [is] in the forest.

Excerpt 2

Pen Reading: 富兰克林哆哆嗦嗦的问: “谁在那儿?”
“Who is there?” whispered Franklin.
Mom2: 谁在? [asks question to child]
Who is there?
Pen Reading: 没有人回答.
No one answered.
Mom2: 谁在?
Who is there?
Pen Reading: 突然, 富兰克林听到了另外一个声音...
Then Franklin heard a new sound.
Child2: 蝴蝶.
A butterfly.
Pen Reading: 好像在喊他的名字...
It sounded like someone calling his name.
Child2: 我觉得是...
I think…
Pen Reading: 接着, 他又听到了一遍...
He heard it again.
Child2: 是这个, 是他找他.
That’s it, he [dad] found him [Franklin].

Although parents and children expressed some reservations about using the digital reading pen, over half of the parents indicated they might still utilize it due to its perceived benefits, which included easing language demands (n = 16), promoting their child's independent reading (n = 11), and alleviating parental pressure (n = 10) as shown in the quotes from the focus group interviews below. Specifically, parents found the pen particularly helpful when reading in languages they were less comfortable with, such as English and French. Additionally, some parents recognized the pen's potential to foster their child's independent reading habits and reduce demands on their time, especially when balancing reading with other responsibilities.

> **P3:** We use the digital reading pen quite often at home. Since my English isn't very good, I find it challenging to read some of the materials. So, I let my child use the pen to read for him, which I find very helpful.
>
> **P17:** My ideal is for the digital reading pen to be a tool for independent reading, as some of the other moms mentioned earlier. I hope that when I don't have time, my child can use it to read on his own.
>
> **P7:** I definitely like it because it's so convenient. After working all day, then cooking and managing things at night, I'm usually exhausted by bedtime. Having the pen saves me a lot of effort.

Discussion

Consistent with previous studies of digital books (Eggleston et al., 2022; Munzer et al., 2019; Parish-Morris et al., 2013), our findings reveal that parents engage in less content-related talk, such as evaluative comments or dialogic questions, when using hybrid books – namely, print books coupled with a digital reading pen. This reduction in interactive dialogue may stem from parents' complex and ambivalent attitudes toward the reading pen.

In our study, most parents expressed reservations about the digital reading pen. Many viewed it primarily as a toy and echoed parental concerns reported in the literature about the

potential of digital books to distract or overstimulate their children (Kucirkova, 2019; Trushell et al., 2001; Zucker et al., 2009). Parents also noted that while children's independent reading with the pen, also found in Wildt's (2024) study, could be advantageous, it could reduce parental involvement during reading sessions, leading to diminished parent-child interaction (Strouse & Ganea, 2017a; Vaala & Takeuchi, 2012). Furthermore, parents and children appeared to find less engagement or enjoyment with the digital reading pen compared to traditional print books (Nicholas & Paatsch, 2021). Factors contributing to this included technical issues, disruptions to the natural flow of reading, reduced human interaction, and the limited availability of books compatible with the pen. These barriers further compounded the challenges of integrating the digital reading pen into regular reading routines.

Despite these reservations, parents did acknowledge certain benefits of the digital reading pen. Specifically, they appreciated its potential to support second-language learning (Verhallen et al., 2006; Yang, 2016) and to ease demands on parents, particularly those juggling work or other responsibilities. By lightening the burden on parents and facilitating independent reading, the pen offered a practical, though imperfect, tool for enhancing bilingual literacy practices in the home.

Implications

The findings have significant implications for the design and implementation of digital reading tools in bilingual or multilingual family contexts. Researchers or developers of educational tools could collaborate with parents to improve designs and/or develop recommendations for how to best use the tools to support parent-child interactions. More specifically, developers of digital reading pens could prioritize features that enhance the reading experience while fostering interaction. For example, the pen could include built-in questions or

prompts that encourage dialogic interactions, even when the pen is in use. The pen's designer could also consider offering more diverse settings to align with their child's needs and preferences. These could include a pause button that would allow parents to adjust the pace of reading, or options that would activate or deactivate certain content (e.g., DR prompts), and engagement features (e.g., sound effects).

It is also important to increase the availability and diversity of books compatible with the reading pen, particularly in various languages, to accommodate families' linguistic and cultural backgrounds. In our study, we used microchip stickers provided by the publisher to customize ordinary print books and recorded corresponding audio material; however, these processes were very labor and time intensive and not practical for families to achieve. Additionally, parental training programs that guide parents on effectively combining digital reading pens with DR strategies could enhance the tool's benefits. Training might focus on teaching parents how to balance the pen's use with interactive techniques, such as asking open-ended questions and building on their child's responses.

Limitations and Future Directions

This study provides valuable insights into the use of DR and digital reading pens among Chinese-Canadian immigrant families; however, several limitations should be acknowledged. First, the sample was relatively homogenous in terms of SES background, with most parents reporting middle-income levels and holding at least a bachelor's degree. This limits the generalizability of the findings to families from more diverse SES or educational backgrounds. Future research could expand the sample to include families with a broader range of SES, educational, and linguistic and ethnic backgrounds, which could provide a more comprehensive understanding of their applicability.

Second, while observational sessions provided rich data, they were conducted in an experimental setting that may not fully capture naturalistic parent-child interactions. Future research could incorporate more naturalistic observation methods, such as in-home video recordings, to better understand how digital reading pens are used in everyday settings. Additionally, exploring children's perspectives on the pens could offer valuable insights into their interests, preferences and levels of engagement. While parents in our study shared their child's reactions to the pens, future studies could directly elicit children's opinions. Finally, future studies could compare bilingual children's use and response to digital reading pens versus digital storybooks or emerging technologies such as AI-driven conversational agents.

Conclusion

This study explored how digital reading pens were used by Chinese-Canadian families using two or more languages in their homes. Parents were introduced to the digital reading pen in a workshop on DR and given a pen to use as they liked while practicing DR over an 8-week period. Observations of parent-child dyads before and after the eight weeks, and focus group interviews held at the end of the 8-week period, provided insights into parents' reading styles and the potential benefits and challenges of the digital reading pen. The findings highlight that while parents recognize the potential of the pen to support bilingualism, their reservations—such as technical challenges, reduced interaction, and concerns about engagement—must be addressed to maximize its potential. Despite these challenges, parents found the pen alleviated the burden of reading in their non-native language and fostered child independence. By identifying both strengths and areas for improvement in digital reading pen usage, this research lays a foundation for future studies and practical applications that aim to enhance bilingual language development while preserving meaningful parent-child interactions.

General Discussion

The goal of this dissertation was to gain a deeper understanding of parents' experiences with and perspectives on using language support strategies at home to support their child's bilingual development. These were explored in two contrasting societal contexts: first, in China (Study 1), where a single official language predominates, but English is widely taught for its instrumental value, and second, in Montreal, Canada (Studies 2, 3, and 4), where children are exposed to French, the official language; to English; and in the case of many immigrant families, to a heritage minority language.

The research began by examining how parents in mainland China perceive DR and CVC: two language stimulation strategies recommended in Western contexts. The focus then shifted to Chinese immigrant parents in Canada, reflecting my own transition to permanent residency in Canada and membership in the local Chinese community. In three connected studies with the immigrant parents, I observed how parents and children interacted during storybook reading before and after DR instruction and practice at home, then gathered the parents' perspectives on DR through focus groups. Given the low interest in CVC expressed by parents in Study 1, this strategy was not examined further. Many parents associated screens with distraction and wasted time and felt that excessive screen exposure detracted from activities like reading, which they saw as important for developing academic excellence. However, future studies could incorporate greater modelling of CVC followed by opportunities for parents to try CVC with their children, and this exposure and practice could change parental views.

Instead, a digital reading pen, a 'hybrid' tool in that it combines traditional print books with digital reading, was introduced to parents as a second language support strategy that could be used in conjunction with DR. This was followed by an investigation of how the dyads used

the pen and how parents viewed its value. This chapter summarizes the key findings from the four studies and discusses their implications for promoting effective home-based language practices.

Home Language/ Literacy Environment (HLE)

As elaborated in the introduction and Study 2, HLE has many components, some of which were examined through parent questionnaires. In both China and Canada, Chinese parents reported owning more than 50 books at home and frequently reading to their children. Compared to the parents in China, Chinese-Canadian parents read as often and had as many books at home when books in any language were considered. Research has demonstrated that the number of books in the child's home independently predicts their language development, regardless of SES. For instance, Park (2008) examined how the HLE influences children's reading skills in 25 countries. The results indicated that in 80% of the countries studied, the number of books at home was the strongest predictor of children's reading performance, exceeding the influence of informal language activities and parental attitudes toward reading. These findings align with the patterns we observed in Chinese families of high book ownership and frequent parent-child reading—key components of a robust HLE.

In Study 1, Chinese parents reported that their children began learning English at an early age, either at school, through private online or offline tutoring, or at home with parental support. Similarly, the majority of parents in Canada (n = 18, or 62%) reported that their children were exposed to three languages simultaneously at home before the age of three, although in some cases the exposure to French and/or English was minimal. Parents' reading frequency as reported in the questionnaire and their comments in the focus group discussions indicated a high level of engagement in their child's learning in both parent groups, consistent with high levels of parental

engagement in education among Chinese families reported by Wang (2016) and attributed to a centuries-old belief that "To feed without teaching is the father's fault" (养不教，父之过) (p. 6). High levels of parental engagement in education can serve as a strong foundation for recommendations to parents for supporting bilingual language development in multilingual contexts. Efforts to engage parents could, for example, explicitly acknowledge their commitment to education and offer clear, practical guidance on how to incorporate recommended strategies while respecting their values and needs.

Parental Perceptions About Bilingualism

The Chinese-Canadian parents explicitly expressed positive perceptions of bi- and multilingualism, emphasizing its cultural and practical value. Although the Chinese parents in Study 1 were not directly asked about their views on bilingual development, their strong emphasis on providing early English learning for their children suggests that they also valued early bilingualism. However, the differing linguistic contexts shaped parental concerns: in Study 1, parents were primarily worried about their children's English learning, while in the other studies, parents were concerned about their children acquiring or maintaining Chinese. Parents in both groups consistently valued their role in supporting their children's language development but expressed concerns about their ability to facilitate language learning, particularly in the languages that parents were less proficient in, such as English and/or French.

The findings suggest a need for practical, accessible resources and guidance to help parents develop confidence and skills in supporting early bilingual learning. These could include bilingual storybooks, digital supports (e.g., multilingual audio books) and workshops for parents that consider the cultural and linguistic realities of families. For example, parents in Study 1 might be most interested in integrating English learning into their everyday activities, while

parents in Studies 2–4 might want support in maintaining the HL of Chinese in a predominantly English or French environment. By addressing parents' priorities and leveraging their intrinsic motivation, applied researchers and program designers can support families in navigating the complexities of raising bilingual/multilingual children in diverse linguistic contexts.

Parents' Reading Style

Studies 2 and 3 extend the literature on DR by examining Chinese-Canadian parents' reading styles with a Chinese book (HL) versus a book in English or French (SL) before and after participating in a DR workshop. Prior to the workshop, parents primarily relied on their dominant language, Chinese, for interaction and conversation, regardless of the book's language. Following the DR instruction, Chinese continued to be the primary language for reading and interaction. Moreover, the nature of prompts parents provided shifted significantly over time. Parents began incorporating more cognitively demanding questions, such as distancing questions, and were more likely to expand their child's responses, particularly when reading in Chinese. Conversely, when reading in their own or their child's less dominant language, parents often posed literal questions to support comprehension in that language.

The findings highlight parents' ability to adapt their reading practices based on linguistic context. Future efforts to support families should validate this adaptability while offering practical suggestions and guidance on how to optimize it for language learning outcomes. Acknowledging the primary role of HL is essential, while also providing strategies for parents to effectively support SL learning. The reliance on literal questions we observed when parents were reading books in their less dominant language suggests that parents may feel less confident supporting SL acquisition. Therefore, providing resources and examples that encourage parents to gradually increase the complexity of their prompts in these languages can help them feel more

equipped to support their child's learning.

When using a digital reading pen, parents employed significantly fewer DR techniques compared to reading without the pen. This pattern held regardless of whether a parent read a Chinese book or a book in the SL, and children's prior experience with digital book reading. Notably, in the digital reading pen condition, parents often allowed their children to choose the language of the book, whereas in the SL condition in Study 2 in which the book language could be chosen and the pen was not provided, parents typically selected the book. Additionally, the use of the digital reading pen was associated with parents giving children more control during the reading process. The observation that children often chose the book's language and controlled the reading process when using the digital reading pen highlights the potential of these tools to foster child agency and child's independent reading skills.

The reduction in DR techniques when using a digital reading pen suggests that these tools might inadvertently shift the focus away from interactive engagement. Recommendations to parents could emphasize how digital tools can complement, rather than replace, parental interactions and guidance for parents on how to integrate DR techniques with digital tools could help maximize the tool's potential. Moreover, developers of digital reading pens and digital books could consider integrating prompts or features that encourage dialogic interactions. For instance, the device could be programmed to pause at certain points, giving parents an opportunity to ask a question or discuss the story, fostering parent-child interaction.

Children's Talk During Storybook Reading

Following the DR workshop and parents' at-home use of DR over eight weeks, children engaged in proportionally more dialogic talk during the storybook reading session we observed, coupled with a decrease in yes/no questions and attention-directing talk. Children's responses

also correlated highly and positively with parental DR strategies during these interactions. This correlation could be attributed to children following their parents' lead (i.e., as parents expanded or reduced their talk in specific categories, children did too). It is also possible that parents were adapting their communication to align with their children's questions and comments or, more broadly, to their child's linguistic or developmental level.

The findings emphasize the dynamic, reciprocal nature of parent-child interactions during storybook reading. Encouraging parents to remain attentive to their child's verbal and non-verbal cues could help them to tailor their strategies for meaningful interaction. Moreover, the findings suggest that children actively contribute to the reading process. Parents can nurture this engagement by creating an environment where children feel encouraged to ask their own questions and share their thoughts, further enriching the reading experience and enhancing the impact of DR.

Parents' Perspectives on DR, CVC, and the Digital Reading Pen

Parents living in both China and Canada shared remarkably similar perspectives on the language stimulation strategies examined in the studies. Parents in both contexts voiced positive opinions of DR, citing benefits to children's language development and other aspects of cognitive development, parent-child relationships, and reading enjoyment. Consequently, most parents indicated their interest in continuing to use DR at home. However, they also raised concerns, including the difficulty of asking DR questions, the challenge of applying DR techniques when reading books in non-native languages, and the additional burden it places on parents. Some parents noted that children might resist DR if the book content is not interesting to them or become bored by too many questions.

These findings suggest that DR instruction should focus on challenges parents identify,

such as formulating DR questions and engaging in DR in non-native languages. Providing detailed guidelines and prompts would help parents get familiar with various DR questions. Moreover, the materials could be refined by distinguishing prompts that require literal responses from those that require more advanced responses, such as inferences, predictions, and connection to personal experiences. Parents' concerns about children's boredom or resistance highlight the need to integrate child-centered approaches. Encouraging parents to select books that align with their child's interests, let their child choose books, and pace DR questions appropriately could enhance engagement and enjoyment. Parents who wish to expose their child to non-native languages at home but doubt their ability to use DR effectively in these languages could be encouraged to adapt DR to the book language. For instance, parents might focus on asking literal questions to support their child's vocabulary development and comprehension of the SL. This approach is effective even for parents who are not entirely fluent in the SL, as it emphasizes the basic meaning of the text.

Regarding CVC and digital reading pens, parents expressed reservations. For co-viewing, parents in Study 1 generally disliked their children watching TV, viewing it as a special treat or form of entertainment rather than an educational tool. They were also concerned about the potential negative effects of TV, such as disrupting concentration or failing to support the development of independent and logical thinking. Similarly, the Chinese-Canadian parents viewed the digital reading pen as more of a toy. These parents raised concerns about the pen interfering with the flow and efficiency of reading, its ease of use compared to print books, and the limited availability of compatible books. When using the digital reading pen, parents also observed their children's reservations. Some children became bored or distracted quickly, while others preferred being read to by their parents. Additionally, they noted that children were likely

to reject the pen if they found the book content unappealing. Nevertheless, parents acknowledged the potential value of both CVC and the digital reading pen in supporting languages the parents were less proficient in. Some parents appreciated the pen's ability to promote independent 'reading' by children and reduce the burden on parents managing life and work responsibilities.

The findings suggest that a reading pen might be useful to parents with demographic characteristics similar to those in the present study, but adjustments should be considered to enhance the tool's effectiveness. For example, as discussed above, developers of digital reading pens and similar tools could integrate prompts or features that encourage dialogic interactions. Furthermore, ideas for how to integrate a reading pen with interactive reading practices could be shared with parents to maintain engagement and allow reading to flow smoothly.

Limitations and Future Directions

This study offers valuable insights into Chinese families' experiences with and perspectives on early bilingual development; however, several limitations should be acknowledged. First, the sample is limited in that it was small, comprised uniquely of mothers. Fathers are often underrepresented in research, particularly in studies related to child development, parenting, and family dynamics (Panter-Brick et al., 2014). However, fathers may play a unique role in supporting children's language development (Liu & Hoa Chung, 2022). Additionally, the perspectives of grandparents would be of interest, particularly in the Chinese context, given that grandparent involvement in childcare in China ranges from 50-70% (Luo et al., 2020).

Moreover, the sample is somewhat homogenous in terms of parental educational level and other indicators of SES (i.e., income and occupation). It is possible that the changes we observed in parents' use of DR over time and the perspectives on DR expressed by parents might

be different in a sample of lower SES families. Interestingly, a randomized controlled trial by Noble et al. (2020) designed to investigate SES effects showed that parents/caregivers classified as low and high SES were equally successful in adopting DR as well as a second type of interactive reading ("pause reading"), and also that children in both the low and high SES groups made equal (albeit statistically nonsignificant) gains in language skills over the six-week intervention period. In Zevenbergen et al. (2018), however, parents from lower SES backgrounds reported a less positive experience implementing DR than middle SES parents, and based on a meta-analysis of DR interventions, Mol et al. (2008) reported that children in lower SES families (defined by family income and maternal education) benefited less from DR than their peers. To further address SES, future studies could seek to diversify participant demographics by including families with varied SES backgrounds, ethnic compositions, and fathers and caregivers.

Another limitation related to sample representation is the study's exclusive focus on Chinese and Chinese-Canadian families, which limits the generalizability of the findings to other immigrant groups. Furthermore, the predominance of families with two Chinese-speaking parents – rather than other families where parents each speak a different language – could influence how DR and the digital reading pen might be perceived. While the insights provide a detailed understanding of how these families navigate bilingual development within specific cultural and linguistic contexts, they do not reflect the diverse experiences, beliefs, and practices of other immigrant communities. Different immigrant groups may face unique priorities and challenges in language acquisition, shaped by cultural values, varying levels of access to resources, and societal attitudes toward their heritage languages. This limitation is particularly significant given that the Chinese immigrant population may benefit from relatively greater visibility and resources compared to smaller immigrant populations. Future research should

address this gap by including a broader range of immigrant groups, offering a more comprehensive understanding of bilingual development across diverse sociocultural and linguistic settings.

A second limitation of this study is the scope of the analysis of parent-child interactions. The study provided limited insights into the content and function of children's responses and initiations. Future research could analyze these aspects in greater depth, exploring children's expressive language within interactions and its relationship to parental input. Sequential analysis could reveal how parents' and children's utterances influence each other, highlighting bidirectional dynamics. Research has shown that children play a dynamic role in shaping parent-child reading. Parents are constantly interpreting their child's verbal and nonverbal cues and adapting to the child's engagement levels (Preece & Levy, 2020).

The final limitation pertains to methodological issues. First, regarding the HLE, future studies could go beyond questions about the quantity of books and reading frequency, for example by providing parents with a list of language-related activities to gain deeper insights into their language practices at home. Alternatively, researchers could conduct in-home observations to capture the HLE in its natural context. Second, future studies might include observations of parent-child interactions in more naturalistic settings. For example, since parents in this study reported frequently reading to their child at bedtime and allowing the child to choose the book, in-home observations could offer valuable contrasts to the lab-based data collected in this study. Finally, children's perspectives could be investigated, as their preferences might significantly influence the adoption and sustainability of recommended practices. While the children in the dissertation studies were, on average, just four years old, a number of methods for eliciting the views of young children have been proposed in the literature (Brown & Perkins,

2019). Addressing these methodological issues would provide a more comprehensive understanding of how parents support early bilingual development and help tailor recommendations to better meet the needs of both parents and children.

Conclusion

In conclusion, the four studies in the dissertation shed light on the ways Chinese and Chinese-Canadian parents currently and might support their children's early bilingual development, highlighting DR as a language stimulation strategy. Parents showed a strong commitment to fostering bilingualism, expressing its cultural and practical value, and demonstrated flexibility is tailoring DR to their own and their child's language proficiency. Guidance on DR enabled parents to use more diverse DR techniques and aske more high-demand questions, particularly in their HL, while technology, namely a digital reading pen, showed potential to complement parental efforts, especially in supporting non-native languages. These findings underscore the importance of empowering parents with flexible strategies and tools to promote bilingual development, ensuring both societal and heritage languages are nurtured. By leveraging family practices alongside innovative approaches, parents can create enriching language environments that support their children's linguistic and cognitive growth.

References

Aarons, G. A., Hurlburt, M., & Horwitz, S. M. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(1), 4–23. https://doi.org/10.1007/s10488-010-0327-7

Ahooja, A., & Ballinger, S. (2022). Invisible experiences, muted voices, and the language socialization of Québec, migrant-background students. *International Journal of Bilingual Education and Bilingualism*, *25*(2), 478–490. https://doi.org/10.1080/13670050.2019.1699898

Ahooja, A., Brouillard, M., Quirk, E., Ballinger, S., Polka, L., Byers-Heinlein, K., & Kircher, R. (2022). Family language policy among Québec-based parents raising multilingual infants and toddlers: A study of resources as a form of language management. *Journal of Multilingual and Multicultural Development*, *45*(7), 2445–2464. https://doi.org/10.1080/01434632.2022.2050918

Atkins, L., Francis, J., Islam, R., O'Connor, D., Patey, A., Ivers, N., Foy, R., Duncan, E. M., Colquhoun, H., Grimshaw, J. M., Lawton, R., & Michie, S. (2017). A guide to using the theoretical domains framework of behaviour change to investigate implementation problems. *Implementation Science: IS*, *12*(1), 77. https://doi.org/10.1186/s13012-017-0605-9

Attig, M., & Weinert, S. (2020). What impacts early language skills? Effects of social disparities and different process characteristics of the home learning environment in the first 2 years. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.557751

Austin, J., Sánchez, L., & Blume, M. (Eds.). (2015). What does it mean to be bilingual? In

Bilingualism in the Spanish-speaking world: Linguistic and cognitive perspectives (pp. 39–86). Cambridge University Press. https://doi.org/10.1017/CBO9780511844201.002

Ballinger, S., Brouillard, M., Ahooja, A., Kircher, R., Polka, L., & Byers-Heinlein, K. (2020). Intersections of official and family language policy in Quebec. *Journal of Multilingual and Multicultural Development*, *43*(7), 614–628. https://doi.org/10.1080/01434632.2020.1752699

Blom-Hoffman, J., O'Neil-Pirozzi, T., Volpe, R., Cutting, J., & Bissinger, E. (2007). Instructing parents to use dialogic reading strategies with preschool children. *Journal of Applied School Psychology*, *23*(1), 117–131. https://doi.org/10.1300/J370v23n01_06

Bourgeois, P., & Clark, B. (2000). *Le nouvel ami de Franklin*. Deux Coqs D'or.

Bourgeois, P., & Clark, B. (2002). *Franklin a peur de l'orage*. Deux Coqs D'or.

Bourgeois, P., & Clark, B. (2011a). *Franklin and the thunderstorm* (2 edition). Kids Can Press.

Bourgeois, P., & Clark, B. (2011b). *Franklin's new friend* (2 edition). Kids Can Press.

Bourgeois, P., & Clark, B. (2011c). *富兰克林的新朋友 [Franklin's new friend]* (O. Bai, Trans.). Jieli Press.

Bourgeois, P., & Clark, B. (2011d). *打雷下雨我不怕 [Franklin and the thunderstorm]* (O. Bai, Trans.). Jieli Press.

Boyd, B. A., Kucharczyk, S., & Wong, C. (2016). Implementing evidence-based practices in early childhood classroom settings. In B. Reichow, B. A. Boyd, E. E. Barton, & S. L. Odom (Eds.), *Handbook of Early Childhood Special Education* (pp. 335–347). Springer International Publishing. https://doi.org/10.1007/978-3-319-28492-7_17

Brannon, D., Dauksas, L., Coleman, N., Israelson, L., & Williams, T. (2013). Measuring the effect that the partners' dialogic reading program has on preschool children's expressive

language. *Creative Education*, *4*(9), 14–17. https://doi.org/10.4236/ce.2013.49B004

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

Bronfenbrenner, U. (1981). *The ecology of human development: Experiments by nature and design* (Revised edition). Harvard University Press.

Bronfenbrenner, U., & Morris, P. A. (2007). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of child development* (6th ed., pp. 793–828). John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470147658.chpsy0114

Brown, Z., & Perkins, H. (Eds.). (2019). *Using innovative methods in early years research: Beyond the conventional*. Routledge. https://doi.org/10.4324/9780429423871

Burgess, S. R., Hecht, S. A., & Lonigan, C. J. (2002). Relations of the home literacy environment (HLE) to the development of reading-related abilities: A one-year longitudinal study. *Reading Research Quarterly*, *37*(4), 408–426. https://doi.org/10.1598/RRQ.37.4.4

Bus, A. G., Takacs, Z. K., & Kegel, C. A. T. (2015). Affordances and limitations of electronic storybooks for young children's emergent literacy. *Developmental Review*, *35*, 79–97. https://doi.org/10.1016/j.dr.2014.12.004

Butler, Y. G. (2012). Bilingualism/multilingualism and second-language acquisition. In T. K. Bhatia & W. C. Ritchie (Eds.), *The handbook of bilingualism and multilingualism* (pp. 109–136). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118332382.ch5

Chacko, A., Fabiano, G. A., Doctoroff, G. L., & Fortson, B. (2018). Engaging fathers in effective parenting for preschool children using shared book reading: A randomized controlled

trial. *Journal of Clinical Child & Adolescent Psychology*, *47*(1), 79–93. https://doi.org/10.1080/15374416.2016.1266648

Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development*, *65*(4), 1111–1119. https://doi.org/10.2307/1131308

Chen, C.-M., Tan, C.-C., & Lo, B.-J. (2016). Facilitating English-language learners' oral reading fluency with digital pen technology. *Interactive Learning Environments*, *24*(1), 96–118. https://doi.org/10.1080/10494820.2013.817442

Chen, J. J., & Ren, Y. (2019). Relationships between home-related factors and bilingual abilities: A study of Chinese–English dual language learners from immigrant, low-income backgrounds. *Early Childhood Education Journal*, *47*(4), 381–393. https://doi.org/10.1007/s10643-019-00941-9

Chen, S. H., Zhou, Q., & Uchikoshi, Y. (2021). Heritage language socialization in Chinese American immigrant families: Prospective links to children's heritage language proficiency. *International Journal of Bilingual Education and Bilingualism*, *24*(8), 1193–1209. https://doi.org/10.1080/13670050.2018.1547680

Cheung, R., Willan, K., Dickerson, J., & Bowyer-Crane, C. (2024, July 7). *Risk factors for early language delay in a minority ethnic, bilingual, socioeconomically deprived population*. Child Language Symposium, Newcastle, UK.

China's National Radio and Television Administration. (2018, October 20). *2016 中国电视收视报告 [2016 television report in China]*. http://www.nrta.gov.cn/art/2018/10/20/art_2178_39216.html

Choi, N., Kang, S., & Sheo, J. (2020). Children's interest in learning English through picture

books in an EFL context: The effects of parent–child interaction and digital pen use. *Education Sciences*, *10*(2), Article 2. https://doi.org/10.3390/educsci10020040

Chow, B. W.-Y., Chui, B. H.-T., Lai, M. W.-C., & Kwok, S. Y. C. L. (2017). Differential influences of parental home literacy practices and anxiety in English as a foreign language on Chinese children's English development. *International Journal of Bilingual Education and Bilingualism*, *20*(6), 625–637. https://doi.org/10.1080/13670050.2015.1062468

Chow, B. W.-Y., Hui, A. N. N., & Chui, B. H.-T. (2018). Creative literacy activities promote positive reading attitude in children learning English as a foreign language. *Journal of Research in Reading*, *41*(2), 278–289. https://doi.org/10.1111/1467-9817.12096

Chow, B. W.-Y., McBride-Chang, C., Cheung, H., & Chow, C. S.-L. (2008). Dialogic reading and morphology training in Chinese children: Effects on language and literacy. *Developmental Psychology*, *44*(1), 233–244. https://doi.org/10.1037/0012-1649.44.1.233

Collins, M. F. (2016). Supporting inferential thinking in preschoolers: Effects of discussion on children's story comprehension. *Early Education and Development*, *27*(7), 932–956. https://doi.org/10.1080/10409289.2016.1170523

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed). Pearson.

Cunningham, C. (2020). When 'home languages' become 'holiday languages': Teachers' discourses about responsibility for maintaining languages beyond English. *Language, Culture and Curriculum*, *33*(3), 213–227. https://doi.org/10.1080/07908318.2019.1619751

Curdt-Christiansen, X. L. (2009). Invisible and visible language planning: Ideological factors in

the family language policy of Chinese immigrant families in Quebec. *Language Policy*, *8*(4), 351–375. https://doi.org/10.1007/s10993-009-9146-7

Curdt-Christiansen, X. L. (2014). Family language policy: Is learning Chinese at odds with learning English? In X. L. Curdt-Christiansen & A. Hancock (Eds.), *Learning Chinese in diasporic communities: Many pathways to being Chinese* (Vol. 12, pp. 35–56). John Benjamins Publishing Company. https://doi.org/10.1075/aals.12.03cur

Curdt-Christiansen, X. L., & Morgia, F. L. (2018). Managing heritage language development: Opportunities and challenges for Chinese, Italian and Pakistani Urdu-speaking families in the UK. *Multilingua*, *37*(2), 177–200. https://doi.org/10.1515/multi-2017-0019

De Houwer, A. (1999). *BILPATT: Language attitude questions for parents in bilingual settings*. Habilnet. https://www.habilnet.org/science/#resources

De Houwer, A. (2007). Parental language input patterns and children's bilingual use. *Applied Psycholinguistics*, *28*(3), 411–424. https://doi.org/10.1017/S0142716407070221

De Houwer, A. (2015). Harmonious bilingual development: Young families' well-being in language contact situations. *International Journal of Bilingualism*, *19*(2), 169–184. https://doi.org/10.1177/1367006913489202

De Houwer, A. (2018). *BILTALK: Talk and interaction questions for parents in bilingual settings.* Habilnet. https://www.habilnet.org/science/#resources

De Houwer, A. (2021). *Bilingual development in childhood*. Cambridge University Press. https://doi.org/10.1017/9781108866002

de Jong, M. T., & Bus, A. G. (2002). Quality of book-reading matters for emergent readers: An experiment with the same book in a regular or electronic format. *Journal of Educational Psychology*, *94*(1), 145–155. https://doi.org/10.1037/0022-0663.94.1.145

de Jong, M. T., & Bus, A. G. (2004). The efficacy of electronic books in fostering kindergarten children's emergent story understanding. *Reading Research Quarterly*, *39*(4), 378–393. https://doi.org/10.1598/RRQ.39.4.2

Dean, J., & Dean, K. (2019). *Je lis avec Pat le chat* (J. Dean, Trans.). Éditions Scholastic.

Dicataldo, R., Rowe, M. L., & Roch, M. (2022). "Let's read together": A parent-focused intervention on dialogic book reading to improve early language and literacy skills in preschool children. *Children*, *9*(8), Article 8. https://doi.org/10.3390/children9081149

Dong, Y., & Chow, B. W.-Y. (2022). Home literacy environment and English as a second language acquisition: A meta-analysis. *Language Learning and Development*, *18*(4), 485–499. https://doi.org/10.1080/15475441.2021.2003197

Dong, Y., Chow, B. W.-Y., Mo, J., Miao, X., & Zheng, H.-Y. (2024). Effects of dialogic reading elements on children's language development. *Journal of Research in Reading*, *47*(2), 181–200. https://doi.org/10.1111/1467-9817.12447

Dowdall, N., Melendez-Torres, G. J., Murray, L., Gardner, F., Hartford, L., & Cooper, P. J. (2020). Shared picture book reading interventions for child language development: A systematic review and meta-analysis. *Child Development*, *91*(2), e383–e399. https://doi.org/10.1111/cdev.13225

Edwards, J. (2012). Bilingualism and multilingualism: Some central concepts. In T. K. Bhatia & W. C. Ritchie (Eds.), *The handbook of bilingualism and multilingualism* (pp. 5–25). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118332382.ch1

Eggleston, C., Wang, X. C., & Choi, Y. (2022). Mother-toddler shared reading with electronic versus print books: Mothers' language use and perspectives. *Early Education and Development*, *33*(7), 1152–1174. https://doi.org/10.1080/10409289.2021.1943638

Elmonayer, R. A. (2013). Promoting phonological awareness skills of Egyptian kindergarteners through dialogic reading. *Early Child Development and Care*, *183*(9), 1229–1241. https://doi.org/10.1080/03004430.2012.703183

Fillmore, L. W. (1991). When learning a second language means losing the first. *Early Childhood Research Quarterly*, *6*(3), 323–346. https://doi.org/10.1016/S0885-2006(05)80059-6

Fillmore, L. W. (2000). Loss of family languages: Should educators be concerned. *Theory Into Practice*, *39*(4), 203–210. https://doi.org/10.1207/s15430421tip3904_3

Folsom, J. S. (2017, January 3). *Dialogic reading: Having a conversation about books*. Iowa Reading Research Center. https://iowareadingresearch.org/blog/dialogic-reading-having-a-conversation-about-books

Gao, X. (Andy), & Ren, W. (2019). Controversies of bilingual education in China. *International Journal of Bilingual Education and Bilingualism*, *22*(3), 267–273. https://doi.org/10.1080/13670050.2018.1550049

Gao, Y., & and Zeng, G. (2021). An exploratory study on national language policy and family language planning in the Chinese context. *Cogent Education*, *8*(1), 1878871. https://doi.org/10.1080/2331186X.2021.1878871

Georgiou, G. K., Inoue, T., & Parrila, R. (2021). Developmental relations between home literacy environment, reading interest, and reading skills: Evidence from a 3-year longitudinal study. *Child Development*, *92*(5), 2053–2068. https://doi.org/10.1111/cdev.13589

Gil, J., & Adamson, B. (2011). The English language in mainland China: A sociolinguistic profile. In A. Feng (Ed.), *English language education across greater China* (pp. 23–45). Multilingual Matters. https://doi.org/10.21832/9781847693518-004

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Routledge.

Gonzalez-Barrero, A. M., Salama-Siroishka, N., Dubé, D., Brouillard, M., & Byers-Heinlein, K. (2021). Effects of language dominance on home reading practices of bilingual families. *International Journal of Bilingualism*, *25*(1), 77–99. https://doi.org/10.1177/1367006920938153

Government of Canada. (2024, August 6). *Immigrate to Canada*. https://www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada.html

Gregoriadis, A., & Evangelou, M. (2022). Revisiting the home learning environment: Introducing the home learning ecosystem. *Australasian Journal of Early Childhood*, *47*(3), 206–218. https://doi.org/10.1177/18369391221099370

Grolig, L., Cohrdes, C., Tiffin-Richards, S. P., & Schroeder, S. (2020). Narrative dialogic reading with wordless picture books: A cluster-randomized intervention study. *Early Childhood Research Quarterly*, *51*, 191–203. https://doi.org/10.1016/j.ecresq.2019.11.002

Grosjean, F. (2010). *Bilingual: Life and reality*. Harvard University Press. https://doi.org/10.4159/9780674056459

Hoff, E. (2006). How social contexts support and shape language development. *Developmental Review*, *26*(1), 55–88. https://doi.org/10.1016/j.dr.2005.11.002

Hoff, E. (2015). Language development in bilingual children. In E. L. Bavin & L. R. Naigles (Eds.), *The Cambridge handbook of child language* (2nd ed., pp. 483–503). Cambridge University Press. https://doi.org/10.1017/CBO9781316095829.022

Hoff, E. (2021). Why bilingual development is not easy. *Advances in Child Development and Behavior*, *61*, 129–167. https://doi.org/10.1016/bs.acdb.2021.03.002

Hoffmann, C. (2001). Towards a description of trilingual competence. *International Journal of Bilingualism*, *5*(1), 1–17. https://doi.org/10.1177/13670069010050010101

Huebner, C. E., & Meltzoff, A. N. (2005). Intervention to change parent–child reading style: A comparison of instructional methods. *Journal of Applied Developmental Psychology*, *26*(3), 296–313. https://doi.org/10.1016/j.appdev.2005.02.006

Huennekens, M. E., & Xu, Y. (2016). Using dialogic reading to enhance emergent literacy skills of young dual language learners. *Early Child Development and Care*, *186*(2), 324–340. https://doi.org/10.1080/03004430.2015.1031125

Hwang, J. K., Mancilla-Martinez, J., Flores, I., & McClain, J. B. (2022). The relationship among home language use, parental beliefs, and Spanish-speaking children's vocabulary. *International Journal of Bilingual Education and Bilingualism*, *25*(4), 1175–1193. https://doi.org/10.1080/13670050.2020.1747389

Inoue, T., Manolitsis, G., de Jong, P. F., Landerl, K., Parrila, R., & Georgiou, G. K. (2020). Home literacy environment and early literacy development across languages varying in orthographic consistency. *Frontiers in Psychology*, *11*, Article 1923. https://doi.org/10.3389/fpsyg.2020.01923

Jang, E., & Brutt-Griffler, J. (2019). Language as a bridge to higher education: A large-scale empirical study of heritage language proficiency on language minority students' academic success. *Journal of Multilingual and Multicultural Development*, *40*(4), 322–337. https://doi.org/10.1080/01434632.2018.1518451

Johnston, J. R., & Wong, M.-Y. A. (2002). Cultural differences in beliefs and practices

concerning talk to children. *Journal of Speech, Language, and Hearing Research*, *45*(5), 916–926. https://doi.org/10.1044/1092-4388(2002/074)

Justice, L. M., Logan, J. R., & Damschroder, L. (2015). Designing caregiver-implemented shared-reading interventions to overcome implementation barriers. *Journal of Speech, Language, and Hearing Research*, *58*(6), S1851-1863. https://doi.org/10.1044/2015_JSLHR-L-14-0344

Justice, L. M., Skibbe, L. E., McGinty, A. S., Piasta, S. B., & Petrill, S. (2011). Feasibility, efficacy, and social validity of home-based storybook reading intervention for children with language impairment. *Journal of Speech, Language, and Hearing Research*, *54*(2), 523–538. https://doi.org/10.1044/1092-4388(2010/09-0151)

Kilpi-Jakonen, E., & Kwon, H. W. (2023). The behavioral and mental health benefits of speaking the heritage language within immigrant families: The moderating role of family relations. *Journal of Youth and Adolescence*, *52*(10), 2158–2181. https://doi.org/10.1007/s10964-023-01807-5

Kim, Y., & Riley, D. (2021). Accelerating early language and literacy skills through a preschool-home partnership using dialogic reading: A randomized trial. *Child & Youth Care Forum*, *50*(5), 901–924. https://doi.org/10.1007/s10566-021-09598-1

Kluczniok, K., Lehrl, S., Kuger, S., & Rossbach, H.-G. (2013). Quality of the home learning environment during preschool age – Domains and contextual conditions. *European Early Childhood Education Research Journal*, *21*(3), 420–438. https://doi.org/10.1080/1350293X.2013.814356

Kotaman, H. (2007). Turkish parents' dialogical storybook reading experiences: A phenomenological study. *Journal of Instructional Psychology*, *34*, 200–206.

Kremin, L. V., Alves, J., Orena, A. J., Polka, L., & Byers-Heinlein, K. (2022). Code-switching in parents' everyday speech to bilingual infants. *Journal of Child Language*, *49*(4), 714–740. https://doi.org/10.1017/S0305000921000118

Krijnen, E., van Steensel, R., Meeuwisse, M., Jongerling, J., & Severiens, S. (2020). Exploring a refined model of home literacy activities and associations with children's emergent literacy skills. *Reading and Writing*, *33*(1), 207–238. https://doi.org/10.1007/s11145-019-09957-4

Krippendorff, K. (2019). Reliability. In *Content analysis: An introduction to its methodology* (4th ed., pp. 277–360). SAGE Publications, Inc. https://doi.org/10.4135/9781071878781

Kucirkova, N. (2019). Children's reading with digital books: Past moving quickly to the future. *Child Development Perspectives*, *13*(4), 208–214. https://doi.org/10.1111/cdep.12339

Lau, C., & Richards, B. (2021). Home literacy environment and children's English language and literacy skills in Hong Kong. *Frontiers in Psychology*, *11*, Article 569581. https://doi.org/10.3389/fpsyg.2020.569581

Lau, E. Y. H., Li, H., & Rao, N. (2011). Parental involvement and children's readiness for school in China. *Educational Research*, *53*(1), 95–113. https://doi.org/10.1080/00131881.2011.552243

Lever, R., & Sénéchal, M. (2011). Discussing stories: On how a dialogic reading intervention improves kindergartners' oral narrative construction. *Journal of Experimental Child Psychology*, *108*(1), 1–24. https://doi.org/10.1016/j.jecp.2010.07.002

Lewis, K., Sandilos, L. E., Hammer, C. S., Sawyer, B. E., & Méndez, L. I. (2016). Relations among the home language and literacy environment and children's language abilities: A study of head start dual language learners and their mothers. *Early Education and*

Development, *27*(4), 478–494. https://doi.org/10.1080/10409289.2016.1082820

Li, L. (2018). Translanguaging as a practical theory of language. *Applied Linguistics*, *39*(1), 9–30. https://doi.org/10.1093/applin/amx039

Li, L., & Fleer, M. (2015). Family pedagogy: Parent–child interaction in shared book reading. *Early Child Development and Care*, *185*(11–12), 1944–1960. https://doi.org/10.1080/03004430.2015.1028398

Li, L., & Tan, C. L. (2016). Home literacy environment and its influence on Singaporean children's Chinese oral and written language abilities. *Early Childhood Education Journal*, *44*(4), 381–387. https://doi.org/10.1007/s10643-015-0723-4

Liamputtong, P. (2011). *Focus group methodology: Principles and practice*. SAGE Publications. https://doi.org/10.4135/9781473957657

Liang, F., & Shin, D.-S. (2021). Heritage language maintenance of Chinese immigrant families: Perceptions, practices, and challenges. *Bilingual Research Journal*, *44*(1), 23–38. https://doi.org/10.1080/15235882.2021.1922539

Lim, N., O'Reilly, M. F., Londono, F. V., & Russell-George, A. (2021). Overcoming language barriers between interventionists and immigrant parents of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *51*(8), 2876–2890. https://doi.org/10.1007/s10803-020-04754-3

Lin, C.-Y., & Chai, H.-C. (2014). Using an e-talk pen to promote phonological awareness on communication training. *2014 9th International Conference on Computer Science & Education*, 298–302. https://doi.org/10.1109/ICCSE.2014.6926474

Liu, C., & Hoa Chung, K. K. (2022). Effects of fathers' and mothers' expectations and home literacy involvement on their children's cognitive–linguistic skills, vocabulary, and word

reading. *Early Childhood Research Quarterly*, *60*, 1–12. https://doi.org/10.1016/j.ecresq.2021.12.009

Logan, J. A. R., Justice, L. M., Yumuş, M., & Chaparro-Moreno, L. J. (2019). When children are not read to at home: The million word gap. *Journal of Developmental & Behavioral Pediatrics*, *40*(5), 383–386. https://doi.org/10.1097/DBP.0000000000000657

Luk, G., & Surrain, S. (2019). *The perceptions of bilingualism scales* [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/s32zb

Luo, Y., Qi, M., Huntsinger, C. S., Zhang, Q., Xuan, X., & Wang, Y. (2020). Grandparent involvement and preschoolers' social adjustment in Chinese three-generation families: Examining moderating and mediating effects. *Children and Youth Services Review*, *114*, 105057. https://doi.org/10.1016/j.childyouth.2020.105057

MacLeod, A. A. N., & Demers, C. (2023). Transmitting white monolingual Anglo-American norms: A concept analysis of "quality of language" in parent-child interactions. *Applied Psycholinguistics*, *44*(4), 431–459. https://doi.org/10.1017/S014271642300005X

Mao, W. (2020). *Play pedagogy in children's ESL learning: Parents and teachers' perspectives* [Master Thesis, Thompson Rivers University]. https://www.bac-lac.gc.ca/eng/services/theses/Pages/item.aspx?idNumber=1286849274

Mao, W., Doan, L. K., & Handford, V. (2023). Parental ethnotheories of child play: The discrepant perspectives and practices among Chinese parents. *Early Childhood Education Journal*, *52*, 617–627. https://doi.org/10.1007/s10643-023-01470-2

Mao, W., & Pesco, D. (2025). Chinese mothers' perspectives on supporting young children's language development through dialogic reading and co-viewing. *Journal of Child and Family Studies*, Advance online publication. https://doi.org/10.1007/s10826-025-03013-2

Matthews, S., & Yip, V. (Eds.). (2007). Theoretical framework. In *The bilingual child: Early development and language contact* (pp. 22–55). Cambridge University Press. https://doi.org/10.1017/CBO9780511620744.004

Michie, S., Johnston, M., Francis, J., Hardeman, W., & Eccles, M. (2008). From theory to intervention: Mapping theoretically derived behavioural determinants to behaviour change techniques. *Applied Psychology*, *57*(4), 660–680. https://doi.org/10.1111/j.1464-0597.2008.00341.x

Ministry of Education. (2021). *关于进一步减轻义务教育阶段学生作业负担和校外培训负担的意见 [Opinions on reducing students' burden on homework and off-campus training in K-12 education]*. Ministry of Education of the People's Republic of China. http://www.moe.gov.cn/jyb_xxgk/moe_1777/moe_1778/202107/t20210724_546576.html

Mohr, K. A. J., Juth, S. M., Kohlmeier, T. L., & Schreiber, K. E. (2018). The developing bilingual brain: What parents and teachers should know and do. *Early Childhood Education Journal*, *46*(1), 11–20. https://doi.org/10.1007/s10643-016-0833-7

Mol, S. E., Bus, A. G., de Jong, M. T., & Smeets, D. J. H. (2008). Added value of dialogic parent–child book readings: A meta-analysis. *Early Education and Development*, *19*(1), 7–26. https://doi.org/10.1080/10409280701838603

Montag, J. L., Jones, M. N., & Smith, L. B. (2015). The words children hear: Picture books and the statistics for language learning. *Psychological Science*, *26*(9), 1489–1496. https://doi.org/10.1177/0956797615594361

Mu, G. M. (2015). A meta-analysis of the correlation between heritage language and ethnic identity. *Journal of Multilingual and Multicultural Development*, *36*(3), 239–254. https://doi.org/10.1080/01434632.2014.909446

Munzer, T. G., Miller, A. L., Weeks, H. M., Kaciroti, N., & Radesky, J. (2019). Differences in parent-toddler interactions with electronic versus print books. *Pediatrics*, *143*(4), Article e20182012. https://doi.org/10.1542/peds.2018-2012

National Center for Education Statistics. (2024). *English learners in public schools*. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/programs/coe/indicator/cgf/english-learners

Nicholas, M., & Paatsch, L. (2021). Mothers' views on shared reading with their two-year olds using printed and electronic texts: Purpose, confidence and practice. *Journal of Early Childhood Literacy*, *21*(1), 3–26. https://doi.org/10.1177/1468798418792614

Noble, C., Cameron-Faulkner, T., Jessop, A., Coates, A., Sawyer, H., Taylor-Ims, R., & Rowland, C. F. (2020). The impact of interactive shared book reading on children's language skills: A Rrandomized controlled trial. *Journal of Speech, Language, and Hearing Research*, *63*(6), 1878–1897. https://doi.org/10.1044/2020_JSLHR-19-00288

O'Brien, B. A., Ng, S. C., & Arshad, N. A. (2020). The structure of home literacy environment and its relation to emergent English literacy skills in the multilingual context of Singapore. *Early Childhood Research Quarterly*, *53*, 441–452. https://doi.org/10/gg9bbr

Opel, A., Ameer, S. S., & Aboud, F. E. (2009). The effect of preschool dialogic reading on vocabulary among rural Bangladeshi children. *International Journal of Educational Research*, *48*(1), 12–20. https://doi.org/10.1016/j.ijer.2009.02.008

Panter-Brick, C., Burgess, A., Eggerman, M., McAllister, F., Pruett, K., & Leckman, J. F. (2014). Practitioner review: Engaging fathers – recommendations for a game change in parenting interventions based on a systematic review of the global evidence. *Journal of Child Psychology and Psychiatry*, *55*(11), 1187–1212. https://doi.org/10.1111/jcpp.12280

Pappas, C. C., Varelas, M., Patton, S. K., Ye, L., & Ortiz, I. (2012). Dialogic strategies in read-alouds of English-language information books in a second-grade bilingual classroom. *Theory Into Practice*, *51*(4), 263–272. https://doi.org/10.1080/00405841.2012.726054

Paradis, J., Genesee, F., & Crago, M. (2021). *Dual language development & disorders: A handbook on bilingualism and second language learning* (3rd ed). Brookes Publishing.

Parish-Morris, J., Mahajan, N., Hirsh-Pasek, K., Golinkoff, R. M., & Collins, M. F. (2013). Once upon a time: Parent–child dialogue and storybook reading in the electronic era. *Mind, Brain, and Education*, *7*(3), 200–211. https://doi.org/10.1111/mbe.12028

Park, H. (2008). Home literacy environments and children's reading performance: A comparative study of 25 countries. *Educational Research and Evaluation*, *14*(6), 489–505. https://doi.org/10.1080/13803610802576734

Patel, S., Segal, A., & Martin-Chang, S. (2021). "I love this story!" Examining parent-child interactions during storybook reading. *Early Education and Development*, *32*(3), 385–401. https://doi.org/10.1080/10409289.2020.1755159

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4 ed). SAGE Publications, Inc.

Pearson Early Learning Group. (2006). *Read together, talk together family kit B*. Pearson Early Learning Group.

Preece, J., & Levy, R. (2020). Understanding the barriers and motivations to shared reading with young children: The role of enjoyment and feedback. *Journal of Early Childhood Literacy*, *20*(4), 631–654. https://doi.org/10.1177/1468798418779216

Quirk, E., Brouillard, M., Ahooja, A., Ballinger, S., Polka, L., Byers-Heinlein, K., & Kircher, R. (2024). A corpus-assisted discourse study of parental concerns regarding multilingual

child-rearing. *Journal of Multilingual and Multicultural Development*, Advance online publication. https://doi.org/10.1080/01434632.2024.2415384

Quirk, E., Brouillard, M., & Byers-Heinlein, K. (2024). Reading in two languages: Parents' strategy and language use across book formats during bilingual shared reading. *Bilingual Research Journal*, Advance online publication. https://doi.org/10.1080/15235882.2024.2305918

Read, K., Rabinowitz, S., & Harrison, H. (2023). It's the talk that counts: A review of how the extra-textual talk of caregivers during shared book reading with young children has been categorized and measured. *Journal of Early Childhood Literacy*, Advance online publication. https://doi.org/10.1177/14687984231202968

Rey, H. A., & Rey, M. (2011). *Curious George*. Houghton Mifflin Harcourt.

Reyes, S. A., & Vallone, T. L. (2007). Toward an expanded understanding of two-way bilingual immersion education: Constructing identity through a critical, additive bilingual/bicultural pedagogy. *Multicultural Perspectives*, *9*(3), 3–11. https://doi.org/10.1080/15210960701443433

Roseberry, S., Hirsh-Pasek, K., Parish-Morris, J., & Golinkoff, R. M. (2009). Live action: Can young children learn verbs from video? *Child Development*, *80*(5), 1360–1375. https://doi.org/10.1111/j.1467-8624.2009.01338.x

Ryan, È. (2021). The impact of home literacy on bilingual vocabulary development. *Bilingual Research Journal*, *44*(1), 108–123. https://doi.org/10.1080/15235882.2021.1905105

Salmon, K., & Reese, E. (2016). The benefits of reminiscing with young children. *Current Directions in Psychological Science*, *25*(4), 233–238. https://doi.org/10.1177/0963721416655100

Samudra, P. G., Flynn, R. M., & Wong, K. M. (2019). Coviewing educational media: Does coviewing help low-income preschoolers learn auditory and audiovisual vocabulary associations? *AERA Open*, *5*(2), 1–12. https://doi.org/10.1177/2332858419853238

Scheele, A. F., Leseman, P. P. M., & Mayo, A. Y. (2010). The home language environment of monolingual and bilingual children and their language proficiency. *Applied Psycholinguistics*, *31*(1), 117–140. https://doi.org/10.1017/S0142716409990191

Schott, E., Kremin, L. V., & Byers-Heinlein, K. (2022). The youngest bilingual Canadians: Insights from the 2016 Census regarding children aged 0-9. *Canadian Public Policy*, *48*(2), 254–266. https://www.jstor.org/stable/27158065

Sénéchal, M. (2006). Testing the home literacy model: Parent involvement in kindergarten is differentially related to grade 4 reading comprehension, fluency, spelling, and reading for pleasure. *Scientific Studies of Reading*, *10*(1), 59–87. https://doi.org/10.1207/s1532799xssr1001_4

Sénéchal, M., & LeFevre, J.-A. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development*, *73*(2), 445–460. https://doi.org/10.1111/1467-8624.00417

Sénéchal, M., & LeFevre, J.-A. (2014). Continuity and change in the home literacy environment as predictors of growth in vocabulary and reading. *Child Development*, *85*(4), 1552–1568. https://doi.org/10.1111/cdev.12222

Sénéchal, M., Lefevre, J.-A., Thomas, E. M., & Daley, K. E. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly*, *33*(1), 96–116. https://doi.org/10.1598/RRQ.33.1.5

Silinskas, G., Sénéchal, M., Torppa, M., & Lerkkanen, M.-K. (2020). Home literacy activities

and children's reading skills, independent reading, and interest in literacy activities from kindergarten to grade 2. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.01508

Şimşek, Z. C., & Işıkoğlu Erdoğan, N. (2021). Comparing the effects of different book reading techniques on young children's language development. *Reading and Writing*, *34*(4), 817–839. https://doi.org/10.1007/s11145-020-10091-9

SmartStudy, & SinaEd. (2018). *中国家长教育焦虑指数调查报告[An investigation report on Chinese parents' anxiety about their children's education]*. http://f.sinaimg.cn/edu/bc205105/20180921/jlreport.pdf

Snodgrass, M. R., Chung, M. Y., Biller, M. F., Appel, K. E., Meadan, H., & Halle, J. W. (2017). Telepractice in speech–language therapy: The use of online technologies for parent training and coaching. *Communication Disorders Quarterly*, *38*(4), 242–254. https://doi.org/10.1177/1525740116680424

Spolsky, B. (Ed.). (2009). Managing language in the family. In *Language management* (pp. 10–30). Cambridge University Press. https://doi.org/10.1017/CBO9780511626470.002

Spolsky, B. (2012). What is language policy? In B. Spolsky (Ed.), *The Cambridge handbook of language policy* (pp. 3–15). Cambridge University Press. https://doi.org/10.1017/CBO9780511979026.003

Statistics Canada. (2022a, August 17). *The daily: While English and French are still the main languages spoken in Canada, the country's linguistic diversity continues to grow*. https://www150.statcan.gc.ca/n1/daily-quotidien/220817/dq220817a-eng.htm

Statistics Canada. (2022b, October 26). *The daily: Immigrants make up the largest share of the population in over 150 years and continue to shape who we are as Canadians*.

https://www150.statcan.gc.ca/n1/daily-quotidien/221026/dq221026a-eng.htm

Statistics Canada. (2023, June 21). *Multilingualism of Canadian households*. https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-X/2021014/98-200-X2021014-eng.cfm

Strouse, G. A., & Ganea, P. A. (2016). Are prompts provided by electronic books as effective for teaching preschoolers a biological concept as those provided by adults? *Early Education and Development*, *27*(8), 1190–1204. https://doi.org/10.1080/10409289.2016.1210457

Strouse, G. A., & Ganea, P. A. (2017a). A print book preference: Caregivers report higher child enjoyment and more adult–child interactions when reading print than electronic books. *International Journal of Child-Computer Interaction*, *12*, 8–15. https://doi.org/10.1016/j.ijcci.2017.02.001

Strouse, G. A., & Ganea, P. A. (2017b). Parent-toddler behavior and language differ when reading electronic and print picture books. *Frontiers in Psychology*, *8*, Article 677. https://doi.org/10.3389/fpsyg.2017.00677

Strouse, G. A., O'Doherty, K., & Troseth, G. L. (2013). Effective coviewing: Preschoolers' learning from video after a dialogic questioning intervention. *Developmental Psychology*, *49*(12), 2368–2382. https://doi.org/10.1037/a0032463

Strouse, G. A., Troseth, G. L., O'Doherty, K. D., & Saylor, M. M. (2018). Co-viewing supports toddlers' word learning from contingent and noncontingent video. *Journal of Experimental Child Psychology*, *166*, 310–326. https://doi.org/10.1016/j.jecp.2017.09.005

Takacs, Z. K., Swart, E. K., & Bus, A. G. (2014). Can the computer replace the adult for storybook reading? A meta-analysis on the effects of multimedia stories as compared to

sharing print stories with an adult. *Frontiers in Psychology*, *5*. https://doi.org/10.3389/fpsyg.2014.01366

Thomas, N., Colin, C., & Leybaert, J. (2020). Interactive reading to improve language and emergent literacy skills of preschool children from low socioeconomic and language-minority backgrounds. *Early Childhood Education Journal*, *48*(5), 549–560. https://doi.org/10.1007/s10643-020-01022-y

Towson, J. A., Fettig, A., Fleury, V. P., & Abarca, D. L. (2017). Dialogic reading in early childhood settings: A summary of the evidence base. *Topics in Early Childhood Special Education*, *37*(3), 132–146. https://doi.org/10.1177/0271121417724875

Troseth, G. L., Strouse, G. A., Verdine, B. N., & Saylor, M. M. (2018). Let's chat: On-screen social responsiveness is not sufficient to support toddlers' word learning from video. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.02195

Trushell, J., Burrell, C., & Maitland, A. (2001). Year 5 pupils reading an "interactive storybook" on CD-ROM: Losing the plot? *British Journal of Educational Technology*, *32*(4), 389–401. https://doi.org/10.1111/1467-8535.00209

Tsybina, I., & Eriks-Brophy, A. (2010). Bilingual dialogic book-reading intervention for preschoolers with slow expressive vocabulary development. *Journal of Communication Disorders*, *43*(6), 538–556. https://doi.org/10.1016/j.jcomdis.2010.05.006

Vaala, S., & Takeuchi, L. (2012). *Co-reading with children on iPads: Parents' perceptions and practices*. The Joan Ganz Cooney Center 2012. http://www. joanganzcooneycenter.org/wp- content/uploads/2012/11/jgcc_ereader_ parentsurvey_quickreport.pdf

Verhallen, M. J. A. J., Bus, A. G., & de Jong, M. T. (2006). The promise of multimedia stories

for kindergarten children at risk. *Journal of Educational Psychology*, *98*(2), 410–419. https://doi.org/10.1037/0022-0663.98.2.410

Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes* (M. Cole, V. Jolm-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press. https://doi.org/10.2307/j.ctvjf9vz4

Waiwai Rabbit Early Education Team. (2012). *歪歪兔性格教育系列图画书 [Waiwai Rabbit Character Education Picture Book Series]*. 海豚出版社 [Dolphin Books].

Wang, Y. (2016). *Three character classic* (D. Reader, Ed.; H. Giles, Trans.; Bilingual edition). CreateSpace Independent Publishing Platform.

Weekly, R. (2020). Attitudes, beliefs and responsibility for heritage language maintenance in the UK. *Current Issues in Language Planning*, *21*(1), 45–66. https://doi.org/10.1080/14664208.2018.1554324

Wehbe, P. (2024, July 7). *A longitudinal study on the language development of bilingual Arabic-Swedish-speaking children*. Child Language Symposium, Newcastle, UK.

Wei, R., & Su, J. (2015). Surveying the English language across China. *World Englishes*, *34*(2), 175–189. https://doi.org/10.1111/weng.12132

Wertsch, J. V., Daniels, H., & Cole, M. (2007). *The Cambridge companion to Vygotsky*. Cambridge University Press.

Whitehurst, G. J., Falco, F. L., Lonigan, C. J., Fischel, J. E., DeBaryshe, B. D., Valdez-Menchaca, M. C., & Caulfield, M. (1988). Accelerating language development through picture book reading. *Developmental Psychology*, *24*(4), 552–559. https://doi.org/10.1037/0012-1649.24.4.552

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child*

Development, *69*(3), 848–872. https://doi.org/10.1111/j.1467-8624.1998.tb06247.x

Wildt, E. (2024). The role of behavior-related comments in parent–child interactions with the digital audio learning system Tiptoi®. *Frontiers in Developmental Psychology*, *2*. https://doi.org/10.3389/fdpys.2024.1432594

Willard, J. A., Kohl, K., Bihler, L.-M., Agache, A., & Leyendecker, B. (2021). Family literacy activities and their interplay with family and preschool language environments: Links to gains in dual language learners' German vocabulary. *Early Education and Development*, *32*(2), 189–208. https://doi.org/10.1080/10409289.2020.1744404

Wu, Q., & Hindman, A. H. (2024). The relations between parents' beliefs, parents' home reading practices, and their children's literacy development in kindergarten. *Child & Youth Care Forum*, Advance online publication. https://doi.org/10.1007/s10566-024-09813-9

Xu, Y., Chen, F., Mirza, M., & Magaña, S. (2023). Culturally adapting a parent psychoeducational intervention for Chinese immigrant families of young children with autism spectrum disorder. *Journal of Policy and Practice in Intellectual Disabilities*, *20*(1), 58–72. https://doi.org/10.1111/jppi.12432

Xu, Y., Farver, J. A. M., & Krieg, A. (2017). The home environment and Asian immigrant children's early literacy skills. *Parenting*, *17*(2), 104–123. https://doi.org/10.1080/15295192.2017.1304783

Yang, F. (2016). The effect of four different approaches to parent-child reading on young Chinese children's reading. *International Journal of Education and Literacy Studies*, *4*(3), Article 3. https://doi.org/10.7575/aiac.ijels.v.4n.3p.47

Zevenbergen, A. A., Worth, S., Dretto, D., & Travers, K. (2018). Parents' experiences in a home-based dialogic reading programme. *Early Child Development and Care*, *188*(6),

862–874. https://doi.org/10.1080/03004430.2016.1241775

Zhang, D., & Slaughter-Defoe, D. T. (2009). Language attitudes and heritage language maintenance among Chinese immigrant families in the USA. *Language, Culture and Curriculum*, *22*(2), 77–93. https://doi.org/10.1080/07908310902935940

Zhou, J., Mai, Z., Cai, Q., & Cheng, R. (2024, July 7). *Beyond words: Referential gesturing in bilingual and monolingual mother-child dyads and its role in early development*. Child Language Symposium, Newcastle, UK.

Zhou, Y.-L. (2021). The effect of dialogic reading paired with multisensory learning of Chinese characters and morphological awareness skills for L2 Chinese young learners at Hong Kong kindergartens. *Foreign Language Annals*, *54*(4), 1082–1106. https://doi.org/10.1111/flan.12570

Zhu, X., & Pesco, D. (2024). "Why is the bear sad?": Preparing preservice educators to support children's inferencing during storybook reading. *Journal of Early Childhood Teacher Education*, Advance online publication. https://doi.org/10.1080/10901027.2024.2406210

Zou, Y. (2023). "You can choose": Didacticism and the struggle for power in Chinese parent/child dyad book choices. *Children's Literature in Education*, *54*(2), 236–254. https://doi.org/10.1007/s10583-022-09476-x

Zucker, T. A., Moody, A. K., & McKenna, M. C. (2009). The effects of electronic books on pre-kindergarten-to-grade 5 students' literacy and language outcomes: A research synthesis. *Journal of Educational Computing Research*, *40*(1), 47–87. https://doi.org/10.2190/EC.40.1.c

Appendix A

Ethical Approval for Study 1

CERTIFICATION OF ETHICAL ACCEPTABILITY
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant:	Wei Mao
Department:	Faculty of Arts and Science\Education
Agency:	N/A
Title of Project:	Chinese Parents' Perspectives on Supporting Young Children's Language Development Through Dialogic Reading and Co-Viewing
Certification Number:	30015358

Valid From: November 03, 2024 To: November 02, 2025

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

Richard DeMont

Dr. Richard DeMont, Chair, University Human Research Ethics Committee

Appendix B

Ethical Approval for Studies 2, 3, &4

CERTIFICATION OF ETHICAL ACCEPTABILITY
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant:	Wei Mao
Department:	Faculty of Arts and Science\Education
Agency:	N/A
Title of Project:	Supporting Young Children's Bilingual or Multilingual Development Through Storybook Reading: Insights from Chinese and Chinese Immigrant Families
Certification Number:	30018790

Valid From: October 18, 2024 To: October 17, 2025

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

Richard DeMont

Dr. Richard DeMont, Chair, University Human Research Ethics Committee

Appendix C

Recruitment Poster for Study 1

How do you or might you support your child's language learning at home?
你如何**在家** 帮助孩子做好**语言启蒙**？

We are seeking parents to participate in a study about strategies to support young children's language and early literacy at home.
你对如何在家帮助孩子做好语言启蒙这个话题感兴趣吗？如果你对这个话题感兴趣，请参加我的研究：

Study participation involves(研究包括)：
√ a 5-minute questionnaire to allow me to know you better
填写一个 5 分钟的问卷调查已让我更好地了解您
√ 1.5 hours of group discussion with me and other parents (focus group)
和研究员以及其他家长共同参与一个 1.5 小时的焦点小组座谈会

If you have a child aged **3-6 years** and are interested in participating, please contact:
如果你有 3-6 岁的孩子，好奇早期语言启蒙，并且对我的研究感兴趣，请联系：

Wei MAO, PhD Student in Education
毛伟, 教育学在读博士生
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Appendix D

Recruitment Poster for Studies 2, 3 & 4

How do you or might you support your child's bi-/multilanguage learning at home?
你如何**在家**帮助孩子做好多**语言启蒙**？

We are seeking parents to participate in a study about strategies to support young children's language development in more than one language at home. 你对如何在家帮助孩子做好双语或多语言启蒙这个话题感兴趣吗？如果你对这个话题感兴趣，请参加我的研究：

Study participation involves two related studies (此研究包括两个相关联的研究):
Study 1
√ A 30-minute observation to allow me to observe how you interact with your child when reading storybooks together 一个 30 分钟的观察研究以让我更好地了解在亲子阅读中您如何与孩子互动

Study 2
√ A 1.5 hour workshop to learn about a storybook reading strategy 参加一个研讨会去学习阅读
√ Using the above strategy at home for two months 在家实践上述阅读技巧
√ A 45-minute observation to allow me to observe how you interact with your child when reading together 一个 30 分钟的观察研究以让我更好了解在亲子阅读中您如何与孩子互动
√ 1.5 hours of group discussion with me and other parents (focus group) 和研究员以及其他家长共同参与一个 1.5 小时的焦点小组座谈会

Families who participate in both studies will receive (参与者将获得):
√ 15 picture books 15 本儿童绘本
√ A digital reading pen 一支点读笔
√ A book of nursery rhymes 一本童谣绘本
√ Print guidelines for a specific reading technique 阅读技巧指导手册

If you have a child aged **3-6 years** and are interested in participating, please contact:
如果你有 3-6 岁的孩子，好奇早期语言启蒙，并且对我的研究感兴趣，请联系：

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Appendix E

Consent Form for Study 1

Consent Form
知情同意书

INFORMATION AND CONSENT TO PARTICIPATE IN A RESEARCH STUDY
参与调查的同意书

Study Title: Chinese Parents' Perspectives on Supporting Young Children's Language Development Through Dialogic Reading and Co-Viewing
研究标题：中国家长对两种亲子互动对孩子语言发展的看法：对话式阅读和亲子共看电视

Researcher: 研究员： Contact Information: 联系方式：	Wei Mao, PhD student in Education 毛伟，教育学博士在读生 wei.mao@mail.concordia.ca Phone (778) 238-3980 (Canada)/ 15821328553 (China)
Faculty Supervisor: 指导老师： Contact Information: 联系方式：	Dr. Diane Pesco, Associate Professor in Education Dr. Diane Pesco，教育学副教授 diane.pesco@concordia.ca; Phone (514) 848-2424 extension 7338

Source of funding for the study: N/A
研究资金来源：无

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.
为您提供这个研究以及您的权利与义务的基本信息。请仔细阅读后再决定您是否同意参与这个研究。如果您有任何不理解的方面，或者您需要更多的信息，请直接联系研究员。

A. PURPOSE
研究目的

The purpose of the research is to understand Chinese parents' experiences with supporting young children's language learning and early literacy at home and their perspectives on two specific

interactive strategies: dialogic reading and co-viewing and conversing about television programs or videos that will be presented in a group meeting (focus group).
这个研究的目的是发现中国家长的亲子语言启蒙经验和探索中国家长对两种亲子互动对孩子语言发展的看法：对话式阅读和亲子共看电视。

B. PROCEDURES
研究流程

If you participate, you will be asked to provide demographic information (such as your educational background and family income range) and information about your interactions with your child at home, via a questionnaire that will take about five minutes to complete. Then you will be asked to attend a focus group discussion with 5 to 7 parents of preschoolers. The one-time meeting will take 1.5 hours of your time. First, you will be asked to watch demonstration videos about specific strategies to support children's language learning: dialogic reading and coviewing. The videos will familiarize you with the strategies. Afterward, you will be welcomed to share your perspectives on these two approaches. The focus group will be audio-recorded so I can examine the results more closely later. Lastly, I will write up a summary of the results from the focus group and send it to you via email or mail to ensure I interpreted your comments accurately.
如果您同意参与研究，您将会被要求填一份问卷调查，这份调查有助于帮助我更好地了解您的基本信息（例如您的背景，家庭月收入，家庭互动活动等）。这份问卷将会花费您5分钟的时间。接下来，您会被邀请和其他5-7位家长共同参与一个焦点座谈会。这个会议有两个环节，总共1. 5小时。首先每个环节的开始，您会观看一个关于对话式阅读或者亲自共看电视节目的示范视频。这个视频会给您展示此次研究的两个亲子互动方式的基本信息和流程。观看视频后，您会被邀请分享您对这两个方法的看法。这个焦点座谈会将会被录音以方便后期数据分析。最后，我会总结焦点座谈会的数据和观点，并把它发给您以确保我正确理解您的观点。

C. RISKS AND BENEFITS
潜在风险和益处

There is minimal risk associated with participation in this study. You will not be identified in any documents stemming from this study. If during the focus group you feel any discomfort, you are free to temporarily stop for a break or withdraw entirely from the study. If you withdraw, you will not be asked to disclose your reason for withdrawing.
这个研究的潜在风险非常小。有关您的个人信息不会被识别。如果在焦点座谈会过程中，您感觉到不舒服，您有权要求暂停会议或者直接退出本次研究。如果您要求退出，您不会被追问原因或者追究责任。

Your participation may also have some benefits. Your voice will be heard and will play a role in the analysis and interpretation of the study’s results. Additionally, you will have a chance to expand your knowledge about how to support children’s language development at home. You may have a positive opinion about dialogic reading and coviewing, two strategies that will be

introduced in the focus group sessions, and choose to implement these strategies at home to support your child's language and literacy development.
您的参与会有一定的益处。我们非常重视您的声音，您的参与也将会对家庭亲子互动研究起到重要作用。此外，此次研究中，您也有机会学习和扩展关于如何在家帮助孩子语言发展的知识和技能。您也会发现此次研究中使用的示范视频有助于您在家开展亲子语言互动活动。

D. CONFIDENTIALITY
保密

Participation is completely voluntary and confidential. Please be assured that you are free to discontinue participation without any negative consequences at any time during the study. No one except the researcher and her supervisor will be allowed to see or hear any of the written, digital, or audio recordings of your participation.
本次研究将会最低限度地收集能够直接指向您的个人信息。您的参加将完全是自愿的和保密的。您可以在任何时候选择退出此次研究，没有任何惩罚或者其他负面影响。除了研究者和她的导师，其他人都被禁止访问您任何形式的数据。

You are allowed to use your own name or a pseudonym in the focus group if you prefer that other participants not know your real name. Afterward, the information gathered will be coded. This means that your name will not appear on any documents except this consent form, or in any electronic files. I will keep a list that links your name to the code I assign. Study findings will be summarized for scholarly presentations or publications. Individual comments may be quoted in these, but no information that could identify you will be included. Although I will take every precaution to maintain the confidentiality of the data, your identity will be known to other focus group participants. I will ask the participants to respect the privacy of other fellow participants by not disclosing any content discussed during the study. However, I cannot guarantee that others in the group will respect your confidentiality.

在问卷上和焦点座谈会上，您可以选择使用本名、昵称或者假名。后期您的信息会被编码，这就意味着，除了这份知情同意书，您的真名不会出现在任何文件中。我会仔细保管连接您的名字和编码的文件。研究结果将会以学术报告或者出版发表呈现，在报告或出版物中，您的意见和评论可能会被引用，但是您的身份不会被识别。虽然我会采取一切预防措施来保持数据的机密性，但您的个人信息会被其他参与者知晓。我会要求参与者尊重其他参与者的隐私，不要透露在研究期间讨论的任何内容。但是，我不能保证小组中的其他人会尊重您的保密性。

All the print documents (e.g., questionnaires and signed consent forms) will initially be stored in a locked filing cabinet in my home office and transferred to a locked filing cabinet in my supervisor's research "lab" office by September 20, 2021, once I arrive to Montreal from China. All the digital version of files (e.g., list of alphanumeric codes to participant names, audio recordings and transcripts) will be saved on my personal, password-protected computer in a password-protected file. Backup copies of the files will be encrypted and stored on an external drive. The external drive will be stored in a locked cabinet in my home office.

所有纸质文件（例如问卷和签名知情同意书）将先锁在我的家庭办公室的柜子里，然后一旦我从中国回到加拿大，我会在2021年9月20日前把文件转移存放在我导师的研究室带锁的文件柜里。所有电子档文件（例如，受访者姓名编码，录音和录音文字）都将会用带密码的文件夹格式存放在我的带密码保护的个人电脑里。备份文件将会被加密存放在移动硬盘里。这个移动硬盘会被锁在我的家庭办公室的柜子里。

I will keep the print and electronic files described above for five years after the end of the study under the conditions outlined. After that time, paper files will be shredded, and digital files will be deleted permanently and securely.
所有上述文件，包括纸质的和电子的，将会以上面描述的形式保存 5 年。到期之后，所有数据将会被永久删除。

F. CONDITIONS OF PARTICIPATION
退出条件

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. You can also ask that the information you provided not be used, and your choice will be respected. If you decide that you don't want us to use your information, you can contact me at the email address or phone number listed above. If you wish to withdraw from the study once the focus group has been conducted, but before December 1, 2021, I will not report your data in any analyses and all paper and electronic files personal to you will be respectively shredded or purged from computers. However, given that focus groups typically involve exchanges between participants, the audio and transcript data from withdrawn participants will be retained so that the remaining participants' contributions can be understood in context. There are no negative consequences for not participating, stopping in the middle, or asking us not to use your information. However, you will not be permitted to withdraw after December 1, 2021, since the data will be analyzed by then and could already be reported in a manuscript or conference presentation by that date.
您不会被强制参与此次研究。您的参与完全是自愿的。如您现在同意参加，后期您依然可以选择任何时间退出。您有权要求研究员不使用您的任何信息。如果您决定让我们停止使用您的信息和观点，您可以直接给我写邮件或者打电话。如果在焦点座谈会后但是 12 月 1 号前，您选择退出，我将不会使用您的任何信息和观点来进行数据分析，所有有关您的信息都会被销毁。但是鉴于焦点座谈会涉及到与会成员的互动，我将保留您的录音和笔录文档，以方便我能够更好地理解其他受访者的观点。请您放心，如果您选择不参与研究，中途退出研究，或者停止使用您的观点，这个选择不会给您带来任何负面影响。在 2021 年 12 月 1 号后，您将不能选择退出研究，因为这个时候，我将完成数据分析，并有可能在学术会议等场合汇报了研究结果。

G. PARTICIPANT'S DECLARATION
受访者声明

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.
我已经阅读并理解此知情同意书。我有机会向研究员提问并获得解达。我同意参与此次研究。

NAME (please print) (姓名(楷体))

_____

SIGNATURE (签名)

DATE (日期) _____

If you have questions about the scientific or scholarly aspects of this research, please contact the researcher. My contact information is on page 1. You may also contact my supervisor.
如果您对这个项目的科学性和学术性有任何疑问，请联系研究员。我的联系在第一页。您也可以研究我的指导老师。
If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.
如果您对这个研究的伦理方面有任何疑问，请联系加拿大康考迪亚大学道德审查委员会：514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

Appendix F

Consent Form for Studies 2, 3, & 4

Consent Form
知情同意书

INFORMATION AND CONSENT TO PARTICIPATE IN A RESEARCH STUDY
参与调查的同意书

Study Title: Supporting Young Children's Bilingual or Multilingual Development Through Storybook Reading: Insights from Chinese and Chinese Immigrant Families
研究标题：家长对幼儿多语言发展的看法：洞察生活在中国和加拿大的中国家长

Researcher: 研究员：	Wei Mao, PhD Candidate in Education 毛伟，教育学博士候选
Contact Information: 联系方式：	wei.mao@mail.concordia.ca Phone (873) 992-8558
Faculty Supervisor: 指导老师：	Dr. Diane Pesco, Associate Professor in Education Dr. Diane Pesco，教育学副教授
Contact Information: 联系方式：	diane.pesco@concordia.ca; Phone (514) 848-2424 extension 7338

Source of funding for the study: General Purpose Principal Investigator Fund (granted to Diane Pesco from Concordia University)
研究资金来源：康考迪亚大学授予 Diane Pesco 的研究基金

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

为您提供这个研究以及您的权利与义务的基本信息。请仔细阅读后再决定您是否同意参与这个研究。如果您有任何不理解的方面，或者您需要更多的信息，请直接联系研究员。

A. PURPOSE
研究目的

The purpose of the research is to understand immigrant Chinese parents' experiences with supporting young children's bi-/multilingual learning at home and their perspectives on one specific interactive strategy: dialogic reading. This research contains two related studies. The purpose of Study 1 is to observe how parents interact with their child when reading together. The aim for Study 2 is to have parents learn about and use strategies at home to support their child's language learning and then share their

experiences and perspectives through a focus group. If a parent wishes to participate in only Study 1, that is possible and can be indicated by checking the relevant box on the final page of the consent form.

这个研究的目的是发现中国移民家庭如何帮助孩子进行多语言启蒙以及他们关于一个互动策略——对话式阅读的看法。这个研究包含两个相关联的研究。第一个研究的目的是观察家长如何和孩子进行亲子共读。第二个研究的目的是培训家长在家使用对话式阅读以及采访家长对对话式阅读的看法。如果您只愿意参加第一个研究，这也是可以的。您可以在本知情同意书的最后一页注明。

B. PROCEDURES
研究流程

For Study 1, you will be asked to provide demographic information (such as your age, educational background, your child's age etc.) and information about your interactions with your child at home and your child's development, via a questionnaire that will take about ten minutes to complete. Then you and your child will be asked to read storybooks together at a location at Concordia University's downtown campus. While you and your child are reading books, I will watch from another room with a one-way observation mirror. This observational session will be video- and audio-recorded so that I can examine the results more closely later.

在研究1中，您将会被要求填一份问卷调查，这份调查有助于帮助我更好地了解您的基本信息（例如您的年龄、受教育情况、您孩子年龄等），您在家中与孩子进行语言启蒙的实践以及您孩子的成长情况。这份问卷将会花费您10分钟的时间。接下来，您和您的孩子会被邀请到康考迪亚大学市中心校区进行亲子共读。当您和孩子一起阅读的时候，我会在隔壁单面镜观察房间进行观察。这个阅读环节会被录像以方便后期数据分析。

When Study 1 is done, you will be invited to attend a workshop about using a strategy called "dialogic reading" and a digital reading pen during storybook reading with your child. Then in Study 2, you will be asked to use the dialogic reading techniques at home using the storybooks and digital reading pen which we will provide and you will be permitted to keep. I also ask that you log your reading activites three times a week and I will remind you to fill the log via phone call or social media message on a weekly basis. Following this, I will schedule a time that best works for you to conduct another observation of storybook reading with your child at Concordia University. Finally, you will be invited back to a focus group interview with other parents to share your experiences with and perspectives on dialogic reading. The focus group will be audio-recorded for later data analysis. The activities in Study 1 will take approximately 2 hours and the activities for Study 2 will take approximately 14 hours. These hours will be distributed over 6 months (2-3 hours per month) and include travel time for the visits to Concordia University and the reading activities to be carried out at home.

当研究1结束后，您将受邀参加一个研讨会去学习对话式阅读和点读笔的使用。会后您将被要求使用我提供的故事书和点读笔，在两个月内实施对话式阅读技巧（您可以保留这些研究物料作为礼物）。我希望您每周记录三次您和孩子的阅读日志。我会每周通过电话或者社交媒体提醒您记录阅读日志。之后，我会安排一个最适合您的时间，在康考迪亚大学再次观察您和孩子一起阅读的情况。最后，我将邀请您与其他家长一起参加焦点小组访谈，分享您在对话式阅读方面的经验和观点。我们将对焦点小组进行录音，以便日后进行数据分析。在整个研究的6个月周期里，研究 1 将会占用您2小时，研究2总共需要14小时，平均每个月2-3小时。这些时间包括您来康考迪亚大学路途中占用的时间和在家实行对话式阅读的时间。

C. RISKS AND BENEFITS
潜在风险和益处

There is minimal risk associated with participation in this study. You will not be identified in any documents stemming from this study. If during the observation study or focus group interview, you or your child feel any discomfort, you are free to temporarily stop for a break or withdraw entirely from the study either then or at a later point, as described in section F of this form. If you withdraw, you will not be asked to disclose your reason for withdrawing. Moreover, during observation sessions, I will strive to make your child feel comfortable and your child can decide if they want to participate.

这个研究的潜在风险非常小。有关您的个人信息不会被识别。如果在观察研究或者焦点座谈会过程中，您或您的孩子感觉到不舒服，您有权要求暂停会议或者直接退出本次研究。您可以在任何时间退出本次研究。如果您要求退出，您不会被追问原因或者追究责任。在观察研究中，我会努力让您的孩子感到舒适，您的孩子可以决定是否要参与。

Your participation may also have some benefits. You will have a chance to expand your knowledge about how to support young children's bi-/multilingual development at home. You will also have an opportunity to express your views on the strategies we introduce and thus to have your voice be heard. Additionally, you may have a positive opinion about the strategies that will be introduced in this study and choose to continue them at home to support your child's language and literacy development following the study.
您的参与会有一定的益处。您将有机会扩展自己的知识，了解如何在家中支持幼儿的双语/多语发展。此外，您还有机会对我们介绍的策略发表自己的看法，从而让我们听到您的声音。此外，您可能会觉得本研究中介绍的阅读方法有帮助，并选择在本研究结束后继续在家中使用这些策略来支持孩子的语言和读写能力发展。

D. CONFIDENTIALITY
保密

Participation is completely voluntary and confidential. Please be assured that you are free to discontinue participation at any time during the study without any negative consequences for you or your child. I may later wish to show videos of your and your child for educational purposes (such as a presentation of my research results), with your face and your child's face blurred to hide your identities. You may participate in the study even if you do not give consent for us to show any video of you and your child. On the signature page, you can decide whether or not you agree to this use of your video recordings. If you decline, your videos will only be seen by the researcher, her supervisor and a trained research assistant. These same individuals will be the only ones to hear the audio recordings of the focus group.

本次研究将会最低限度地收集能够直接指向您的个人信息。您的参加将完全是自愿的和保密的。您可以在任何时候选择退出此次研究，没有任何惩罚或者其他负面影响。我以后可能会出于教育目的（如介绍我的研究成果）播放您和您孩子的视频，但会模糊您和您孩子的脸部以隐藏身份。即使您不同意我们播放您和您孩子的任何视频，您也可以参与这项研究。在签名页上，您可以决定是否同意使用您的录像。如果您拒绝，那么只有研究人员、她的导师和一名训练有素的研究助理可以看到您的录像。同样的，也只有这些人可以听到焦点小组的录音。

In Study 2, you are allowed to use your own name or a pseudonym in the workshop or focus group if you prefer that other participants not know your real name. Afterward, the information gathered will be coded. This means that your name will not appear on any documents or in any electronic files. I will keep a list that links your name to the code I assign. Study findings will be summarized for scholarly presentations or publications. Individual comments may be quoted in these, but no information that could identify you will be included. Although I will take every precaution to maintain the confidentiality of the data, your identity will be known to other participants from the workshop or focus group. I will ask the participants

to respect the privacy of other fellow participants by not disclosing any content discussed during the study. However, I cannot guarantee that others in the group will respect your confidentiality.

在问卷上和焦点座谈会上，您可以选择使用本名、昵称或者假名。后期您的信息会被编码，这就意味着，除了这份知情同意书，您的真名不会出现在任何文件中。我会仔细保管连接您的名字和编码的文件。研究结果将会以学术报告或者出版发表呈现，在报告或出版物中，您的意见和评论可能会被引用，但是您的身份不会被识别。虽然我会采取一切预防措施来保持数据的机密性，但您的个人信息会被其他参与者知晓。我会要求参与者尊重其他参与者的隐私，不要透露在研究期间讨论的任何内容。但是，我不能保证小组中的其他人会尊重您的保密性。

The interactions between you and your child, as well as the discussions and conversations between you and other parents will be uploaded to a secure cloud-based platform that uses artificial intelligence to aid transcription and translation. I will only upload audio files or transcripts (not video files) and I will ensure that these do not contain any information that could identify you or your child. Also, we will only use services that either (a) will not store any data on their servers or (b) will temporarily store the data under my private account, but will then delete all the data right after they are transcribed or translated via the platform. However, I cannot guarantee the complete confidentiality of the uploaded information, as access to data is subject to local laws.
您和孩子之间的阅读和谈话，以及您和其他家长之间的讨论和谈话，都将上传到一个安全的云平台，以便自动转录和翻译。我选择的平台将（a）不在其平台上存储上述数据，或（b）暂时存储数据，但只有我可以通过私人账户访问，并在转录或翻译上述数据后立即删除。为进一步确保您身份的保密性，我只会上传数据的音频版本和去标识化数据。但是，我们不能保证上传信息的完全保密，因为数据的访问受当地法律的限制。

All the print documents (e.g., questionnaires and signed consent forms) will be stored in a locked filing cabinet in my supervisor's research office. All the digital versions of files (e.g., the list linking alphanumeric codes to participant names, audio recordings, and transcripts) will be saved on my personal, password-protected computer in a password-protected file. Backup copies of the files will be encrypted and stored on an external drive that is stored in a locked cabinet in the research office.

所有纸质文件（例如问卷和签名知情同意书）会被存放在我导师的研究室带锁的文件柜里。所有电子档文件（例如，受访者姓名编码，录音和录音文字）都将会用带密码的文件夹格式存放在我的带密码保护的个人电脑里。备份文件将会被加密存放在移动硬盘里。这个移动硬盘会被锁在我的家庭办公室的柜子里。

I will keep the digital file linking the alphanumeric codes to your names and the signed consent forms for five years after the dissertation is submitted and then will delete these documents securely. I will keep the print and electronic data that do not contain any identifying information about you and your family indefinitely as these might inform my future research.

论文提交后，与您姓名相关联的代码文件以及此知情同意书将会被保存五年，到期后我会妥善删除这些文件。我将无限期保存那些不包含您和您家人任何身份信息的纸质和电子数据，因为这些数据可能会为我今后的研究提供参考。

F. CONDITIONS OF PARTICIPATION
退出条件

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. You can also ask the information you provided not to be used, and your choice will be

respected. If you decide that you don't want us to use your information, you can contact me at the email address or phone number listed above.

您不会被强制参与此次研究。您的参与完全是自愿的。如您现在同意参加，后期您依然可以选择任何时间退出。您有权要求研究员不使用您的任何信息。如果您决定让我们停止使用您的信息和观点，您可以直接给我写邮件或者打电话。

If you wish to withdraw from Study 1, you may do so within a month of the observation date as I expect to analyze the data rapidly. In such cases, I will not report your data collected to that point in any analysis, and all paper and electronic files personal to you and your child will be respectively shredded or purged from computers.

如果您想退出研究 1，您需要在做完观察研究的一个月内提出，因为在此之后我计划开始数据分析。如果您一个月内提出退出，有关您的数据不会用在任何分析中，和您有关的纸质和电子数据也会被销毁或者从电脑中删除。

If you want to withdraw from Study 2, you may do so before June 15th, 2024, since some data will be analyzed and could already be reported in a conference presentation or manuscript by then. If you withdraw by this date, I will not report your data in any analyses and all data unique to you will be destroyed or deleted from computers. However, given that focus groups typically involve exchanges between participants, the audio and transcript data from withdrawn participants will be retained until data analysis is complete so that the remaining participants' contributions can be understood in context.

如果您想退出研究 2，您需要在 2024 年 6 月 15 日之前提出，因为在次之后我可能已经完成数据分析并在有关会议、论坛或论文中分享结果。如果您在指定日期前提出退出，您的数据不会用于任何分析，同时您的数据会被删除和销毁。但是鉴于焦点座谈会涉及到与会成员的互动，我将保留您的录音和笔录文档，以方便我能够更好地理解其他受访者的观点。

G. PARTICIPANT'S DECLARATION

受访者声明

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.

我已经阅读并理解此知情同意书。我有机会向研究员提问并获得解达。我同意参与此次研究。

Please check only one of the following boxes (请在下列选项中勾选一个):

☐ I agree to participate only in Study 1 (我同意参加研究 1)

☐ I agree to participate in Study 1 and 2 (我同意参加研究 1 和 2)

If you agree to participate, please also check only one of the following boxes (如果您同意参与研究，请在下列选项中勾选一个):

☐ I agree that videos of me and my child reading books together can be shown for educational purposes with our faces blurred to hide our identities. I understand that these recordings will not be distributed or posted in any location or used for commercial purpose. 我同意我和孩子一起阅读

的视频可以被展示在出于教育目的的场合，但研究员会模糊我们的脸以隐藏身份。我知道这些录像不会在任何地方传播或张贴，也不会用于任何商业目的。

☐ **I do not agree that videos of me and my child reading books together can be shown for educational purposes.** 我不同意在任何场合播放我和孩子一起阅读的视频。

NAME (please print) (姓名(楷体))

_____

SIGNATURE (签名)

_____

DATE (日期) _____

If you have questions about the scientific or scholarly aspects of this research, please contact the researcher. My contact information is on page 1. You may also contact my supervisor.

如果您对这个项目的科学性和学术性有任何疑问，请联系研究员。我的联系在第一页。您也可以研究我的指导老师。

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

如果您对这个研究的伦理方面有任何疑问，请联系加拿大康考迪亚大学道德审查委员会：514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

Appendix G

Questionnaire for Study 1

Section One 第一部分
Demographic Information 个人信息

1. Your first name/nickname (您的名字/昵称)

_____

2. Gender(性别)
☐Male(男)
☐Female (女)

3. 年龄(Age)
☐Under 24 (24 岁及以下)
☐25-29
☐30-34
☐35-39
☐40-44
☐45 and older (45 岁及以上).

4. Education Level (教育背景)
☐Junior high school (初中)
☐Vocational school (中专)
☐Senior high school (高中)
☐College diploma (大专)
☐Bachelor's degree (本科)
☐Master's degree (硕士)
☐Doctoral degree (博士)

5. Please tell me your job and your spouse's job (请问您的职业是？)

Your job (您的职业):_____; Your spouse's job（您配偶的职业）:_____

6. Your monthly family income, including you and your spouse (家庭月收入，包括您的配偶)
☐$2,000 and below (10,000 RMB 及以下)
☐$2, 001~3,000 (10,001-15,000 RMB)
☐$3,001~4,000 (15,001~20,000 RMB)
☐$4,001~5,000 (20,001~25,000 RMB)
☐$5,001~6,000 (25,001~30,000 RMB)
☐$6,001~7,000 (30,001~35,000 RMB)
☐$7,001~8,000 (350,001~40,000 RMB)

☐$8,001~9,000 (400,001~45,000 RMB)
☐$9,001~10,000 (45,001~50,000 RMB)
☐$10,001 and above (50,001 RMB 及以上)

If you do not want to share your exact income by checking above, you can choose to self indicate your family income according to one of the following three levels:
如果您不想告诉具体的收入区间，您可以选择用下列等级来进行自我评估：
☐Low(低收入)
☐Middle(中等收入)
☐High(高收入)

7. Please write the age and gender of your child (if you have more than one, please write down all) (请写下您孩子的年龄和性别，如果不止一个，请写下所有孩子的情况)

	Age (年龄)	Gender (性别)
Child 1 (孩子 1)	_____	_____
Child 2 (孩子 2)	_____	_____
Child 3 (孩子 3)	_____	_____

8. Is your child presently learning a foreign or second language? (您的孩子有在学习外语吗？)

☐ Yes (是)
☐ No (没有)

State the language and where or how your child is learning it:
(如果有，请告诉我是哪一门外语，在哪里，怎样学？)

_____

Section Two 第二部分
Home Literacy Environment Checklist 家庭语言环境

9. How many picture books does your child have at home? (你的孩子在家有多少本书？)
☐less than 10 (10 本以下)
☐5-10 (5~10 本)
☐11-20 (11~20 本)
☐21-50 (21-50 本)
☐More than 50 (50 本以上)

10. How many educational toys does your child have at home? (你的孩子有多少益智玩具？)
☐less than 5 (5 个以下)
☐5-10 (5~10 个)
☐11-20 (11~20 个)
☐21-50 (21-50 个)
☐More than 50 (50 个以上)

11. How often do you, or other members of the family, read to your child in a typical week? (你或者你的家人给孩子读书的频次是怎样的？)

	Never (从不)	Seldom (很少)	Sometimes (有时)	Often (经常)	Very often (总是)
At bedtime (睡前)	1	2	3	4	5
Other times (其它时间)	1	2	3	4	5

Specify who typically reads to child(请告诉我一般是谁给孩子读书): _____

12. How often do you (and/or or other members of the family) take your child to the library or a bookstore? (你或者你的家人给带孩子去图书馆或者书店的频次是怎样的？)

Never (从不)	Seldom (很少)	Sometimes (有时)	Often (经常)	Very often (总是)
1	2	3	4	5

13. How often do you (and/or other members of the family) engage in an extended conversation with your child? (你或者你的家人进行深度对话的频次是怎样的？（例如，你觉得冰淇淋是怎么制成的？）)

Never (从不)	Seldom (很少)	Sometimes (有时)	Often (经常)	Very often (总是)
1	2	3	4	5

14. How often does your child watch TV per day? (你的孩子每天看多长时间的电视？)

	Never (从不)	Seldom (很少)	Sometimes (有时)	Often (经常)	Very often (总是)
Weekdays (工作日)	1	2	3	4	5
Weekends (周末)	1	2	3	4	5

15. How often do you (and/or other members of the family) watch TV with your child? (你陪孩子看电视的频次是怎样的？)

Never (从不)	Seldom (很少)	Sometimes (有时)	Often (经常)	Very often (总是)
1	2	3	4	5

16. What other activities do you provide for your child to learn language or practice new language skills? (您为孩子还提供了其它哪些活动来培养语言学习和训练？)

_____

Appendix H

Focus Group Questions

Warm-up

1. (First I will introduce myself). I'd like to invite you to introduce yourselves. Please tell us a little about yourself and your child. 您能介绍一下自己吗？您能介绍一下您的孩子吗？

2. What activities or interactions in your home are likely to give your child opportunities to talk and understand Mandarin? How about opportunities for talking and understanding a foreign or a second language, like English?
   您在家会给孩子提供什么活动以帮助孩子学习语言，练习语言？那么对于英语呢？

Watching video: dialogic reading

3. Do you have any experiences reading to your child? Please explain.
   您以前有和孩子共读过吗？请解释。
4. What do you think of the interactions between the parent and child in the video?
   您如何评价视频中家长和孩子的互动？
5. How might the interactions contribute to a child's language learning? How about learning a foreign or a second language, like English?
   您认为这种互动形式对孩子的语言学习有什么帮助吗？对英语学习呢？
6. Did you pick up any ideas from the videos you found helpful? What were they and why did you find them helpful?
   视频中，有什么方法您觉得非常有用吗？为什么？
7. Were there some things in the videos that you did not like or found unhelpful? What were they and why did you find them unlikeable or unhelpful?
   看完视频后，有哪些方面，您觉得没有帮助吗？为什么？
8. Would you like to apply the approaches demonstrated in the videos? Why or why not?
   您会在家使用视频中的亲子共读方法吗？为什么？

Watching video: co-viewing and conversing about video

9. Do you have any experiences coviewing, meaning watching television or video with your child? If so, what do you do during coviewing?
   您以前有和孩子一起看电视节目吗？如果有，共看的时候，您一般做什么？
10. What do you think of the interactions between the parent and child in the video?
    您如何评价视频中家长和孩子的互动？
11. How might the interactions contribute to a child's language learning? How about learning a foreign or a second language, like English?
    您认为这种互动形式对孩子的语言学习有什么帮助吗？对英语学习呢？

12. Did you pick up any ideas from the videos you found helpful? What were they and why did you find them helpful?
    视频中，有什么方法您觉得非常有用吗？为什么？
13. Were there some things in the videos that you did not like or found unhelpful? What were they and why did you find them unlikeable or unhelpful?
    看完视频后，有哪些方面，您觉得没有帮助吗？为什么？
14. Would you like to apply the approaches demonstrated in the videos? Why or why not?
    您会在家使用视频中的亲子共读方法吗？为什么？

Appendix I

Questionnaire for Studies 2, 3 & 4

Demographic Information 个人信息

1. Your first name/nickname 您的名字/昵称: _____

2. Gender 性别: ☐ Male 男 ☐ Female 女

3. Age 年龄: _____

4. Please write the age and gender of your child (if you have more than one, please write down all) 请写下您孩子的年龄和性别，如果不止一个，请写下所有孩子的情况

	Age 年龄	Gender 性别
Child 1 孩子 1	_____	_____
Child 2 孩子 2	_____	_____
Child 3 孩子 3	_____	_____

5. How many years have you and your family members been living in Canada? 您和您的家人在加拿大居住多长时间了?

Yourself 您自己	Your Child 参与此研究的孩子	Your Partner (optional) 您的伴侣 (选填)
☐ Born in Canada 出生在加拿大	☐ Born in Canada 出生在加拿大	☐ Born in Canada 出生在加拿大
☐ Less than 1 year 不到 1 年	☐ Less than 1 year 不到 1 年	☐ Less than 1 year 不到 1 年
☐ 1-3 years 1-3 年	☐ 1-3 years 1-3 年	☐ 1-3 years 1-3 年
☐ 4-6 years 4-6 年	☐ 4-6 years 4-6 年	☐ 4-6 years 4-6 年
☐ 7-10 years 7-10 年		☐ 7-10 years 7-10 年
☐ More than 10 years 超过 10 年		☐ More than 10 years 超过 10 年

6. Your Education Level Completed 您的学历:

   ☐ Junior high school 初中及以下 ☐ Senior high school/ Vocational school 高中/中专/技校

   ☐ College diploma 大专 ☐ Bachelor's degree 本科 ☐ Master's degree or above 硕士及以上

   Your Partner's Education Level Completed 您伴侣的学历:

   ☐ Junior high school 初中及以下 ☐ Senior high school/ Vocational school 高中/中专/技校

☐ College diploma 大专　☐ Bachelor's degree 本科　☐ Master's degree or above 硕士及以上

7. Your occupation 您的职业:_____

   Your partner's occupation (optional) 您伴侣的职业（选填):_____

8. Your annual household income for the most recent year, including you and your spouse 家庭年收入，包括您的伴侣

☐ <$24,999	☐$25,000-49,999	☐$50,000-74,999
☐$75,000-99,999	☐$100,000-124,999	☐$125,000-149,999
☐$150,000-17999	☐$180,000-199,999	☐>$200,000

If you do not want to share your income range by checking above, you can go to Q10 and choose to self-indicate your family income according to one of the following three levels: 如果您不想告诉具体的收入区间，您可以选择用下列等级来进行自我评估:

☐ Low income 低收入　☐ Middle income 中等收入　☐ High income 高收入

Language Use and Views on Bi-/multilingualism 语言使用和观点

9. Please think about and specify the language that each of your family members speaks at home. What percentage of the time does each of your family members speak the following languages? If one or more languages are not spoken at home, please write 0. 请回想在您家里每个成员日常使用的语言情况。请标注每种语言使用的百分比。如果您及家人不使用某种语言，请用 0 表示。

Yourself 您自己	←Not using it at all 完全不使用									Always using it 总是在使用→	
Chinese 中文	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
French 法语	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
English 英语	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Your Child 您孩子	←Not using it at all 完全不使用									Always using it 总是在使用→	
Chinese 中文	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
French 法语	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
English 英语	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Spouse (Optional)	←完全不使用									总是在使用→	
Chinese 中文	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
French 法语	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
English 英语	0	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

10. Please rate your proficiency in each language on a scale of 1 to 10. 请您对自己和家人各种语言使用熟练度进行打分，满分 10 分。

Yourself 您自己	←Not Fluent at all 非常不流利									Very Fluent 非常流利→
Chinese 中文	1	2	3	4	5	6	7	8	9	10
French 法语	1	2	3	4	5	6	7	8	9	10
English 英语	1	2	3	4	5	6	7	8	9	10
Your Child 您孩子	←Not Fluent at all 非常不流利									Very Fluent 非常流利→
Chinese 中文	1	2	3	4	5	6	7	8	9	10
French 法语	1	2	3	4	5	6	7	8	9	10
English 英语	1	2	3	4	5	6	7	8	9	10
Spouse (Optional)	←Not Fluent at all 非常不流利									Very Fluent 非常流利→
Chinese 中文	1	2	3	4	5	6	7	8	9	10
French 法语	1	2	3	4	5	6	7	8	9	10
English 英语	1	2	3	4	5	6	7	8	9	10

11. The following questions are about your opinion about your child's language development. There are no right or wrong answers, so just circle the answer choice that feels best to you. 以下问题涉及您对孩子语言发展的看法。这些问题没有对错之分，请选择最符合您观点的答案。

	←非常不同意				非常同意→
Living in Canada, my child only needs to speak French and/or English well. 在加拿大生活，我的孩子只需要说好法语和/或英语。	1	2	3	4	5
Living in Canada, it is also important for my child to be able to communicate with relatives in Chinese. 在加拿大生活，我的孩子能用中文与亲属沟通也很重要。	1	2	3	4	5
Speaking more than one language will help my child succeed in the long term. 长远来看，会多种语言将有助于我的孩子。	1	2	3	4	5
My child will be confused if he/she learns two or more languages at the same time. 如果同时学习多种语言，我的孩子会感到困惑。	1	2	3	4	5
It is not good to mix two languages or more in one sentence/conversation. 在一个句子或一段对话中混用两种或多种语言是不好的。	1	2	3	4	5
I worry that my child's French and/or English will be delayed if we only speak Chinese at home. 我担心如果在家只说中文，孩子的法语和英语会被耽误。	1	2	3	4	5

I think my child will naturally learn French and/or English when he/she goes to school. 我认为我的孩子在上学时会自然而然学会法语和/或英语。	1	2	3	4	5
I'm worried that my child will slowly lose the Chinese language. 我担心我的孩子会慢慢丢掉中文。	1	2	3	4	5
Parents play an important role in their child's language acquisition and development. 父母在孩子学习语言的过程中扮演着重要的角色。	1	2	3	4	5
I think parent-child reading helps early language development. 我认为亲子共读有助于孩子学习语言。	1	2	3	4	5
I know how to help my child learn Chinese. 我知道如何帮助我的孩子学习中文。	1	2	3	4	5
I know how to help my child learn French. 我知道如何帮助我的孩子学习法语。	1	2	3	4	5
I know how to help my child learn English. 我知道如何帮助我的孩子学习英语。	1	2	3	4	5
I think there are few resources available for immigrant families to support their children to retain their heritage language. 我认为移民家庭很少有资源来支持他们的孩子学习母语。	1	2	3	4	5

Reading Experiences 阅读习惯

12. How many picture books does your child have at home? Please indicate the number of each language separately. 您家有多少本儿童绘本或读物？请分别标出每种语言的数量。

Chinese 中文书	☐<10	☐11-20	☐21-50	☐51-100	☐>100
French 法语书	☐<10	☐11-20	☐21-50	☐51-100	☐>100
English 英语书	☐<10	☐11-20	☐21-50	☐51-100	☐>100

13. Does your child enjoy reading/listening to books? Please circle a number. 您孩子有多喜欢绘本阅读，请圈出适合的数字。

Dislike at all 一点儿也不喜欢	Dislike 不喜欢	Neutral 中立	Like 喜欢	Very Like 非常喜欢
1	2	3	4	5

14. How often do you (and other people) read picture books with your child? Specify the frequency of books in each language: Mandarin, French, and English. 您或者您家人经常和孩子绘本阅读吗？请圈出每种语言绘本的阅读频次。

	Never 从不	Seldom 很少	Sometimes 有时	Often 经常	Always 总是
Chinese 中文书	1	2	3	4	5

French 法语书	1	2	3	4	5
English 英语书	1	2	3	4	5

Please tell me who usually reads to your child. 请告诉我一般是谁给孩子读书：_____

15. Has your child had any experiences reading books in digital book format (e.g., on an ebook reader such as Kindle, tablet, smartphone, or print with the digital reading pen?) 您孩子有过电子书阅读经历吗，比如 Kindle, 平板，智能手机，点读笔等?

☐ Yes 有　　☐ No, skipping to Q19 **没有，请跳至第 19 题**

16. Does your child enjoy reading/listening to electronic books or book-like apps? 您孩子有多喜欢电子书阅读，请圈出适合的数字。

Dislike at all 一点儿也不喜欢	Dislike 不喜欢	Neutral 中立	Like 喜欢	Very Like 非常喜欢
1	2	3	4	5

17. Which device(s) does your child read/listen to e-books on? (Check all that apply) 您孩子经常在什么设备上进行电子书阅读？(可多选)

☐ E-book reader for adults, such as a Kindle or Nook 大人使用电子书设备，如 Kindle, Nook

☐ E-book system for children such as a LeapPad or InnoTab 专门为孩子设计学习机，如跳跳蛙

☐ A tablet such as an iPad or GalaxyTab 平板，如 iPad，三星

☐ A smartphone 智能手机

☐ A computer 电脑

☐ Digital reading pen 点读笔，如毛毛虫，小蝌蚪点读笔

☐ Other device 其它设备，请填写: _____

18. How often do you (and other people) read e-books to your child? Specify the frequency of books in each language: Mandarin, French, and English.您或者您家人经常和孩子读电子书吗？请圈出每种语言的阅读频次。

	Never 从不	Seldom 很少	Sometimes 有时	Often 经常	Always 总是
Chinese 中文书	1	2	3	4	5
French 法语书	1	2	3	4	5
English 英语书	1	2	3	4	5

19. What other activities do you provide for your child to learn language or practice language skills? 您为孩子还提供了其它哪些活动来培养语言学习和训练?

_____

_____

_____

20. Has your child experienced or been diagnosed with any of the following? 您孩子是否经历或者被诊断有下列情况?

☐ speech problems (problems pronouncing words) 语言问题（发音问题）

☐ language delay (in mother tongue) 语言发展迟滞（母语）

☐ hearing loss 听力障碍

☐ developmental disorder or disability 发育障碍或残疾

☐ other major health problem 其它重大健康问题

Language Use 语言使用情况

21. How old was your child when she started hearing any of the following languages **at home**? (if none, leave blank) 您的孩子从几岁开始在**家中**接触以下语言中的任意一种？(如果没有，请空白)

	From birth 从出生开始	6 m to 1 y.o.	1-2 y.o.	2-3 y.o.	3-4 y.o.	4-5 y.o.	5-6 y.o.	After 6 y.o. 6 岁以后
Chinese 中文								
French 法语								
English 英语								
Other 其它								

22. When the study was happening (**January-March 2024**), was your child attending any of the following? 在研究进行期间（**2024 年 1 月至 3 月**），您的孩子就读哪个年级?

☐ Childcare outside the home by babysitter or family-based childcare 保姆、家庭托儿所或其它个人形式的小型托儿所

☐ Childcare in a center (CPE, private daycare, nursery) 机构形式的托儿所（如 CPE、私人日托）

☐ Preschool 学前班

☐ Kindergarten at school 学校幼儿园

☐ Grade 1 or above at school 学校一年级或以上

23. What language(s) was spoken in the context identified above? 上述学校/个人使用什么语言?

☐ French 法语　　☐ English 英语

☐ FR-EN bilingual 英法双语　　☐ Other, please specify 其它，请备注

24. **Before** your child participated in the study, did they attend other settings? 在您的孩子参加**这项研究之前**，他还在其他地方学习过吗?

☐ Yes 有 ☐ No 没有

25. What other settings did they attend, at what ages, and what were the languages spoken there? (Please fill in all that apply to your child, if none, leave blank) 您孩子之前是哪种类型的学校，当时是几岁，在那里使用的语言是什么？(请填写所有适合您孩子的情况，如果没有，请空白)

	Age (in years and months) 年龄(年/月)	Language spoken (Ch, Fr, En, etc., write all that apply) 机构使用的语言
Childcare outside the home by babysitter or family-based childcare 保姆、家庭托儿所或其它个人形式的小型托儿所		
Childcare in a center (CPE, private daycare, nursery) 机构形式的托儿所（如 CPE、私人机构日托)		
Preschool 学前班		
Kindergarten at school 学校幼儿园		
Grade 1 or above at school 学校一年级或以上		

26. If your child has siblings, please check the languages the siblings currently speak at home to their brothers and sisters. 如果您家还有其他小朋友，请问孩子们之间交流一般用什么语言？(可多选)

☐ Chinese 中文 ☐ French 法语

☐ English 英语 ☐ Other, please specify 其它，请备注

27. If your child has siblings, please check the languages the siblings currently speak at home to you, the parent. 请问您的**其他孩子和您**交流一般用什么语言？(可多选)

☐ Chinese 中文 ☐ French 法语

☐ English 英语 ☐ Other, please specify 其它，请备注

28. Now that I am here writing you, please check the box below if you would like to be informed of any future studies relevant to your family: 未来我们研究团队可能会进行其它关于儿童多语发展的研究，您是否希望我们联系您并介绍相关研究?

☐ Yes, please. 有 ☐ No, thank you. 没有

Appendix J

Reading Logs (Week 1, ten minutes a day and three times a week are recommended)

Reading Log 阅读日记							
Date	**Book Title 书名**	**Minutes 阅读分钟**	**Enjoyment (Child) 孩子阅读感受**	**Enjoyment (Parent) 家长阅读感受**	**Use of DR 是否使用 DR**	**Use of Digital Pen 是否使用点读笔**	**Notes 备注**
1-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	
2-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	
3-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	
4-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	
5-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	
6-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	
7-Mar		☐ <5; ☐ 5-10; ☐ 11-15 ☐ 16-20; ☐ 21-25; ☐ 26-30; ☐ > 30			☐ No ☐ Yes, sometime ☐ Yes, always	☐ No ☐ Yes, sometime ☐ Yes, always	

Appendix K

1. (First, I will introduce myself). I'd like to invite you to introduce yourselves. Please tell us a little bit about yourself and your child. 您能介绍一下自己吗？您能介绍一下您的孩子吗？
2. How did you read with your child before you participated in this study, and how does that compare to how you're reading now?在我引入对话式阅读之前，你是如何与你的孩子一起阅读的？有什么不同？
3. From the logs I can see you used DR sometimes. Can you tell me more about how and when you used it with your child. (layout some scenarios/ book languages). 根据大家提交的阅读日记，我看到大家有时候会用对话式阅读。你能详细介绍一下你是如何使用对话式阅读的？
   - Does the language of the book you are reading matter (i.e., does it have an impact on whether or not and how you use DR? And yes, how?) 不同语言的绘本对你使用对话式阅读有影响吗？如果有，是怎样的影响呢？
4. Tell me about how your child responded to DR. 请描述一下在使用对话式阅读时，你的孩子一般如何回应，比如他的互动程度啊，喜好程度啊等等。
   - Does your child like DR techniques? What did they like or dislike? 你的孩子喜欢对话式阅读吗？他们喜欢或者不喜欢的是什么？
5. Have you found that DR has already had or will have effects on your child's development? If yes, can you tell me more? 你认为或者观察到对话式阅读对你的孩子的影响是什么？
   - Bilingualism/multilingualism 那么对双语或多语的发展呢？
   - Home language maintenance 对母语/汉语的学习呢？
6. What impact has DR had on you? 你觉得对话式阅读对你有什么影响？
   - Do you think or observe there are any positive/negative effects of dialogic reading on you? If yes what was the effect? 你认为或者观察到对话式阅读对你的影响是什么？
7. Did you encounter any difficulties in using DR? How did you manage these difficulties? 你在应用这些技术时遇到了什么样的困难？你是如何克服这些困难的？
8. Will you continue to apply dialogic reading? Why or why not? 您会继续使用对话式阅读吗？为什么？
9. Anything else you want share about DR? 关于对话式阅读，你还有什么想要分享的？

10. From the logs I can see some of you used the digital reading pen. Describe how you and your child used it. 我看到有些家长会使用点读笔，请描述一下你和你的孩子是如何使用点读笔的。
    - prompts: parent & child role
    - when do you use it
    - in what language

- with or without DR

有些家长不太使用点读笔，请分享一下，你们为什么不使用点读笔？

11. How does your child like the digital reading pen? What did they like or dislike? 你的孩子喜欢点读笔吗？他们喜欢或者不喜欢的是什么？
12. How do you like the digital reading pen? What did you like or dislike? 你喜欢点读笔吗？你喜欢或者不喜欢的是什么？
13. Would you continue to use the digital reading pen? Why or why not? 您会继续使用点读笔吗？为什么？
14. Anything else you want share about digital reading pen? 关于点读笔，你还有什么想要分享的？

Appendix L

Codes	Definitions
Parent Utterance	
Dialogic reading talk	
Sentence completion	Parents read the first half of the word/sentence and encourage your child to finish it.
Literal questions	Parents ask children questions that can be answered based on the text or picture.
Inferential questions	Parents ask children to infer supporting details, main ideas, sequence, cause-and-effect relationships, character traits, and outcomes.
Distancing questions	Parents ask children to answer based on their world knowledge, values and experiences.
Evaluates child's response	Parents evaluate the child's response.
Expands child's idea	Parents expand children's responses, either by helping them expand into sentences or by adding other vocabulary to enrich expressions.
Repeats child's speech	Parents repeat previous questions, encourage your child to repeat your sentences or words, or encourage your child to answer with new sentences and new words.
Asks Yes/No questions	Parents ask questions that that can be answered with a simple "yes" or "no," without requiring additional explanation or detail.
Reads text	Parents read directly from the book text.
Other content-related talk	Talk does not belong to any of above categories. For example, parents ask for clarifications.
Attention directing talk	Parents redirect children's attention to the book or ask children to turn pages or to engage with the digital reading pen.
Off task talk	These are unrelated to the book content or book format and include all other parent verbalizations that are not categorized as above.
Child Utterance	
Initiates with comments	Children spontaneously talk about the content and characters.
Initiates with questions	Children ask questions.
Response to Y/N Qs	Children respond to parents' yes or no questions.
Response to DR Qs	Children respond to parents' dialogic questions.
Repeats	Children repeat parents' utterances.
Attention directing talk	Children redirect parents' attention to the book or picture or ask to turn pages.
Off task talk	These are unrelated to the book content or book format and include all other children verbalizations that are not categorized as above.