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ABSTRACT

This study was designed to understand whether the length of time of mother-child shared book reading related to two dimensions of mother-child shared storybook reading quality (instructional and affective quality of book reading) and 103 Taiwanese 3-to-6-year-old children's early literacy development including the children's receptive language ability (as measured by the Chinese version of PPVT_R), the children's emergent reading behaviors (as assessed in a solo reading task), and children's print concepts (as assessed using a portion of Clay's (1982) Concepts about Print Test). This study also explored the extent to which mothers' instructional and affective quality related and interacted as they relate to Taiwanese 3-to-6-year-old children's early literacy development. Moreover, this study explored whether the pattern of these relationships differed as a function of children's home literacy environment. Results showed that Taiwanese mothers showed a tendency to use interactive shared book reading style, to convey moral and social rules, and to use a scaffolding-like procedure, and performed observable behaviors that were rated as high to medium in affective quality during shared book reading interactions. Taiwanese children exhibited nine emergent reading behaviors. In addition, from direct effects model, a great length of time of shared book reading was found to be strongly associated with high level of maternal instructional quality during shared book reading activity, and a higher level of instructional quality used by mothers was found to be strongly associated with children's higher emergent reading skills. In the interaction effects model, mothers' instructional quality moderated the association between affective quality and receptive language ability and between affective quality and concepts of print. The home literacy environment moderated the association between mothers' instructional and affective quality when engaged in shared book reading and Taiwanese 3-to-6-year-old children's receptive language ability.

Home Literacy Environment, the Quality of Mother-Child Book Reading
Interactions, and Taiwanese Children's Early Literacy Development

by

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Dissertation

Submitted in partial fulfillment of the requirements for the degree of
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CHAPTER 1

INTRODUCTION

Introduction to the Problem

Children are exposed to reading long before entering elementary schools. Most of them became interested in books in their early life. Pierroutsakos and DeLoache (2003) found that children's early interests tend to concentrate on exploration of the pictures and textures in a book. Young children are almost always encouraged to explore books by adults, and these early experiences include interactions between an adult (parent) and the child at home which become a shared book reading activity (Trivette, Dunst, & Gorman, 2010). Across cultures, parents play the first and the most crucial roles in the literacy development of their children (Baker, 2003; DeBaryshe, 1995; Leung, Lau, & Lam, 1998). Research findings show that parents' behaviors are associated with reading ability (Muter, Hulme, Snowling, & Steveson, 2004; Sonnenschein, Brody, & Munsterman, 1996; Kush, Watkins & Brookhart, 2005) and children's early literacy development is associated with later school performance in reading (Ball & Gettinger, 2009) and positive development in social competence and language skills (Cline, 2010, Hebert-Myers, Guttentag, Swank, Smith, & Landry, 2006). There is strong consensus among researchers and policymakers who validate the significance of parents' role supporting children's early development.

Cheng (2007) argued that children are born to love reading because they are curious

about everything they saw and heard, and children find pleasure in reading. However, with the progress of technology, well-developed Internet, and increases in the number of dual career families, the problem of children playing computer games and watching television programs instead of reading goes from bad to worse. Enjoying reading seems to become difficult for children living in this generation. The troubling phenomenon has led me to devote to my efforts to studying children's reading.

Home Literacy Environment in Taiwanese Context

Parents played crucial roles to support and construct these literacy activities for their young children in the home environment in order to assist their children in developing early literacy skills (Burgess, Hecht, & Lonigan, 2002). One literacy activity- reading book to children- is called as the "curriculum of the home" (Cline, 2010) and is considered as a crucial way to promote young children's early literacy development (Bingham, 2007; Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005). Most often, adult-child reading interactions take place between mothers and their young children (Korat, Klein, & Segal-Drori, 2007), especially in Taiwan (Chao, 2004; Chien, 2012; Ho, 2006; Lin, 2009).

Taiwanese culture is deeply rooted in the Confucian tradition ideology system.

According to Confucian principles, Taiwanese mothers should demonstrate the values of obedience, humble, respect for elders, good manner, and school achievement/education and they should transmit these values to their young children through activities including shared

storybook reading (Miller, Wiley, Fung, & Liang, 1997). Taiwanese parents believe that they have the primary responsibility to teach and discipline their young children. Parents routinely remind children of their transgressions in mother-child talk during joint storybook reading to provide moral lessons (Luo, Snow, & Chang, 2012). This kind of mother-child pair's talk is called 'opportunity education' which is used whenever appropriate because Taiwanese parents believe that it works better to teach moral values in concrete examples than abstract ones (Fung, Miller, & Lin, 2004).

Fathers in contemporary Taiwan are becoming more involved in raising children and parenting responsibilities are becoming more egalitarian. In the traditional Taiwan society, the characteristics of successful mothers are taking good care of her family, raising children, involvement in children's education, and advanced achievements of their children.

Traditionally, the father's roles are typically viewed as the financial providers and family disciplinarians, and they are less engaged than mothers in aspects of their children's education (Ho, Chen, Tran, & Ko, 2010). However, according to the research findings on father involvement in Taiwan by Ho, Tran, Ko, Phillips, Boutin-Martinez, Dixon, and Chen's (2011), fathers are involved in their young children's lives in following four ways: being a positive role model, engagement with their children in outdoor activities, viewing education as a means to children's future socioeconomic advancement, and following the social-constructed father roles. Nowadays fathers in Taiwan are slowly shifting from a

traditional patriarchal belief to more gender-equal beliefs and parenting responsibilities.

In sum, although Taiwanese culture is deeply affected by the Confucian tradition values and more and more Taiwanese advocate for gender equality, most often, reading book to children at home in Taiwan takes place between mothers and their young children (Chao, 2004; Chien, 2012; Ho, 2006; Lin, 2009; Wu, 2007) and Taiwanese fathers engage more with their children in outdoor activities, discipline, and view education as a crucial part in their children's lives.

Children Reading Movements in Taiwan

The Children's Reading Movements in Taiwan can be divided into two phases from 2000 to 2013. The first phase of the Children's Reading Movements was the National Children's Reading Movement Program which was officially executed by Taiwan's Ministry of Education from 2000 to 2003. Since the initiation of the National Children's Reading Movement Program in September 2000, Taiwan's Ministry of Education has advocated two core concepts of this Movement Program, *the family as a learning system* and *parent-child joint book reading*.

Due to the increasing importance attributed to the importance of parent-child relationships and the academic benefits of parent-child joint book reading from Western researchers' research findings, the National Children's Reading Movement Program was quickly accepted by parents, schools, and communities.

The five goals of the National Children's Reading Movement Program are as follows: (1) cultivating children's reading habits and reading will become the focus of the curriculum in 2000 elementary schools and kindergartens, (2) developing children's creative thinking and critical thinking skills, (3) creating an enriched reading environment and sending a great deal of books to remote schools and kindergartens, (4) training 300 teachers to promote parent-child joint book reading, and (5) encouraging parents to share storybook reading with their children at home (Ministry of Education in Taiwan, 2013, Retrieved from <http://www.edu.tw>).

The second phase of the Children's Reading Movements was the Elementary and Junior High School- Pleasure Reading to Enhance the Reading Movement Program which was officially executed by Taiwan's Ministry of Education from 2008 to 2013. The Pleasure Reading to Enhance the Reading Movement Program focused on promoting reading and improving reading environment in elementary and junior high schools in Taiwan.

Four goals of Elementary and Junior High School- Pleasure Reading to Enhance the Reading Movement Program are as follows: (1) increasing funds to subsidize reading activities held by every elementary and junior high school, (2) promoting family joint book reading, (3) publishing reading comprehension tests conforming to elementary and junior high school students' educational level, and (4) schools promoting reading and/or family joint book reading activities having fruitful results will be reward (Ministry of Education in

Taiwan, 2013, Retrieved from <http://www.edu.tw>).

More recently, the reading programs spread from the city to the suburbs, and from the country to remote villages. Reading became a Taiwanese movement and everyone knew why reading was very important in one's life, especially after these two National Reading Movement Programs. Additionally, in September 2007, the Taipei Public Library cooperated with Hsin-Yi Foundation, which is a professional institution to promote Taiwan's parenting and preschool education, to found the "Book Start" program. According to the goals of the "Book Start" program, all families with infants between the ages of 3 to-6-months were given two storybooks at no cost, were provided with reading instructions and a recommendation list of good storybooks suitable for their children, and each child received a letter (Ministry of Education in Taiwan, 2013, Retrieved from <http://www.edu.tw>). The plan for Promotion of the First Grade Students Reading Programs at Elementary Schools was executed by Taiwan's Ministry of Education beginning in September 2011. Every First Grade Student enrolled in Taipei City's elementary schools was given a free reading gift to encourage the child to read in his/her spare time.

Although promotion of reading in Taiwan started late when compared to other countries, Taiwan still endeavors to promote reading while children are young, to promote family joint storybook/book reading, to integrate reading into school's curriculum, and to send free books to families and schools in order to enrich reading environment.

Motivations of Dissertation Study

Parent-child shared book reading is a valuable learning experience in the infant and toddler years as well as in the preschool period. Past research has revealed that both quantity (Bus, van Ijzendoorn, & Pellegrini, 1995; Collins, 2010; Scarborough & Dobrich, 1994) and quality (Bingham, 2007; Cline, 2010; Demir, Applebaum, Levine, Petty, & Goldin-Meadow, 2011; Haden, Reese, & Fivush, 1996; Korat, et al., 2007; Leseman & de Jong, 1998, 2001) of parent-child shared book reading is related to children's early and later literacy development. The frequency of shared storybook reading has been consistently positively linked to children's early literacy competence, especially to their vocabulary development (e.g., Bus, van Ijzendoorn, & Pellegrini, 1995; Collins, 2010; Scarborough & Dobrich, 1994). However, the question remains as to whether it is the frequency of parent-child shared storybook reading that contributes to children's literacy development or whether the quality of shared storybook reading is also a contributor. My dissertation is an attempt to answer this question in a Taiwanese context.

In Taiwanese context, mostly parent-child shared book reading activities take place between mothers and their young children (Chao, 2004; Chien, 2012; Ho, 2006; Lin, 2009; Wu, 2007). Past research examining mother-child book reading has demonstrated that mothers' use of more interactive and/or cognitively challenging styles in shared book reading with children are related to more favorable gains in children's decoding and early literacy

skills (Haden, et al., 1996). The emotional quality of parent-child book-reading interactions has been found to relate to preschool-aged children's language and emergent literacy development (Bingham, 2007; Sonnenschein & Munsterman, 2002; Wu, 2007). In a series of well-known studies, Bus, van IJzendoorn and their colleagues (Bus et al., 1997; Bus & IJzendoorn, 1988,1995, 1997) theorized that children with a secure attachment relationship with their parent showed more willingness to explore unfamiliar things, e.g. written material. In addition, parents who were a securely attached with their children instructed more effectively and were more involved in shared storybook reading activities when compared to their counterparts who do not have a secure attachment with their children. Several research results showed that secure attachment parent-child relationships are related to higher frequency and better quality of shared storybook reading interactions (Bus et al., 1997; Bus & IJzendoorn, 1988,1995,1997). Moreover, Cline (2010) found that the home language, instructional and emotional qualities of parental behaviors when shared storybook reading to their infants and toddlers interact and relate to these young children's cognitive and language outcomes. The importance of the instructional and affective dimensions of parent-child shared storybook reading interactions illustrated by the foregoing research provides a theoretical basis for this dissertation which attempts to explore a dual focus on instructional and affective quality of shared book reading.

The quality of the home literacy environment is also widely considered as a strong

predictor of young children's early literacy and of their later educational success. The extent to which parents shared storybook reading with their preschoolers, provided child's books and other learning material in the home environment, and engaged with their children in learning opportunities at and outside home was related to preschoolers' early literacy competence and their later school success (Payne, Whitehurst, & Angell, 1994; Korat, et al., 2007). Research related to children's home literacy environment has consistently shown that the home literacy environment and the instructional quality of mother-child book reading interactions have direct and significant associations with young children's language and early literacy competence (Dickinson & Tabors, 2001; Foster, et al., 2005; Korat, et al., 2007). Moreover, Bingham (2007) further proposed that the quality of home literacy environments and mother-child shared storybook reading interactions was related to preschoolers' development of early literacy competence.

The majority of shared book reading research in Taiwan has been conducted using small sample sizes and has focused on book reading frequency and children's learning outcomes, such as studies related to the influence of shared book reading to child's reading ability (Ho, 2006), jointing book reading and parent-child relationship (Chao, 2004), maternal literacy beliefs and mother-child book reading activity on children's reading outcomes (Lin, 2009). Only a minority of studies has focused on how the quality of book reading activities relates to young children's language outcomes. For example, Chien's (2012) and Wu's (2007) studies

explored the impact of parental reading belief and parent-child shared book reading behavior on children's language and emergent literacy abilities respectively. In addition, Yang's (2010) provides a really interesting study that compares mother-child with father-child interaction when engaged in shared storybook reading with their 20-month-old child. Research results showed that mothers read a story to children more exaggeratedly and were more likely to ask children to imitate characters' voices than fathers did. However, the sample size was small and was comprised of only 5 parent-child dyads.

To date no study in Taiwan has specifically examined the relationships among children's home literacy environment, the instructional and affective quality of mother-child book-reading interactions, and preschoolers' development of early literacy skills, and explored the relation between the length of time that mothers spent on book reading with their children and mothers' instructional quality, affective quality, and/or children's outcomes. The specific aims of this dissertation study are not only to understand the characteristics of Taiwanese maternal instructional behaviors and affective behaviors when they are engaged in shared book reading activities, and the characteristics of 3-to-6 year old children's emergent reading behaviors when they read a storybook alone, but also to explore whether the length of time that mothers spent sharing the book with their children related to two dimensions of maternal behavior (instructional and affective quality of book reading) and children's early literacy skills. In addition, this study attempted to examine to what extent maternal

instructional and affective quality during joint storybook reading relate to and interact with Taiwanese 3-to-6-year old children's early literacy skills. Furthermore, this study was also designed to examine if these relationships differ for children's home literacy environment.

Correlations and multiple regression analyses were used to explore the contributions of concurrent relationships of shared book reading qualities and the home literacy environment to children's early literacy skills, and to examine whether the length of time that mothers spent sharing the book was associated with mothers' instructional quality, affective quality, and children's early literacy skills. Findings of this dissertation should not only make a strong contribution to researchers and policymakers that could promote Taiwan's parent-child shared book reading activities, but also could provide valuable information about relations between shared book reading activity, the quality of children's home literacy environment, and young children's early literacy skills.

CHAPTER 2

REVIEW OF LITERATURE

This study was designed not only to understand the characteristics of Taiwanese mothers' instructional behaviors and affective behaviors when they are engaged in shared book reading activities, and the characteristics of 3-to-6 year old children's emergent reading behaviors when they read a storybook alone, but also to explore whether the length of time that mothers spent sharing the book with their children related to two dimensions of maternal behavior during shared storybook reading (instructional and affective quality of book reading) and children's early literacy skills. In addition, through this dissertation study, I would like to understand to what extent maternal instructional quality and affective quality of book reading relate to and interact to influence 3-to-6-year-old Taiwanese children's early literacy skills. Moreover, this study explored whether the pattern of these relationships differed as a function of children's home literacy environment.

The following review of the literature largely is based on Western research on early literacy development, parent-child shared storybook reading, and home literacy environments. This review provided a crucial foundation and perspectives of young children's development that greatly influenced my research on home literacy environment, the quality of mother-child book reading interactions, and Taiwanese children's early literacy development. In addition, I reviewed the existing literature on Taiwan's shared storybook reading.

Early Literacy Development

Language is referred to children's oral and listening abilities, however, literacy is related to children's reading and writing abilities. It is well established that literacy development starts long before children enter school. Parents' shared storybook with their children has been accepted as a crucial way to foster children's early literacy acquisition (Bus, IJzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994; Sonnenschein & Munsterman, 2002; Valencia & Sulzby, 1991).

Emergent Literacy

Teale (1987) and Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield (1988) both argued that prior to entering school children developed reading attitudes, had opportunities to get familiar with the use of literacy, and further gained precursory literacy skills. The precursory literacy skills, such as phonological awareness and print knowledge, typically are labeled emergent literacy skills. Emergent literacy skills are significantly related to children's mastery of reading and writing abilities during the early elementary school years (Hammill, 2004; La Paro & Pianta, 2000).

For example, Cunningham and Stanovich (1997) found that differences in reading at 1st grade predicted reading at 11th grade children. Cunningham and Stanovich (1997) further proposed that children enter school with wide differences in their reading and language competences, and the gap enduring over time has great impact on later learning outcomes.

The achievement differences during the early school years can be traced back to preschool years, that is, to the period between the child's birth and the time at which children learn to read and write in conventional ways when they enter into the formal schools (Teale, 1987). Children exhibiting strong emergent literacy skills when entering elementary schools tend to develop into strong readers; whereas children who lack emergent literacy skills as they enter kindergarten are more likely struggle in their later reading, language, and literacy performances (Cottone, 2012).

Emergent literacy includes a broader set of skills, such as naming letters, phonological awareness, print knowledge, understanding syntax, and so on. For example, researchers consider young children re-reading their favorite storybooks as an example of emergent literacy (Sulzby, 1985). Sěněchal, LeFevre, Smith-Chant, and Colton (2001) further demonstrated that the concept of emergent literacy implied that children need specific pre-literacy skills before learning how to read and write.

Early literacy development is multidimensional and is associated with children's home literacy environments (Lesiak, 1997). Due to the continuous development of emergent literacy, the home literacy environment plays an important role in children's early literacy and language practices, especially since early literacy skills start to emerge prior to formal schooling (Teale, 1987; Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield, 1988). In this dissertation research, Taiwanese children's early literacy

development will be assessed by their early literacy skills that includes children's emergent reading ability, print knowledge, and receptive language ability. And I will be examining the relationship between children's home literacy environment, the quality of mother-child book reading interactions, and children's early literacy skills.

Chinese Literacy

Chinese and English have very different orthographic systems. Chinese is a non-alphabetic writing system represented a sharp contrast to English's alphabetic system. The basic writing unit in Chinese writing system is the character. There are two types of Chinese characters. First, there are characters that are formed by combining radicals. Each simple character consists of basic strokes, these strokes combined to form component radicals (e.g., 扌 and 戈), and these radicals then combined to form the character 找 (meaning "searching"; zǎo; pronounced as /zow/3). Second, there are compound characters. The majority of Chinese characters are compound characters that are formed from configuration of two or more radicals. In compound characters, the configuration of the radicals follows either a left-right or a top-bottom structure. For example, in the top-bottom structured compound character, 花 (meaning "flower"; huā; /hua/1/), the semantic and phonetic radicals are placed at the top and bottom position, respectively (Wang & Honig, 2010). 艹 (meaning "plant"; unpronounceable) is the semantic radical while 化 (meaning "change"; huà; /hua/4/) is the phonetic. The composition of radicals to form Chinese characters in Chinese writing

system is distinctly different from the principal of composition of letters to form words in alphabetic writing system.

As to reading Mandarin Chinese, the syllable is the basic speech unit of Chinese. Each syllable can be divided into two parts, the onset and the rhyme. The onset of a Mandarin Chinese syllable is always a single consonant, while the rhyme segment includes mainly of vowels (Wang & Honig, 2010). There are 400 syllables in Mandarin Chinese, however, the number of homophones is large. Homophones represent words have the same sound, but different meaning. In addition, there are four pitched tones and one “toneless” tone in spoken Mandarin Chinese which are attached to the rhyme (high-level, labeled as 1 or /-;/; high-rising, 2 or //; falling-rising, 3 or /√/; high-falling, 4 or /∨). A change in the tone of a syllable yields a change in the meaning of the specific syllable. For example, the syllable /di/, 低(meaning “low”; dī; /di/1/), 笛(meaning “whistle”; dí; /di/2/), 底(meaning “bottom”; dǐ; /di/3/), and 地(meaning “ground”; dì; /di/4/). So, through the example shown above, the same syllable /di/ can have four distinct meanings when spoke with the first four tones of Mandarin Chinese.

Wu (2007) has argued that, due to the complex writing system of Mandarin Chinese, children aged 3 are less likely to write Chinese characters whereas reading Chinese and learn the text and Chinese characters is more possible for 3-year-old age children under parental or adult assistance. Ho and Bryant (1997) have proposed that because of great parental

expectations about children's better futures and competitiveness, many kindergarten children start to learn how to write Bopomofo (Zhuyin system of phonetic notation for the spoken Chinese, consisting of 37 characters and five tone marks) and Chinese characters, a skill that was forbidden to be learned prior to entry into elementary school in Taiwan. However, children by the age of 5 started to be taught Bopomofo, some Mandarin Chinese syllables, five tones (four pitched tones and one "toneless" tone), and learned how to read words in most kindergartens in contemporary Taiwanese society.

Western research has largely focused on basic literacy skills (i.e., phonological awareness, vocabulary, letter /word identification, print of knowledge), however, only studies in Taiwan by Chien (2012), Lin (2009), and Wu (2007) examined the impact of parental reading beliefs and parent-child shared book reading behavior on preschoolers' language and/or early literacy abilities. No study designed to examine the extent to which two dimensions of maternal behavior during shared storybook reading, instructional and affective quality, and children's home literacy environment relate to and interact to influence 3-to-6-year-old Taiwanese children's early literacy skills.

Parent-Child Shared Storybook Reading

Parent-child shared storybook reading is a critically important literacy activity because it provides a natural context for parents and children engaging in reading and parents assisting children in forming concepts about print, books, and reading (e.g., recognizing letters,

understanding that every letter, a word, and text has its own meaning) (Adams, 1990). By using vocabulary that is not a typical part of conversations in daily life, for example, parents effectively help children to learn novel words and complex language structure through labeling pictures, distancing prompts to past experiences, and even asking open-ended questions during parent-child shared reading activities (DeTemple & Snow, 2003). In addition, when parents and children repeatedly reading the same books, they will have in-depth conversations and discussions about what they are reading such as making predictions, drawing inferences, distancing prompts, and so on. Parent-child shared book reading helps young children develop language, early literacy, and reading skills (Adams, 1990; Ball & Gettinger, 2009; Caspe, 2009; Teale, 1984; Wood, 2002). For example, Richmond and Colombo (2007) and Saracho and Spodek (2010) both studied reading practices at children's home. Their results indicated that joint book reading developed children's vocabulary, motivations to read, and overall cognitive and early literacy skills.

Parents are not only as providers of cognitively stimulating experiences and deliverers of instruction to their children (Cline, 2010), they also serve as emotionally nurturing providers for their children (Parker et al., 1999). A warm, encouraging, supportive, and sensitive parent-child relationship is considered to be the foundation for secure behavior and willingness to explore unfamiliar aspects of the environment (Bus et al., 1997; Bus & IJzendoorn, 1988, 1995, 1997; Parker et al., 1999).

Moreover, an affectionate and warm context of parent-child shared storybook reading has been associated with children's interest in books, motivations toward reading, and subsequent participation in reading activities (Sonnenschein & Munsterman, 2002).

According to Honig's (1982) review of a series of research of language environments for young children, and Honig and Shin's (2001) study of reading aloud with infants and toddlers in 2001, when parents and children share a storybook together it is not only a powerful way to exchange language and literacy to enhance early language development, but also it is a social interaction that promotes meaningful and strong parent-child bonds.

Three Forms of Shared Book Reading

Many different methods have been used to teach young children to read. Based on three shared reading instruction practices examined in the CELLreview, three of these practices, i.e., reading intervention- dialogic reading (Zevenbergen & Whitehurst, 2003), interactive shared book reading (Wasik & Bond, 2001), and shared book reading (Button & Johnson, 1997), were analyzed by the What Works Clearinghouse (2006, 2007a, 2007b) intervention reports. I have summarized them as follows:

Dialogic Reading

Dialogic reading involves an adult and the child switching their roles during shared book reading practice. The adult becoming an active listener and questioner encourages the child to become a storyteller. In addition, the adult uses five types of prompts, completion, recall,

distancing, open-ended, and Wh- questions, during dialogic reading to elicit the child's responses.

Interactive Shared Book Reading

Interactive shared book reading includes an adult reading a book to the child or a group of children and engaging the children in the text through using a variety of interactive techniques before, during, or after book reading. For example, *before* reading the book, the adult may ask the child to point to the title and encourage him or her to make predictions about what might be the content of this book. *During* the book reading, the adult may ask the child to respond questions, provide explanations, point to the words or pictures, and help the child with aspects of print awareness. *After* reading the book, the adult may discuss the content of this book with the child and try to draw connections between episodes or events in the story and in his or her real life. Based on my observations in this dissertation research, Taiwanese mothers showed a tendency to use the interactive shared book reading style in the book reading activities. Detailed information please see chapter 4 and 5.

Shared Book Reading

Shared book reading involves an adult reading a book to the child or a group of children and rereading the story. The adult also provides opportunities to the child or children to retell the story.

In sum, according to children's involvement in the book reading activities, children are

most involved in the dialogic reading among these three reading instruction practices and shared book reading requires the least amount of children's involvement in the book reading activities. In my observations, most 103 Taiwanese children participated in the book reading activities were engaged in the text by their mothers through using a host of interactive techniques before, during, or after book reading. Only two mother-child pairs in my observations performed shared book reading style requiring the least amount of children's involvement.

Theoretical Model

Sociocultural Theory

From a Vygotskian perspective on mother-child shared storybook reading, sociocultural theory supports the importance of the social interaction in the context of mother-child shared storybook reading activities. Vygotsky (1978) observed that parents' assisting children to help them work out ideas or solve problems was an example of the concept of scaffolding and the concept of the Zone of Proximal Development (ZPD).

Vygotsky (1978) defined of the zone of proximal development as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers (p.86)." From Vygotsky's viewpoint, the learner does not learn alone. With regard to shared book reading interactions for example, social

interaction plays the crucial role that affects language exchanges and then further influences children's early literacy development. Communicating with a more capable or knowledgeable person such as a parent during joint book reading activities helps the child internalize semantics/words/concepts to construct an understanding of semantics/words/concepts.

According to Fletcher and Reese (2005), parent-child shared storybook reading provides an ideal context for a child learn novel words/vocabulary under parental guidance and constructing the story together through social interactions.

Vygotsky (1978) argued that every child can be taught effectively by using scaffolding at the ZPD. He believed that applying interactive bridges to guide and support children helps get them to the next level. Modeling and guidance provided by more capable or knowledgeable others then can be reduced until the child can do/solve the task/problem alone, without any scaffold or help. Finally, in order to maximize children's early literacy skills, parents should be focused within the zone of proximal development while interact with their young children in the book reading activities. That is, parents should provide children at just above their current level of literacy skills and knowledge and motivate children to exceed their current level in order to improve children's acquisition of elaborated word meanings or phrases.

Sociocultural theory also emphasizes that children learn the culture of their own society, such as children's ways of thinking and behaving, through these social interactions (Woolfolk,

2000). Miller, Wiley, Fung, and Liang (1997) research found that Taiwanese mothers conveyed moral and social rules when they told stories to their children and employed stories as a medium of didactic resources, whereas European American mothers employed stories as a medium of entertainment and affirmation. Children's thought and behaviors vary greatly from culture to culture because their parents instill their own cultural ideologies in their children from a very young age (Tamis-LeMonda, Wang, Koutsouvanou, & Albright, 2002).

Wu and Honig (2010) investigated Taiwanese mothers' beliefs about reading aloud with preschoolers and compared them with American parents. They found that Taiwanese mothers valued the importance of moral and practical knowledge which young children would gain from the storybook reading, whereas American parents placed more value on positive emotions during storybook reading activities than other factors. Both Miller, and her colleagues' (1997) and Wu and Honig's (2010) research examined the influences of culture on the practices of shared book reading between Taiwanese and European-American /American mother-child pairs. My dissertation is conducted in a Taiwanese context which is deeply affected by the Confucian traditional values.

Research Related to Parent-Child Shared Storybook Reading

The majority of studies of parent-child shared storybook reading studies have been focused on 3-to-5-year old preschoolers. Fletch and Reese (2005) argued that parent-child shared book reading was a very crucial factor to enhance young children's language and early

literacy development. DeTemple and Snow (2003) designed effective instructional intervention strategies for parent-child dyads and then assessed children's reading comprehension skills. They found that, during parent-child shared reading activities, when parents helped children to learn novel words and complex language structure that were rarely used in daily conversations, children's language skills increased rapidly. DeTemple and Snow (2003) proposed that this strategy was effective for children under the age of 3 as this is a rapid language learning period.

Children whose mothers used more complex instructional strategies (e.g., making predictions, drawing inferences, distancing prompts) achieved higher language skills' scores than children whose mothers did not use such complex strategies (DeTemple & Snow, 2003). Sigel (1982) proposed that parental distancing strategies were able to goad children into thinking abstractly about the events or episodes in a storybook and relating the events or episodes to children's lives. Additional research examining the effectiveness of interventions in mother-child dyads and their subsequent efficiency will be addressed in the following section.

A number of studies have been conducted in a Western context that have indicated that parent-child shared book reading experiences have a positive influence on children's language and early literacy abilities, including vocabulary (Ball & Gettinger, 2009; Bingham, 2007), phonological awareness (Caspe, 2009; Teale, 1984; Wood, 2002), print awareness

(Adams, 1990; Bingham, 2007), narrative skills (Harkins, Koch, & Michel, 1994), and reading skills (Wood, 2002). Although parent-child shared book reading is widely viewed as exerting a positive impact on children's competencies, examination of past research findings show the inconsistencies and contradictions on this topic (Bus, van Ijzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994). Some research results revealed strong relationships between shared book reading and children's competencies, whereas others showed weak or very weak links between these two variables. For example, Scarborough and Dobrich (1994) reviewed the results of 31 empirical studies. They used a meta-analytic review of the literature to examine the assumption of a strong link between parent-preschooler shared book reading and preschoolers' language development and early literacy skills. Scarborough and Dobrich obtained only a modest relationship between the frequency of parent-preschooler shared book reading (e.g., "How many times a week do you read to your child") and language and early literacy measures (e.g., measures of early written language skill ($\gamma=.31$) and oral receptive vocabulary ($\gamma=.24$), accounting for approximately 8% of the variance). The results suggest that parent-preschooler shared storybook reading experience may have limited importance as a precursor of language and early literacy skills. In contrast, commenting on Scarborough and Dobrich's (1994) review of the efficacy of parent-preschooler shared storybook reading, Dunning, Mason, and Stewart (1994) commented on their premature conclusions and further responded that, due to complex nature of these relationships between

shared book reading and children's early literacy and language development, Scarborough and Dobrich (1994) needed to employ more sophisticated methods to measure shared book reading behaviors before making conclusions. Later, Hindman, Connor, Jewkes, and Morrison (2008) better untangled the associations between parent-preschooler shared book reading and young children's literacy outcomes. These authors proposed that the relationship may be nuanced by numerous factors, such as context of shared book reading activities (e.g., at home or at school), reader (e.g., parent or teacher), participants, characteristics of the child (e.g., weak or strong initial skills), instruments used to measure the outcomes, and types of parent-preschooler shared storybook reading behaviors (e.g., quantity or quality of shared storybook reading).

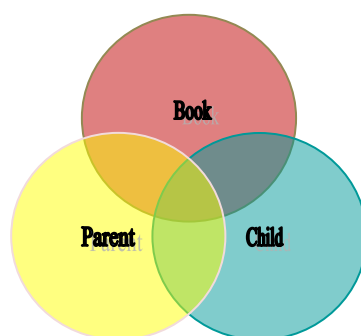
On the other hand, the majority studies focused on parent-child shared storybook reading in Taiwan have yielded the following results. Ho (2006) documented the influence of joint book reading to child's reading ability. Chien (2012), Lin (2009), and Wu (2007) demonstrated the impact of parental reading belief and parent-child shared book reading behavior on children's language and emergent literacy abilities. Chao (2004) examined shared storybook reading and parent-child relationship. Finally, Yang (2010) compared the mother-child interaction with father-child interaction when shared storybook reading with their 20-month-old child.

In a shared reading situation there are three components: a parent, a child, and a book

(see Figure 1). Each component interacts with other components to influence the overall quality of book reading interaction (Fletcher, & Reese, 2005). For example, the book reading interaction may be affected by the parent's gender, educational level, socio-economic status, and relationship to the child, and/or the child's gender, age, attention level, and attachment level to the parent, and /or the content of the storybook.

Figure 1: Quality of Shared Book Reading with Children

Quality of Shared Book Reading with Children



This study primarily focused on examining to what extent two specific dimensions of maternal book reading quality, the instructional and affective qualities, relate to and interact to influence 3-to-6-year-old Taiwanese children's early literacy skills and to examine if these relationships differ for children's home literacy environment. In addition, I wanted to explore whether the length of time that mothers spent sharing the book with their children related to mothers' instructional quality, affective quality, and children's early literacy skills.

Instructional Quality of Book Reading Interactions

Behaviors Characterizing Instructional Quality of Book Reading

When sharing storybook reading with their children, parents use a variety of instructional behaviors, such as pointing to pictures, questioning, expanding their children's responses, praise, correction, story structure talk, and so on. These instructional behaviors are used when sharing storybooks with infants, toddlers, and 4-to-9-year old children (Baker, Mackler, Sonnenschein, & Robert, 2001; Bingham, 2007; Cline, 2010; Fletch & Reese, 2005; Leseman & de Jong, 1998; Sonnenschein & Munsterman, 2002). In previous studies, measures of instructional quality of parental shared storybook reading have largely focused on using extra-textual talk. Extra-textual talk consists of conversation that goes beyond the strict reading of the text and gives rise to interests toward the book to the child or parent. Thus, extra-textual talk assesses whether talk moves beyond direct reading or simple labeling to higher level thinking (e.g., reasoning, asking why/open-ended questions, and verbal references to setting, theme, characters, and episodes which children can remember reading in the past) (Leseman & de Jong, 1998, 2001).

Instructional Styles of Shared Book Reading and Child's Outcome

Studies about parental instructional styles during shared storybook reading with their children have found different links between variations of parental use of extra-textual talk and children's reading and language outcomes. Arnold, Lonigan, Whitehurst, and Epstien (1994)

and Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, and Caulfield (1988) have demonstrated that training parents to use specific interactive strategies (e.g., increasing their rates of open-ended questions, expansions, function/attribute questions, and decreasing their frequency of straight reading and labeling) had powerful effects on children's language skills.

Similarly, Haden et al. (1996) conducted maternal book reading styles in a sample of White, middle-income mothers and their preschool-aged children. Results showed that there were three styles of maternal shared book reading: describer style, collaborator style, and comprehender style. The describer style largely emphasized elaborately describing the storybook. The collaborator style focused on encouraging children to participate in the telling of story. Finally, the comprehender style focused on asking children to make predictions and draw inferences about the episodes. The describer style was considered the most cognitive demanding style, and the collaborator and comprehender styles were considered interactive styles. Haden and colleagues (1996) concluded that mothers who used the comprehender styles more positively affected preschool-aged children's vocabulary ability and children had better story comprehension abilities two and half years later than did children whose mothers used describer styles. Children whose mothers used collaborator styles had better decoding skills two and half years later than did children whose mothers used the describer style. In addition, the length of time of adult-child book reading interactions varied greatly. Typically,

more instructional time spend on words was found to be crucial to children's story comprehension.

Yang (2010) compared mother-child with father-child interaction when Taiwanese parents shared storybook reading with their 20-month-old child. The results showed that mothers more exaggeratedly read the story and asked children to imitate characters' voices than did the father. Three interactive styles of mother-child and father-child book reading were describing, labeling, and word-by-word styles.

Chien (2012) intervened in a specific parent-child shared reading program to examine the effects on the change of Taiwanese parental reading belief, parental instructional behavior, and children's language competence. Chien (2012) implemented six changes of Taiwanese mothers' instructional behaviors of shared book reading with their children: (1) asking her child to evaluate the story, (2) asking for recall prompts, (3) repetition, (4) shortening the distance between mother and the child, (5) encouraging children to explore the relations between pictures and words, then teaching words and Bopomofo to children, and (6) exaggeratedly telling story and encouraging discussions. Results showed that the changes of Taiwanese mothers' instructional styles of shared book reading to their children positively impacted children's language competence.

In contrast, Caspe (2009) proposed that a differential relation between parental instructional styles and children's emergent literacy skills. Caspe found that two parental

shared book reading styles, abridged-storytelling style and storybuilder-labeling style, placed more distance between mother and the child and were found to be the most predictive of children's higher print-related literacy skills. The storybuilder-labeling style was found to be associated with more evaluations children used in their narratives. Caspe's (2009) research results are in contrast with previous studies finding addressing that more interactive instructional styles including shortened the distance between parent and the child can best support children developing positive language and early literacy skills (Arnold, et al.,1994; Chien, 2012; Whitehurst, et al.,1998; Haden et al. ,1996).

In summary, with the exception of the Caspe (2009) study, research findings suggest that when mothers are engaged in shared storybook reading with their children there are positive links between mothers using interactive and/or more cognitively challenging styles and children's early literacy and language skills.

There is a lack of research focused on these concurrent relationships between the home literacy environment, the instructional and affective quality of mother-child book-reading interactions, and preschoolers' development of early literacy skills in Taiwan, and whether the length of time that mothers spent on sharing the book was associated with mothers' instructional quality, affective quality, and/or children's early literacy skills. Findings from this research will have important implications for understanding Taiwan's parent-child joint book reading activities, and provide valuable information of the relation between shared book

reading activities, home literacy environments, and children's early literacy skills.

Affective Quality of Book Reading Interactions

Maternal Behaviors Characterizing Affective Quality of Book Reading

In the past, researchers interested in early literacy skills have paid little attention to the qualitative affect aspect of mother-child book reading interaction (Leseman & de Jong, 1998). Beginning about ten years ago, this specific aspect of the mother-child reading interaction has received greater research interest (Sonnenschein & Munsterman, 2002). For example, the research of Bingham(2007), Lesman and de Jong(1998, 2001), and Sonnenschein and Munsterman (2002) has shown that the affective/emotional quality of parents engaged in shared storybook reading with their children was related to preschool- aged children's reading and early literacy outcomes.

The affective/emotional quality exhibited by parents while engaged in shared storybook reading with children was characterized by four behaviors: (1) expressive reading expression, multi-tonal reading, imitation of characters' voices, (2) physical contact with the child, (3) sensitivity to child's engagement, using strategies to increase children's interests and enjoyment of the storybook reading activity, and (4) a high level of parental involvement and enjoyment such as relevant talk, warm, smiling, and laughing (Baker et al., 2001; Bingham, 2007; Cline, 2010; Sonnenschein & Munsterman, 2002). Farran, Kasari, Comfort, & Jay (1986) proposed a Parent/Caregiver Involvement Scale (P/CIS) that measured the affective

quality of parents' or caregivers' interaction with preschool-aged children. The P/CIS not only includes those four kinds of behaviors mentioned above, but also captures quality of parents'/caregivers' handling of child, acceptance of the child, and the amount of positive and negative statements/emotion parents/caregivers express when interacting with the child.

Affective Quality of Book Reading Interactions and Child's Outcome

Bus, Belsky, van Ijzendoorn, and Crnic (1997) and Bus and van Ijzendoorn (1988, 1997) demonstrated that the attachment quality of parent-child relationship was related to positive quality and quantity of parents shared storybook reading with their children. Examples of positive quality and quantity of parent-child book-reading exchanges were more supportive shared book reading, more maternal instructing in book reading, and less problematic interaction. Securely attached dyads exhibited these characteristics in the progress of shared storybook reading and scored higher on emergent-literacy measures than did anxiously attached dyads (Bus & van Ijzendoorn, 1988). In addition, these studies also found that the affective dimension exhibited during mother-child shared storybook reading interactions was positively correlated with children's early literacy skills. The affective dimension was exhibited when an emotionally supportive mother interacted with her child while engaged in shared book reading (Bus & van Ijzendoorn, 1988).

Sonnenschein and Munsterman (2002) also found that the quality (i.e., maternal reading styles, relevant talk, and mother's sensitivity) and quantity (i.e., frequency of shared book

reading at home) of joint book reading have different impacts on children's early literacy outcomes. These researchers demonstrated that the affective quality of the reading interaction was the strongest predictor of children's interest in books, motivations toward reading, and subsequent participation in reading activities.

An Interaction between Instructional Quality and Affective Quality

According to literature mentioned above, when parents shared storybook reading with their children both instructional quality and affective quality have been found to relate to children's reading, language, and early literacy outcomes. Similarly, Bus and van IJzendoorn (1997) found that the affective quality of mother-infant relationship was associated with the instructional verbal level and instructional quality when picture book reading was shared with the child. Leseman and de Jong (1998) proposed that instructional quality and affective quality were positively related.

There is a growing acceptance that both instructional and affective quality of parent-child shared book reading may benefit young children's learning, especially early literacy development. Cline (2010) found that the home language, maternal instructional quality and affective quality of book reading interacted to predict children's language skills and cognitive scores. In addition, Cline's (2010) results further showed that for families who spoke English as their home language, the mothers' affective quality was most strongly associated with children's auditory comprehension scores when instructional quality was high.

Conversely, lower mother's instructional quality was associated with poor auditory comprehension scores. Therefore, pairing affective quality with different levels of instructional quality might affect children's early literacy skills. For example, higher level of instructional quality (i.e., mothers using interactive or cognitively challenging styles) provided in the warm and supportive shared book reading context may be more effective than the lower instructional quality (i.e., direct reading) provided in the same context.

This study was concerned with better understanding the characteristics of Taiwanese maternal instructional behaviors and affective behaviors when they are engaged in shared book reading activities, and the characteristics of 3-to-6 year old children's emergent reading behaviors when they read a storybook alone. It was also focused on exploring whether the length of time that mothers spent sharing the book with their children related to mothers' instructional quality, affective quality, and children's early literacy skills. Additionally, this study was designed to understand the extent to which two dimensions of mother-child shared storybook reading quality (mothers' instructional and affective quality) related and interacted as they relate to 3-to-6-year-old Taiwanese children's early literacy skills. Furthermore, this study explored whether or not these patterns differed as a function of home literacy environment.

Home Literacy Environment

Parents play a crucial role in supporting children's early developmental outcomes,

including early literacy, cognitive and language skills (Cline, 2010, Hebert-Myers, Guttentag, Swank, Smith, & Landry, 2006, Muter, Hulme, Snowling, & Steveson, 2004; Sonnenschein, Brody, & Munsterman, 1996; Kush, Watkins & Brookhart, 2005). Parents contribute to their children's learning development in part through the quality of parent-child interactions and home literacy environment. The quality of parent-child interactions was addressed above so I will focus on the home literacy environment in this section.

Purcell-Gates(1996) proposed that the quality of home literacy environment is an important predictor of children's emergent literacy because children interact with literacy and language within the context of home environment at the earliest times in their lives. Burgess, Hecht, and Lonigan (2002) described the home literacy environment (HLE) as the "variety of resources and opportunities provided to children as well as by the parental skills, abilities, dispositions and resources that determine the provision of these opportunities for children" (p.413). Children experience differences in language and early literacy in the home environment. Haney and Hill (2004) have shown that variations of children's home literacy environments are associated with different opportunities for acquiring emergent literacy skills.

Parents, children's most important and first teachers, promote children's learning opportunities and early literacy development. Rodriguez, Tamis-LeMonda, Spellmann, Pan, Raikes, and Lugo-Gil (2009) proposed that parents promote children's learning opportunities

and early literacy development through three core components of the home environment: (1) participation in literacy activities, (2) supportive parental engagements, and (3) the availability of learning material in the home. They argue that each component contributes uniquely to young children's concurrent learning, language, and early literacy skills.

Participation in literacy activities, such as parent-child shared storybook reading, is a means for explaining the positive relationship between the home literacy environment (HLE) and children's language growth and early literacy outcomes (Bingham, 2007). Shared storybook reading and exposure to print materials are found to be related to children's phonemic awareness, vocabulary, and print concept knowledge (Bus et al., 1995; Dickinson & Tabors, 1991; Sěněchal, LeFevre, Hudson, & Lawson, 1996). Other literacy activities exerting positive effects on young children's language and literacy development include joining activities that promote learning of alphabet and letters and encouraging children to learn patterned speech or recite nursery rhymes (Parker, Boak, Griffin, Ripple, & Peay, 1999), the learning Bopomofo and simple Chinese characters (Wu, 2007), and going to libraries or museums (Payne et al., 1994; Sěněchal et al., 1996).

Supportive parental engagements with children positively affect young children's language and cognitive outcomes. Dickinson and Tabors (1991) argued that children benefit from exposure to parents' frequent and complex speech. Also, mothers' sensitivity and stimulation in children's preschool years have been shown to be positively related to

children's phonological awareness (Silven, Niemi, & Voeten, 2002), receptive language (Cline, 2010; Rodriguez & Tamis-LeMonda, 2011), and expressive language (Beals & DeTemple, 1993).

The last component of home literacy environment structure is comprised of children's learning opportunities and early literacy development by their parents as reflected in the availability of learning materials in the home. The availability of learning materials in the home environment promotes young children's reading and early literacy development (Purcell-Gates, 1996; Rodriguez & Tamis-LeMonda, 2011; Sěněchal & LeFevre, 2002).

Payne et al. (1994) found that the number of child's books in the home environment positively predicted children's receptive and expressive language skills. Sěněchal and other colleagues (1996) further proposed that the more familiar with storybooks has more positive impact on preschoolers' later vocabulary and early reading abilities.

In conclusion, there are a great number of opportunities within the context of the home for children to take part in literacy activities (Sonnenschein & Munsterman, 2002) and parents played crucial roles to support and construct these literacy activities for their young children in order to assist their children in developing early literacy skills (Burgess, Hecht, & Lonigan, 2002).

Research Centered on Home Literacy Environment

A series of research studies centered on the home literacy environment (HLE) examined

the relationships between children's HLE and young children's language and early literacy outcomes when parent-child shared storybook reading was in progress (Bingham, 2007; Korat et al., 2007). In a 5-year longitudinal study, Sěněchal and LeFevre (2002) divided the HLE into two aspects of home literacy environment: informal HLE (e.g., exposed to storybooks) and formal HLE (e.g., parents gave their children explicit instructions on print). They found that the two forms of home literacy experiences had distinct effects on children's early literacy development. As to informal HLE, parent-child storybook reading was related to children's concurrent and lasting receptive language skills. As to formal HLE, parents' use of explicit instructions on print to their children was found to relate to children early literacy development.

Hood, Conlon, and Andrews expanded on Sěněchal and LeFevre's model and found that although parent-child shared storybook reading was related to receptive language outcome, parents' formal explicit teaching was more important than shared storybook reading to develop young children's concurrent and longitudinal literacy skills.

In addition, research related to children's home literacy environment consistently has demonstrated that the home literacy environment and the instructional quality of mother-child shared storybook reading have direct and significant relationships to young children's language and early literacy competence (Dickinson & Tabors, 2001; Foster, et al., 2005; Korat, et al., 2007). Bingham (2007) demonstrated that the children's HLE and two

dimensions of mother-child shared storybook reading quality was related to preschoolers' early literacy development.

In summary, although much of HLE literature used quantitative measurements on the number of child's books in the home, duration of parent-child shared storybook reading (Bus et al, 1995; Dickinson & DeTemple, 1998) and other studies focused on the qualitative components of HLE, such as quality of mother-child shared storybook reading interactions and parental beliefs (Bingham, 2007; Bus & van IJzendoorn, 1988; DeBaryshe, 1995; Wu, 2007), the importance of children's home literacy environment has been widely recognized as fundamental to children's early literacy development (Bus et al, 1995; Justice & Ezell, 2000).

However, one question that has not been addressed is if the home literacy environment moderate the association between mothers' instructional and affective quality when engaged in shared book reading and children's early literacy skills. According to past research, both instructional quality and affective quality of parent-child shared book reading interactions have received considerable attention given their potential roles as a mechanism facilitated young children's early literacy development, such as vocabulary, receptive language, emergent reading skills, phonological awareness, and print knowledge (e.g., Burgess, Hecht, & Lonigan, 2002; Bus & van IJzendoorn, 1997; Bus, van Ijzendoorn, & Pellegrini, 1995; Cline, 2010; Sěněchal, LeFevre, Thomas, & Daley, 1998; Wu, 2007). In addition, a child's early literacy development is due to the interaction between the child and his or her own

experience, and these experiences the child received were driven in some part by the home literacy environment (Roberts, Jurgens, & Burchinal, 2005). Thus, I sought to determine whether the home literacy environment, the predictor of children's early literacy skills, moderated the relations between Taiwanese mothers' instructional and affective quality when engaged in shared book reading and children's early literacy skills, such as receptive language ability, emergent reading skills, and the concepts of print.

Specific Aims of the Dissertation Research

No study in Taiwan has yet to explore the relation between the home literacy environment, the instructional and affective quality of mother-child book-reading interactions, and preschoolers' development of early literacy skills, and to explore the relation between the length of time that mothers spent on book reading with their children and mothers' instructional quality, affective quality, and/or children's outcomes. This study is guided by sociocultural theory from a Vygotskian perspective on mother-child shared storybook reading, which supports the importance of the social interaction in the context of mother-child shared storybook reading activities, and the concept of scaffolding and the Zone of Proximal Development (ZPD). This was the focus of my dissertation. These factors are particularly of interest in the context of the official national policy of Taiwan that encourages parent-child book-reading interactions as a means of fostering early literacy in Taiwanese children. The findings of this dissertation will not only make a strong contribution to researchers and

policymakers to promote Taiwan's parent-child shared book reading activities, but also provide valuable information about the relationship between shared book reading activities and children's early literacy skills.

The aims of this study were not only to understand the characteristics of Taiwanese maternal instructional and affective behaviors when they are engaged in shared book reading activities, and the characteristics of 3-to-6 year old children's emergent reading behaviors when they read a storybook alone, but also to explore whether the length of time of mother-child shared book reading related to mothers' instructional quality, affective quality, and children's early literacy skills. In addition, this study was designed to understand the extent to which mothers' instructional and affective quality related and interacted as they relate to 3-to-6-year-old Taiwanese children's early literacy skills. Furthermore, this study explored whether or not these patterns differed as a function of home literacy environment.

I proposed a path model to examine whether the length of time related to mothers' instructional quality, affective quality, and children's early literacy skills, and to explore the relationships among mother's instructional and affective quality of book-reading interactions, home literacy environment, children's early literacy skills. This model can be seen in Figure 2. Four subsidiary analytic models (two direct effects models, interaction effects model, and moderating model) were derived from the full path model and are shown here to represent how I will test my hypotheses.

Figure 2: Proposed Hypothetical Path Model

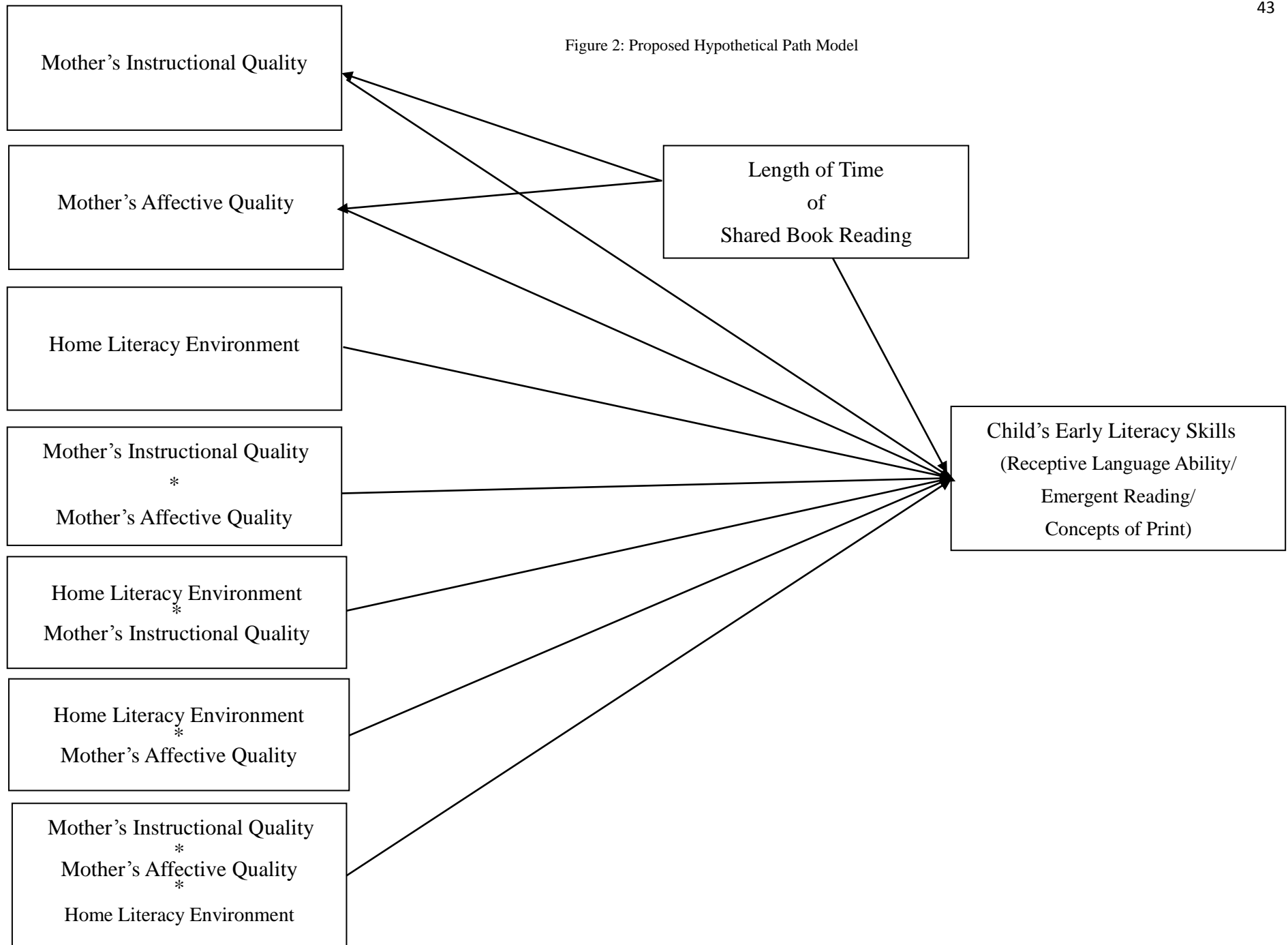


Figure 3: Direct Effects Model –Length of Time of Mother-Child Shared Book Reading, Mother’s Instructional Quality, Affective Quality, and Child’s Early Literacy Skills

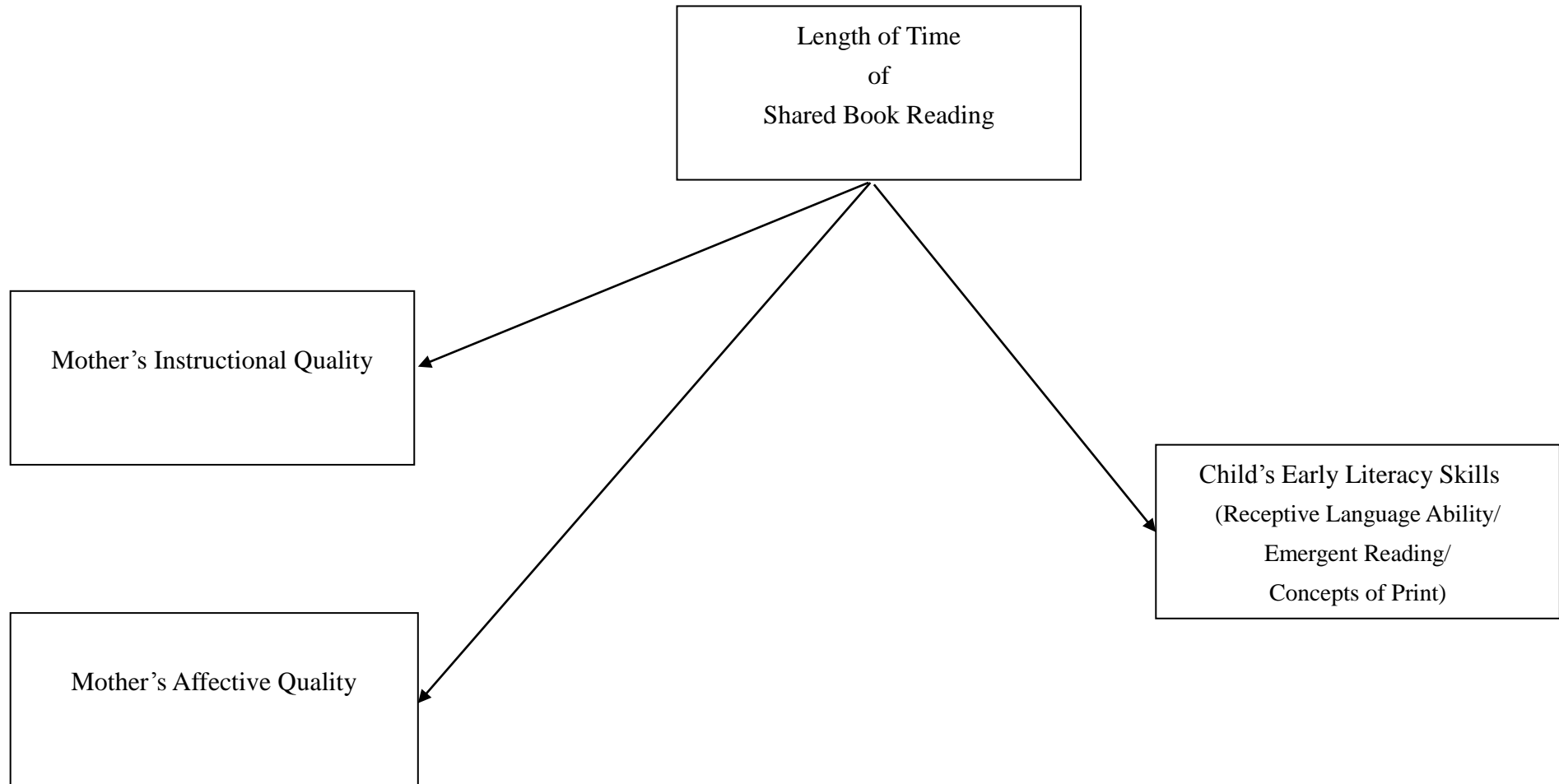


Figure 4: Direct Effects Model -Mother's Instructional and Affective Quality, the Home Literacy Environment, and Child's Early Literacy Skills

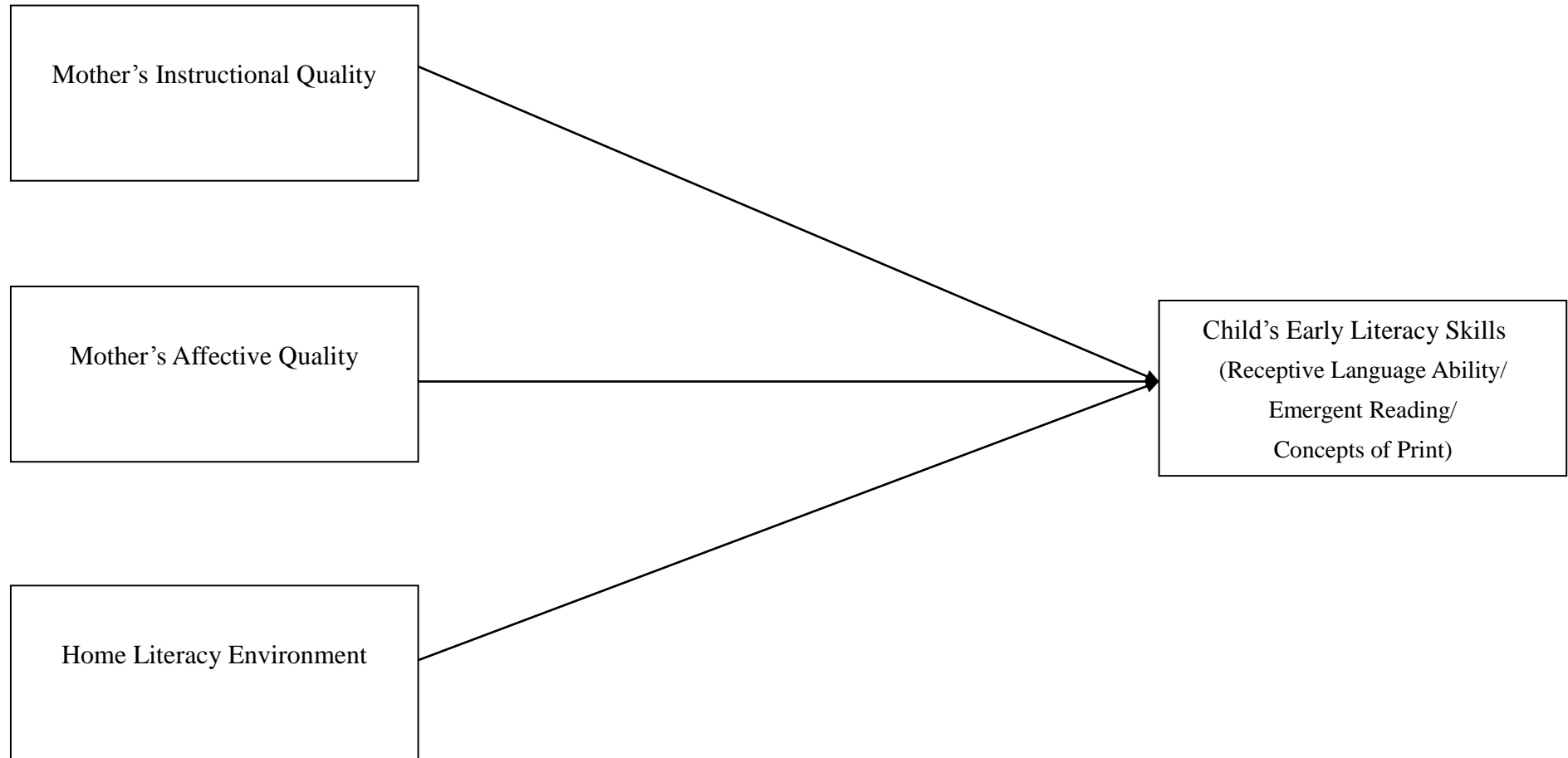


Figure 5: Interaction Effects Model-Mother's Instructional and Affective Quality, the Home Literacy Environment, the Interaction of Mother's Instructional and Affective Quality, and Child's Early Literacy Skills

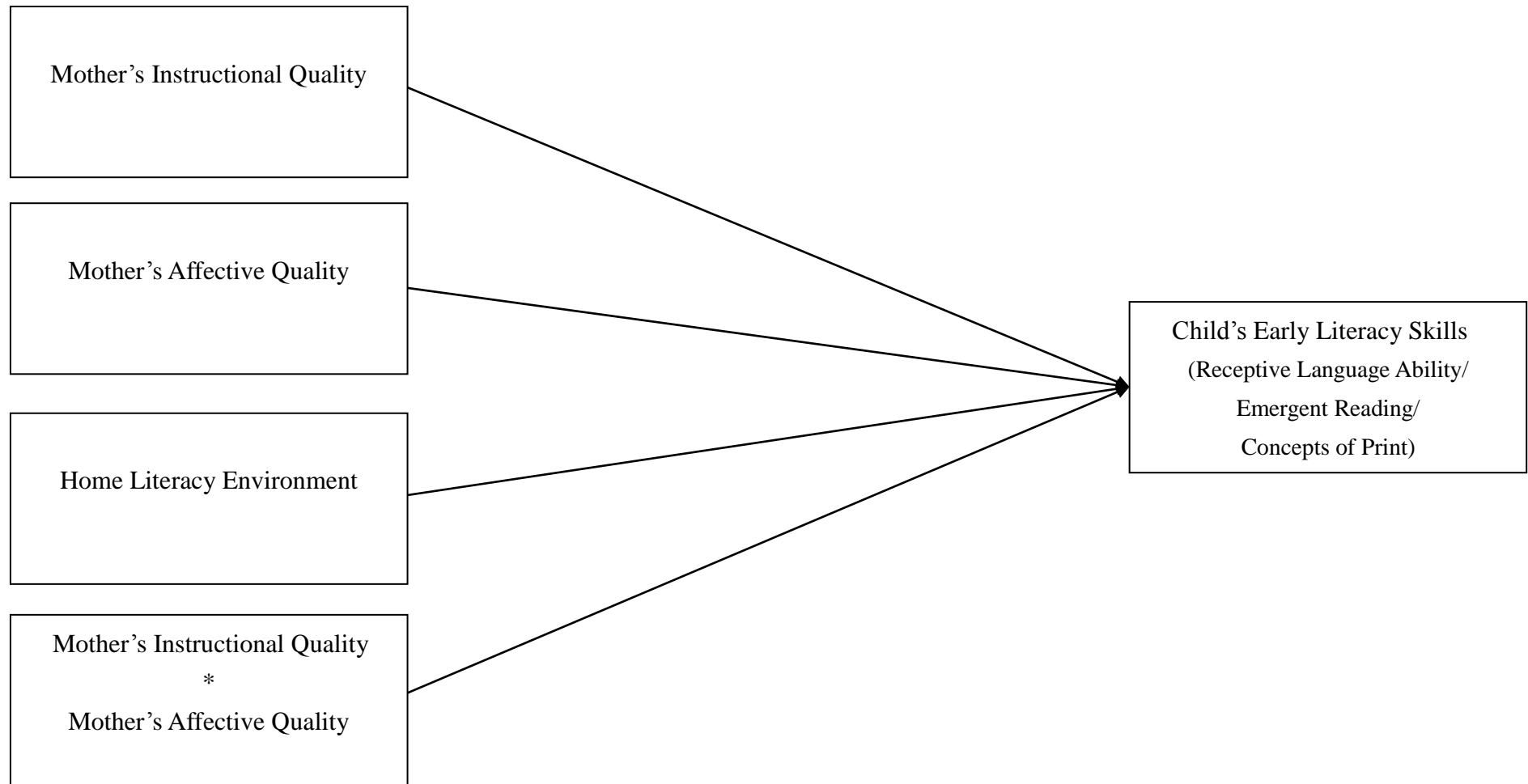
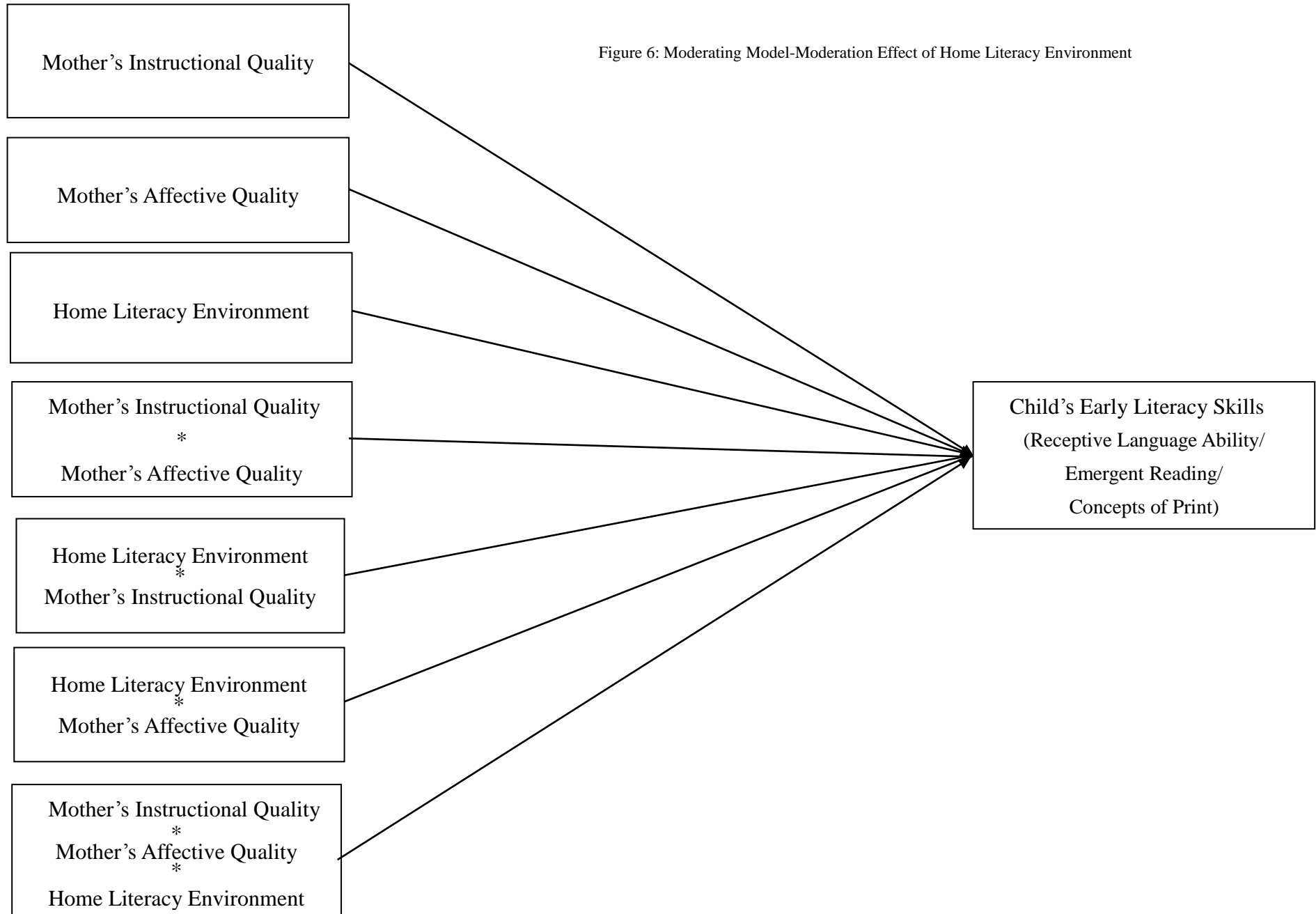


Figure 6: Moderating Model-Moderation Effect of Home Literacy Environment



Research Questions and Hypotheses

Due to scant research on whether the length of time that mothers spent sharing the book with their children related to mothers' instructional quality, affective quality, and children's early literacy outcomes in Taiwan, and a lack of research on a mother's instructional and affective quality of shared book reading interactions and the child's home literacy environment relate and interact to the child's early literacy level (i.e., receptive language ability, emergent reading, and concepts of print), in the application of Vygotskian sociocultural theory and the concept of ZPD, I wished to know the characteristics of Taiwanese maternal instructional behaviors and affective behaviors when shared book reading activity was in progress, and the characteristics of 3-to-6 year old children's emergent reading behaviors when they read a storybook alone through my observations.

In addition, I proposed not only to explore whether the length of time that Taiwanese mothers spent sharing book reading with their children related to two dimensions of maternal shared book reading quality (instructional and affective quality of book-reading interactions) and children's early literacy skills, but also to explore how concurrent relationships between a mother's instructional quality and affective quality of book-reading interactions related to and interacted to influence Taiwanese children's early literacy skills and to examine if these relationships differ as a function of children's home literacy environment.

I identified ten research questions to guide this research project and derived hypotheses

as follows:

1. What are the characteristics of Taiwanese mothers' instructional behaviors and affective behaviors when shared a storybook reading with their children?

2. What are the characteristics of Taiwanese 3-to-6 year old children's emergent reading behaviors?

3. How does the length of time that a mother spent on sharing book reading with her child contribute to a mother's instructional quality of book-reading interactions?

Hypothesis: The length of time that a mother spent on sharing book reading with her child would be positively related to mother's instructional quality of book-reading interactions.

4. How does the length of time that a mother spent on sharing book reading with her child contribute to a mother's affective quality of book-reading interactions?

Hypothesis: The length of time that a mother spent on sharing book reading with her child would be positively related to mother's affective quality of book-reading interactions.

5. How does the length of time that a mother spent on sharing book reading with her child contribute to a child's early literacy outcomes?

Hypothesis: The length of time that a mother spent on sharing book reading with her child would be positively related to a child's early literacy scores; (i.e., receptive language ability, emergent reading, and concepts of print); when these scores are entered into models individually with control variables.

6. How does a mother's instructional quality of book-reading interactions contribute to a child's early literacy outcomes?

Hypothesis: Mothers' instructional quality of book-reading interactions would be positively related to children's early literacy scores; (i.e., receptive language ability, emergent reading, and concepts of print); when these scores are entered into models individually with control variables.

7. How does a mother's affective quality of book-reading interactions relate to a child's early literacy outcomes?

Hypothesis: Mothers' affective quality of book-reading interactions would be positively related to children's early literacy scores; (i.e., receptive language ability, emergent reading, and concepts of print); when these scores are entered into models individually with control variables.

8. How does a child's home literacy environment relate to a child's early literacy outcomes?

Hypothesis: Children's home literacy environment would be positively related to children's early literacy scores; (i.e., receptive language ability, emergent reading, and concepts of print); when these scores are entered into models individually with control variables.

9. To what extent do a mother's instructional and affective quality of shared book reading interactions interact together to contribute to a child's early literacy outcomes?

Hypotheses: Mother's instructional quality is predicted to moderate the association between mother's affective quality of shared storybook reading interactions and child's early literacy outcomes (receptive language ability, emergent reading, and concepts of print) when it is stronger at higher mother's instructional quality of shared storybook reading interactions.

10. To what extent do the child's home literacy environment (HLE) moderate the relationship between a mother's instructional and affective quality of shared book reading interactions and a child's early literacy outcomes?

Hypotheses:

- a. Children's home literacy environment (HLE) is predicted to moderate the relationship between a mother's instructional and affective quality of shared book reading interactions and a child's early literacy outcomes (receptive language ability, emergent reading, and concepts of print). That is, a mother's instructional and affective quality of shared book reading interactions is expected to be most strongly related to a child's early literacy outcomes when a child's HLE is high.
- b. The interaction between a mother's instructional and affective quality of shared book reading interactions and a child's home literacy environment (HLE) is expected to be statistically significant.

CHAPTER 3

METHOD

Pilot Study

Prior to conducting this principal dissertation research, I conducted a pilot study. The purpose of the pilot study was to see if the storybooks selected for mother-child shared storybook reading and child's solo reading in this study were interesting enough, were not that familiar, and were developmentally appropriate for the shared storybook reading and solo reading activities in the main research project. The pilot study provided the additional benefit of allowing me pilot the study procedures, enabling smoother data collection, a better estimate of the time required for each portion of the study, and enabling me to arrange the order of the early literacy assessments.

Twenty-one mothers from Mandarin speaking families in Taipei and their 3-to-6 year old children from three private kindergartens participated. Five children (1 boy and 4 girls) attended kindergarten A, 7 children (2 boys and 5 girls) attended kindergarten B, and nine children (5 boys and 4 girls) attended kindergarten C. Age and gender information about children participating in the Pilot Study is showed in Table 1.

Table 1: Age and Gender Information of Children in Pilot Study

Age Gender	3 years old	4 years old	5 years old	6 years old	Total
Boy	0	4	4	0	8
Girl	3	5	2	3	13
Total	3	9	6	3	21

I conducted the pilot study between March 4 and March 25, 2013. Most of the pilot study data were collected at each child's school; only five mother-child dyads allowed me to do a home visit.

I collected data in five areas in the pilot study in the following order. First, I observed and video recorded mothers and their children engaged in a storybook reading and storybook selection. Second, I video recorded children in a solo reading exercise. Third, mothers completed the family information survey. Fourth, I administered the early literacy assessments. Finally, I assessed the home literacy environment. These tasks and measures are described in detail below. Measurements used in this study were translated by the researcher and a Chinese-English professional translator. All instruments were reviewed by professors working in the field of Child and Family Study in the United States for the appropriateness and validity.

Mother-Child Shared Storybook Reading: Storybook Selection

Mothers from kindergarten A were asked to share two storybooks with their

children,”*My Friend Henry* (最要好的朋友)” and “*The Crocodile and the Dentist* (鱷魚怕怕牙醫怕怕).” Mothers from kindergarten B were asked to share another two storybooks with their children, “*Share* (雪兒 *Share*)” and “*Animals Should Definitely Not Wear Clothing* (動物絕對不應該穿衣服).” After evaluating the data from the pilot study in kindergartens A and B, mothers from kindergarten C were asked to share two storybooks with their children, one from set used in kindergarten A, “*The Crocodile and the Dentist* (鱷魚怕怕牙醫怕怕)”, and the other from set used in kindergarten B, “*Share* (雪兒 *Share*).”

Mothers from kindergarten A shared a Chinese language version of two storybooks, “*My Friend Henry* (最要好的朋友)” and “*The Crocodile and the Dentist* (鱷魚怕怕牙醫怕怕)” with their children. The former storybook, “*My Friend Henry*”, is a newly released book which contains large pictures and some words. The storyline expresses friendship and the concept of sharing your best friend with others. “*The Crocodile and the Dentist*” was recommended by a well-known and experienced children’s literacy educator in Taiwan, Zen-Mei Lin. She is also the director of Little Big Parent-Child Book Club which has the largest numbers of members and is a famous organized institution to promote the concept of parent-child shared book reading activity. “*The Crocodile and the Dentist*” is a book that also has large pictures and some words with funny and repetitive text to express that it is not unusual for everyone to be afraid of going to see a dentist. Most children responded better and were involved more in reading and discussion when mothers shared “*The Crocodile and*

the Dentist” with them. Some mothers also expressed the opinion that children showed more interested in the funny text of “*The Crocodile and the Dentist*”, that this topic was close to children’s life experience and that the book could more easily evoke mothers interaction with their children. Therefore, “*The Crocodile and the Dentist*” was chosen as the book use as one of the two storybooks in the plot study in kindergarten C.

Mothers from kindergarten B shared Chinese version of two storybooks with their children, “*Share* (雪兒 *Share*)” and “*Animals Should Definitely Not Wear Clothing* (動物絕對不應該穿衣服).” “*Share*” is a newly released storybook that contains large colorful animal pictures and vivid facial expressions. The storyline express the concept of sharing and helps children to understand that when you share something or someone with others, you do not lose something and that, sometimes, you will gain something unexpected. “*Animals Should Definitely Not Wear Clothing*” was also recommended by Zen-Mei Lin, the director of well-known Little Big Parent-Child Book Club in Taiwan. This storybook contains large animal pictures and some words with interesting, simple, and humorous storyline to express the self-respect and self-love concepts. Children responded better to “*Share*” book and some of them asked more questions to their mothers and showed more verbal and physical interactions between mother-child dyads when compared to their reactions when mothers shared “*Animals Should Definitely Not Wear Clothing*” book with their children. Also, all mothers chose “*Share*” book as a better choice for shared storybook reading activity due to

fact that the topic was closer to children's life experience and young children general unwillingness to share. Therefore, "*Share*" and "*The Crocodile and the Dentist*" were chosen to use in the pilot study in kindergarten C.

Children from kindergarten C responded and showed their interests in both storybooks, and mothers interacted with their children via questions from text and life experiences when shared these two storybooks. However, six out of nine children said they read "*The Crocodile and the Dentist*" before, and showed familiarity with the episodes before their mothers read the text. No children claimed that they had read "*Share*" before their participation in the pilot study. The aim of this pilot study was to determine which one storybook was not only unfamiliar and developmentally appropriate to these 3-to-6 year old children, but also interesting to evoke book reading interactions between the mother and the child. As a result, I decided to use "*Share*" as the storybook for mother-child shared storybook reading task in the dissertation study.

Mother-Child Shared Storybook Reading: Video-Recording

Before the formal instruction was given, I talked with participants and played game with children in order to become familiar with them. I then asked mother-child dyads to choose a place where they felt comfortable to sit and told children to sit anyway they liked with their mothers.

Sixteen mother-child pairs consented to participate in this pilot study in children's

schools. Fifteen of them chose to use a little desk and sat on the chairs next to each other.

Only one mother-child dyad sat next to each other on the floor and the girl always leaned against her mother. The remaining five mother-child dyads participated in a home visit sat next to each other on the sofa in their living room.

Mothers read two storybooks to their children. Each book took about 5-10 minutes to complete. For example, children from kindergarten C showed interest in storybook reading and actively asked their mothers questions about the pictures or text. Due to the storyline, mothers generated more conversation and interactions when they discussed the issues related to children's life experience. However, nine out of the twenty-one children appeared to be influenced by video recording because they gazed curiously at the video recorder while their mother read to them.

Child's Solo Reading: Storybook Selection

Children recruited from kindergarten A and B engaged in solo reading of the Chinese version of two storybooks, "*Two Kings* (兩個國王)" and "*PIYOPIYO Happy Birthday* (小雞過生日)." "*Two Kings*" contains large pictures and some words with an interesting, simple, and humorous storyline to help children know themselves and to discover that everyone is unique. "*PIYOPIYO Happy Birthday*" contains some words and colorful pictures of animals, different kinds of cakes, cookies, ice creams, and toys. Interesting storyline describes how baby chicks celebrate their birthday. Children from kindergarten A and B aged range from 3

to 6 years old responded better and induced more storytelling in “*PIYOPIYO Happy Birthday*” than in “*Two Kings*”.

Children recruited from kindergarten C were then asked to read two Chinese version of storybooks alone, “*PIYOPIYO Happy Birthday* (小雞過生日)” and “*The Black Rabbit!* (你再大，我也不怕!).” “*The Black Rabbit!*” was recommended by the director of kindergarten C who has devoted herself to promote shared storybook activity. “*The Black Rabbit!*” contains the large main character rabbit and his own shadow’s pictures and some words with the storyline to encourage readers to face fear and overcome it. Children talked more about the text and pictures of “*PIYOPIYO Happy Birthday*” which is close to children’s life experience than “*The Black Rabbit.!*” Therefore, I choose “*PIYOPIYO Happy Birthday*” as the storybook for a child’s solo reading task.

Child’s Solo Reading: Video-Recording

Twelve three-to-four-year-old children were clearly dependent on their mothers who sat right next to them. Some of them refused to read without mothers’ assistance, although these children were willing to tell the story when their mothers asked questions about the pictures or read the text. In contrast with the younger children, nine five-to-six-year-old children engaged willingly in the solo reading task.

The procedures of this pilot study and what I were coding toward maternal instructional and affective quality of mother-child book-reading interactions and young children’s

emergent reading behaviors were addressed below. In addition, how I measured other two early literacy skills and how the setting looked like were also explained below.

Family Information Survey

In the pilot study, mothers provided demographic information as well as other information while their children doing solo reading tasks. A copy of the family information survey can be found in Appendix A.

Quality of Mother-Child Book-Reading Interactions

Mothers were asked and given instructions to share a storybook reading with their children. I observed without obstructing and video recorded an interaction between the mother and her child when shared storybook reading was in progress. In this pilot study, two dimensions of book-reading quality were measured: instructional behaviors and affective quality of mother-child shared storybook reading. The instructional quality of shared book reading interaction was assessed using behavior codes of mothers' book teaching which are adapted and modified from DeBaryshe (1995) and Cline (2010) (see Appendix B); whereas the affective quality of book-reading interaction was assessed using an adapted version of the Affective Aspects of Shared Reading Scale (Sonnenschein & Munsterman , 2002) and the Parent/Caregiver Involvement Scale (P/CIS; Farran, Kasari, Comfort, & Jay, 1986) (see Appendix C). The detailed coding items of maternal instructional and affective quality of shared book reading interactions and the inter-rater reliability were addressed in "Parental

Measures” section.

Early Literacy Assessments

I used three measures to assess children’s early literacy development in this pilot study. First, young children were asked to read a storybook by themselves out loud in order to assess their emergent reading behaviors. Children’s emergent reading behaviors were videotaped and coded based on eight emergent reading protocols from the emergent reading classification. These classification were modified and further adopted from Sulzby (1985), Valencia and Sulzby (1991), and Wu (2007). The classification scheme can be found in Appendix D. Second, children’s receptive language scores were measured by the Chinese Language version of the Peabody Picture Vocabulary Test_Revised (Chinese version PPVT_R) (Dunn & Dunn, 1981). The PPVT_R can be found in Appendix E. Finally, I used a portion of Clay’s (1982) Concepts about Print Test to assess these young children’s knowledge of print concepts. The Concepts about Print Test can be found in Appendix F.

I sat next to the child at a desk and conducted these three early literacy assessments in a kindergarten classroom or in the child’s home. First, children engaged in the solo reading task. Children solo read a storybook, “*PIYOPIYO Happy Birthday* (小雞過生日).” Then, children followed my instruction and responded the questions during the administration of the PPVT_R and Concepts about Print Test. The three assessments took around 15-20 minutes. The detailed coding items of children’s emergent reading behaviors, PPVT_R scores, ten

items to measure children's concepts of print, and their reliabilities were addressed in "Child's Measures" section. Finally, children received stickers and a storybook as tokens of appreciation after participating in this pilot study.

Home Literacy Environment

I used Caldwell and Bradley's (1984) Early Childhood- Home Observation for Measurement of the Environment (EC-HOME) Inventory to measure children's supportive home environment that stimulated literacy skills. Four subscales from EC-HOME, including learning materials, language stimulation, academic stimulation, and variety in experience. This inventory can be found in Appendix G. The detailed of the scoring, content, and the reliability were also addressed in "Parental Measures" section. I observed children's homes and asked their mothers questions to evaluate HLE. The EC-HOME Inventory took around 3-5 minutes to complete.

Research Sampling and Procedures

Below I will present a brief introduction about the reason why Taipei City was chosen as a data collection site in this study. Detailed information including sampling strategies, recruitment, research procedures consisting of videotaping, measures of the instructional and affective quality of mother-child book reading interactions, and early literacy assessments are also detailed below.

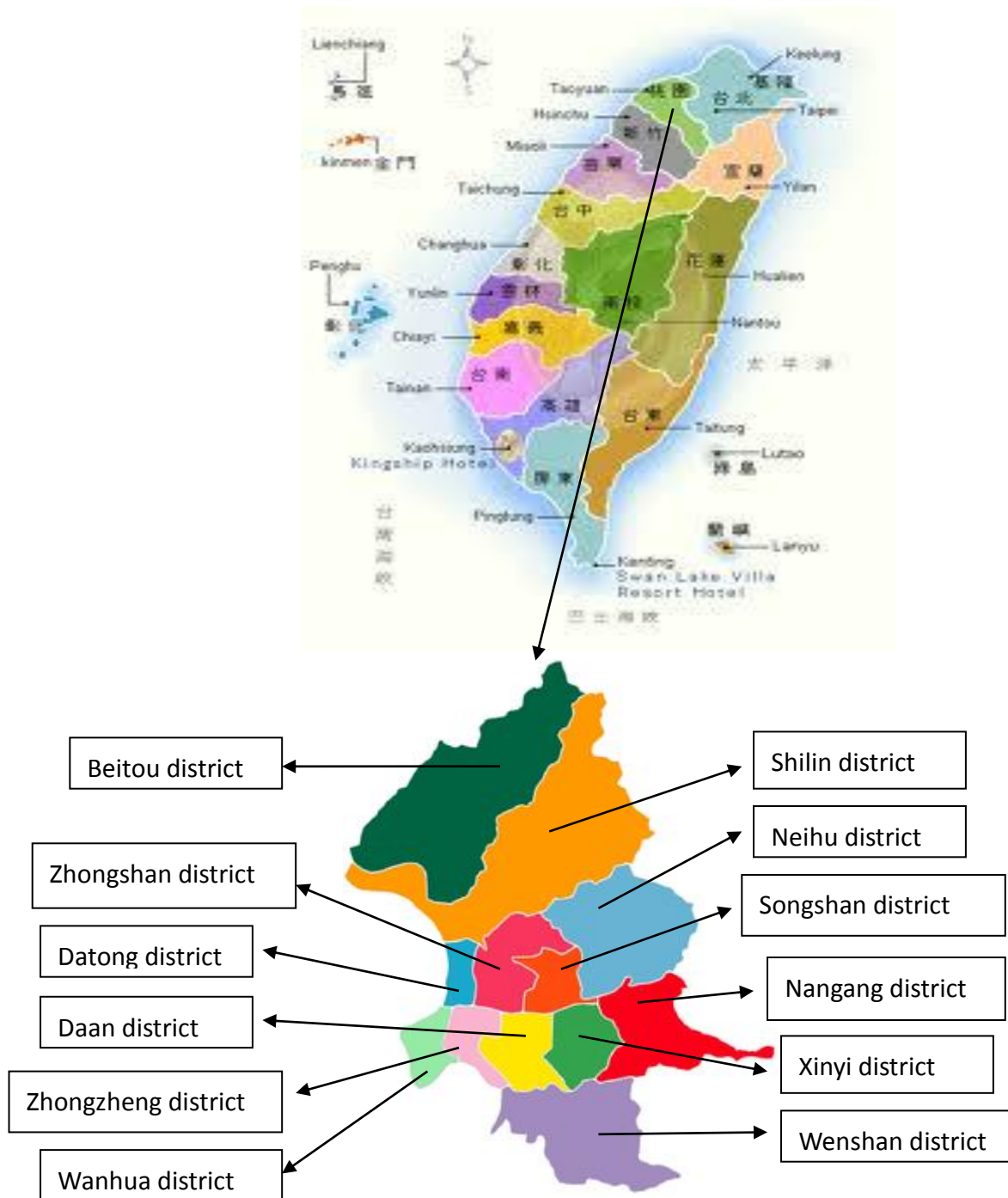
Reason Why Taipei City Chosen for Data Collection

Taipei City is located in the northern tip of the island nation of Taiwan. Taipei City is not only the capital of Taiwan but it is also the political, cultural, and economic center of Taiwan. According to demographic census from Taiwan's Ministry of Interior (2012), Taipei City has approximately 2,658,685 people with a population density of 9,781 people per square kilometer. The mean size of households is around 3 persons. Taipei's population is distributed among twelve administrative districts (see Figure 7). The percentage of population distribution from the most to the least is: (1) Daan district: 11.9%, (2) Shilin district: 10.86%, (3) Neihu district : 10.32%, (4) Wenshan district: 10.01%, (5) Beitou district: 9.52%, (6) Xinyi district: 8.6%, (7) Zhongshan district: 8.41%, (8) Songshan district: 7.96%, (9) Wanhua district: 7.22%, (10) Zhongzheng district:6.1%, (11) Datong district: 4.75%, and (12) Nangang district: 4.35%. Lower income families reside in Wanhua, Nangang, and Datong districts while upper income families predominantly reside in Daan, Zhongzheng, Xinyi

districts. According to statistics released in May of 2012 (Taiwan's Ministry of Interior, 2012, Retrieved from <http://sowf.moi.gov.tw>), 38.2% of Taipei's residents have a college, university, or higher educational degree and 32.3% of residents have a high school degree.

Between 2000 and 2003 Taiwan's Ministry of Education officially implemented the National Children Reading Movement followed by the enactment of the Elementary and Junior High School "Pleasure Reading to Enhance the Reading Program" from 2008 to 2013. During this period, parent-child joint reading activities quickly sprouted at and outside home, especially in Taipei, where educational and cultural resources and reading activities are centralized. That is the reason why parent-child shared reading activities, especially the home-based mother-child shared storybook reading activities, sprouted quickly in Taipei. Thus, focusing on the population of Taipei is likely to reflect what the actual interaction of Northern Taiwanese mothers' home-based shared storybook reading with their children and how these children's home literacy environments influence preschoolers' early literacy development.

Figure 7: Map of Taipei City- Twelve Districts



Participants

Children voluntarily participating in this study ranged in age from 3 to 6-years-old. I recruited participants as follows. First, I sent letters requesting cooperation to all directors of licensed public (N=223) and private (N=279) preschools and kindergartens within 12 districts in Taipei City. Second, my advisor and I contacted the executive officer of Early Childhood Education Division of Department of Education in the Taipei City Government via email and petitioned for supporting and assisting researcher to encourage directors' participation in this dissertation research. However, the Early Childhood Education Division of Department of Education in the Taipei City Government rejected the request because it was personal dissertation study, not a publicly funded project. I then made follow-up calls to each preschool/kindergarten in order to make sure that each school received the letter asking for their cooperation and made sure each district received a certain number of participation requests based on their population size (see Appendix H for cooperation letter and consent form). I scheduled a visit via phone calls with directors who consented to cooperate or showed interest in participating in this study, visited directors at their preschools/ kindergartens. After receiving consent from directors, I brought letters explaining the research purposes and procedures in a package for teachers that were distributed to parents in each child's schoolbag. Mothers who consented to participate in this study voluntarily returned their consent slips to the school and which I collected at the preschools/

kindergartens. Finally, I scheduled a home visit via phone calls with mothers.

Twenty-six (N=26) public and private preschools/ kindergartens from 12 districts in Taipei City provided participants for this study. Seventy children were from public preschools/kindergartens (68.0%), twenty-seven children were from private preschools/kindergartens (26.2%), and six children were educated at home by their mothers (5.8%). The goal desired number of mother-child dyads according to population distribution in each district in Taipei City and the actual recruited sample number in each district are presented in Table 2. A total of 29.3% of the mother-child dyads participating in this study were from Daan district, 4.9% were from Shilin district, 10.7% were from Neihu district, 6.8% were from Wenshan and district as well as from Datong district, 2.9% were from Beitou district as from Songshan and Nangang district., 17.5% were from Xinyi, 5.8% were from Zhongshan district as well as from Zhongzheng district, and 3.9% were from Wanhua district.

Table 2: Goal Desired Number of Mother-Child Dyads According to Population Distribution and the Actual Recruited Sample Number in each District in Taipei City

District	Percentage of Population Distribution	Goal Desired number of mother-child dyads	Actual Recruited Sample Number
Daan	11.9%	10	30 (29.1%)
Shilin	10.9%	9	5 (4.9%)
Neihu	10.3%	8	11 (10.7%)
Wenshan	10.0%	8	7 (6.8%)
Beitou	9.5%	7	3 (2.9%)
Xinyi	8.6%	7	18 (17.5%)
Zhongshan	8.4%	7	6 (5.8%)
Songshan	8.0%	6	3 (2.9%)
Wanhua	7.2%	5	4 (3.9%)
Zhongzheng	6.1%	5	6 (5.8%)
Datong	4.8%	4	7 (6.8%)
Nangang	4.4%	4	3(2.9%)
Total	100%	80	103 (100%)

Initially, 112 mother-child dyads voluntarily consented to participate in the dissertation study and completed data collection. However, 9 dyads were dropped from this study due to fathers' participation in shared storybook reading activity, changed research site from home to coffee shops or library, and incomplete videotaping data. The final sample consisted of 103 mother-child dyads. These 103 mother-child pairs completed family information survey, mother-child shared storybook reading and child's solo reading activities, video recorded during the home visit, and early literacy assessments.

Among 103 mother-child pairs participating in this study, there were forty-one boys and sixty-two girls: eighteen 3-year-old children (5 boys and 13 girls), twenty-three 4-year-old

children (12 boys and 11 girls), twenty-nine 5-year-old children (14 boys and 15 girls), and thirty-three 6-year-old children (10 boys and 23 girls). The mean age in months of these young children was 62.5 months old, and the age range was from 36 months old to 79 months old. Thirty-nine children (37.9%) were first born in their family, thirty-two children (31.0%) were second born, eight children (7.8%) were third born, two children (1.9%) were fourth born, and twenty-two children (21.4%) were the only child in their family. Furthermore, among 103 children joining in this research, the birthplace of ninety-four children (91.3%) was Taipei, the Northern Taiwan, one child (1%) from Xinyi district was born in Kaohsiung, in the Southern Taiwan, one child (1%) from Shilin district was born in Kinmen, in the surrounding islands of Taiwan, and the remaining seven children (6.8%) were born in the foreign countries, such as the United States and Malaysia. Table 3 summarizes children's demographic characteristics distribution by school status, child age, gender, and birth order among in twelve districts in Taipei City.

Among 103 little participants, 9 pairs of siblings participated in this study. Table 4 presents the demographic information of 94 mothers recruited in this study. The age range of these mothers was from 30 years old to 48 years old ($M=37.2$). Among 94 mother participants, there were ninety-three biological mothers and one stepmother. As to marital status, 91 out of 94 mothers (96.8%) were married, 1 out of 94 mothers (1.1%) was separated, and 2 out of 94 mothers (2.1%) were divorced. As to the educational level, 6 out of 94

mothers (6.4%) were high school, 56 out of 94 mothers (59.5%) were college/university, and 32 out of 94 mothers (34.1%) were master/PhD degrees. All children recruited in this study spoke Chinese Mandarin at their home. 32 out of 103 children (31.1%) also spoke Taiwanese with their families at home, 16 out of 103 children (15.5%) sometimes had simple English conversation with their parents or the adults taught the young child some English nouns in their daily lives, and 2 out of 103 children (1.9%) learned Japanese from their mothers.

In sum, information describing the sample characteristics, including mothers' and their children may be found in Table 5. This table presents information in the form of means and standard deviations for variables including: children's age, gender, birth order, school status, mother's relation to the child, marital status, parents' education level and occupation distributions.

Table 3: Child Demographic Characteristics Distribution by School Status, Child's Age, Gender, and Birth Order in Taipei City's Twelve Districts

	Daan	Shilin	Neihu	Wenshan	Beitou	Xinyi	Zhongshan	Songshan	Wanhua	Zhongzheng	Datong	Nangang	Total
School Status													
Public	19	0	10	7	1	16	3	1	4	3	6	0	70 (68.0%)
Private	11	4	1	0	2	2	2	2	0	2	0	1	27 (26.2%)
Self-Educated at Home	0	1	0	0	0	0	1	0	0	1	1	2	6 (5.8%)
Child's Age (M= 62.5 months)													
3 years old	4	1	1	1	1	1	3	1	0	3	1	1	18 (17.5%)
4 years old	6	1	3	0	1	5	1	1	0	0	3	2	23 (22.3%)
5 years old	7	1	5	4	1	3	1	1	3	3	0	0	29 (28.2%)
6 years old	13	2	2	2	0	9	1	0	1	0	3	0	33 (32.0%)
Gender													
Boy	14	3	4	3	1	7	2	1	1	1	3	1	41 (39.8%)
Girl	16	2	7	4	2	11	4	2	3	5	4	2	62 (60.2%)
Birth Order													
First	13	2	5	2	0	9	2	1	0	3	1	1	39 (37.9%)
Second	10	1	5	3	0	5	1	0	2	1	4	0	32 (31.0%)
Third	3	0	0	0	2	2	1	0	0	0	0	0	8 (7.8%)
Fourth	0	1	0	0	0	1	0	0	0	0	0	0	2 (1.9%)
Only Child	4	1	1	2	1	1	2	2	2	2	2	2	22 (21.4%)
Birthplace													
Northern Taiwan	27	4	11	7	2	17	4	3	4	5	7	3	94
Southern Taiwan	0	0	0	0	0	1	0	0	0	0	0	0	1
Surrounding Islands	0	1	0	0	0	0	0	0	0	0	0	0	1
Foreign Countries	3	0	0	0	1	0	2	0	0	1	0	0	7
Total	30	5	11	7	3	18	6	3	4	6	7	3	103 (100%)
	(29.1%)	(4.9%)	(10.7%)	(6.8%)	(2.9%)	(17.5%)	(5.8%)	(2.9%)	(3.9%)	(5.8%)	(6.8%)	(2.9%)	(100%)

Table 4: Parent Demographic Characteristics Distribution in Taipei City's Twelve Districts

	Daan	Shilin	Neihu	Wenshan	Beitou	Xinyi	Zhongshan	Songshan	Wanhua	Zhongzheng	Datong	Nangang	Total
Mother Education													
High School	1	1	1	0	0	1	0	0	2	0	0	0	6 (6.4%)
College/ University	14	3	6	3	2	14	2	2	1	2	4	3	56 (59.5%)
Master Degree/ PhD	12	0	2	4	1	2	3	1	1	3	3	0	34 (34.1%)
Father Education													
High School	1	1	1	0	0	2	0	0	0	1	0	1	7 (7.5%)
College/University	11	3	5	3	1	13	1	2	3	0	4	1	47 (50%)
Master Degree/ PhD	16	0	3	4	2	2	4	0	1	4	3	1	40 (42.5%)
Mother's Relation to Child													
Biological Mother	27	4	9	7	3	17	5	3	3	5	7	3	93 (98.9%)
Stepmother	0	0	0	0	0	0	0	0	1	0	0	0	1 (1.1%)
Marital Status													
Married	26	4	9	7	3	17	4	3	4	5	6	3	91 (96.8%)
Separated	0	0	0	0	0	0	0	0	0	0	1	0	1 (1.1%)
Divorce	1	0	0	0	0	0	1	0	0	0	0	0	2 (2.1%)
Total	27	4	9	7	3	17	5	3	4	5	7	3	94 (100%)
	(28.7%)	(4.3%)	(9.6%)	(7.4%)	(3.2%)	(18.1%)	(5.3%)	(3.2%)	(4.3%)	(5.3%)	(7.4%)	(3.2%)	(100%)

Table 5: Descriptive Statistics: Background Variables

	Preschoolers			
	Mean (SD)	%	Range	N
Age (Months)	62.5 (12)		37-79	103
Number of girls				62
Number of boys				41
Birth of Order^a (1/2/3)		37.9/31.1/7.8/1.9/21.4	1-5	103
School Status^b (1/2/3)		68.0/26.2/5.8	1-3	103
Mother's Relation to the Child^c (1/2)		99/1	1-2	103
Marital Status^d (1/2/3)		96.8/1.1/2.1	1-3	94
Education^e				
Mother (1/2/3)		6.4/59.6/34	1-3	94
Father (1/2/3)		7.4/51.1/41.5	1-3	94
Occupation^f				
Mother (1/2/3/4/5/6/7)		8.7/31.1/2.9/10.7/13.6/18.4/5.8/8.7	1-7	94
Father (2/3/4/5/6/7)		8.7/21.4/19.4/8.7/35.01/1.9/4.9	2-7	94

Note: ^a 1=first-born child; 2=second-born child; 3=third-born child; 4=fourth-born child; 5=only child. ^b 1=public; 2=private; 3=self-educated. ^c 1=biological mother; 2=stepmother. ^d 1=married; 2=separated; 3=divorce. ^e 1=high school; 2=college/university; 3=master degree/PhD. ^f 1=housewife; 2=computer; 3=social service; 4=education; 5=business; 6=administrators; 7= healthcare practitioners and support occupation

Procedure

The Syracuse University Institutional Review Board (IRB) for the Protection of Human Subjects reviewed and approved the research in this dissertation (IRB approval number 12-310). The data collection and coding was conducted in Taipei, Taiwan and continued from February 2013 to October 2013.

After receiving signed consent form directors, I visited the schools and brought parent letters explaining the research purposes and procedures in a package for teachers. The parent letters were distributed in each child's schoolbag with the assistance of the teachers.

Important information pertaining to confidentiality, research procedures, benefits and risks of this study, researcher's contact information, and Syracuse University IRB approval number,

12-310, were clearly described in the parent letters (see Appendix I). I did not have any direct contact with parents prior to research procedures. Mothers consented to participate in this study voluntarily returned their consent slips containing the names of the mother and her child, home address, child's date of birth, and signed date.

I contacted the mothers of 3-to-6-year old children who voluntarily consented to participate in this research to schedule a home visit for the study. During the home visit, I explained research purposes and procedures in front of the mother and child, and provided a consent form for mothers again and an oral assent for the child (see Appendix J for oral assent) before commencing the research.

The research was conducted entirely in Mandarin Chinese the native language of all participants. Mothers first completed the Family Information Survey to provide family information as well as other information. Next, I videotaped the mother-child reading interaction and the child's solo reading of a storybook. Next, I assessed children's receptive language skills using the PPVY_R and concepts of print; these assessment took approximately ten minutes. I next administered the HOME instrument to measure the supportive home environment for early literacy stimulation. Finally, the mother and child received a storybook and stickers as tokens to express my gratitude for their time and participation in this study.

As a native speaker of Mandarin Chinese I translated all measures used in this study. My

translations were back-translated by a Chinese-English Professional translator. Finally, all instruments were reviewed by professors working in the field of Child and Family Study in the United States for the appropriateness and validity of the content.

Research Measures and Assessments

Parental Measures

Demographic Information

Mothers were asked to fill out a Family Information Survey to provide family information as well as other information (see Appendix A for the Family Information Survey). Information provided in Family Information Survey included information about children and the parents. The child's age, gender, date of birth were solicited in the child information section. The parent information section asked mothers to provide, both the father's and mother's age, occupation, educational level, marital status, family gross income per month including father's and mother's, and mother's relation to the child, the total number and age of siblings to the child, primary caregiver of the child, and language spoken at home were also requested.

Quality of Mother-Child Book-Reading Interactions

Mothers shared a storybook reading with her child and provided instructions about the procedure (see Appendix B). I observed without obstructing and video recorded the interaction between the mother and her child while they engaged in the shared storybook

reading was in progress. The quality of mother-child shared book reading interactions were transcribed and coded from the videotape by researcher and trained graduate students. Two dimensions of book-reading quality were measured: instructional behaviors and affective quality of mother-child shared storybook reading. The instructional quality of shared book reading interaction was assessed using behavior codes of mothers' book teaching which are adapted and modified from DeBaryshe (1995) and Cline (2010), whereas the affective quality of book-reading interaction was assessed directly from videotapes using an adapted version of the Affective Aspects of Shared Reading Scale (Sonnenschein & Munsterman, 2002) and the Parent/Caregiver Involvement Scale (P/CIS; Farran, Kasari, Comfort, & Jay, 1986).

Reliability information of these measures is presented below.

Instructional Quality

The instructional quality of mother-child book reading interaction was measured through observation which was videotaped during the process of shared a storybook reading at home. I first transcribed all mothers' speech. Each of the mothers' utterance was typed verbatim. An utterance was defined as a verbal statement or vocalization, so a full sentence, a single word, a phrase, even a Mmm sound was an utterance as, they may carry social meaning. After first transcript was completed, a trained graduate student was invited to watch the videotape and check the transcript; she edited the transcript in order to develop the final version of transcript to be used for the following coding. Around 20% of the transcripts (n=21) were transcribed

by two independent trained graduate students. A mean agreement score of 94.5% (range: 90%~99%) was obtained for transcript of intelligible words.

Mothers' instructional quality behavior codes were adapted and modified from DeBaryshe (1995) and Cline (2010) and can be found in Appendix B. The behavior codes assessing mother's instructional behaviors were as follows: (1) book-related questions/requests (e.g., ask yes-no questions, ask "what, when, where, and why" questions or open-ended questions), (2) book-related feedback (e.g., praise, correction, expanding the child's response, distancing prompts), (3) story structure talk/commentary (e.g., talks containing reference to setting, theme, episodes, characters, and comments), and (4) reading (e.g., direct reading and close paraphrasing).

During a 20-second interval, these four mother's instructional behavior protocols were used to observe whether these behaviors presented in the process of mother-child shared book reading interaction. The last five minutes of mother-child dyad storybook reading were coded to examine the frequency of maternal instructional behaviors. Two coders, who were child development graduate students and also trained in the coding system, were asked to do the coding. They jointly coded 20% (n=21) of randomly selected mother's instructional behavior protocols to ensure inter-rater reliability. A Cohen's Kappa=.89 indicated high inter-rater reliability.

Book-Related Questions/Requests, Book-Related Feedback, and Story Structure

Talk/Commentary were combined to determine the total number of *Book-Relevant Extra-Textual Talk* utterances (Leseman & de Jong, 1998, 2001). The number of *Book-Relevant Extra-Textual Talk* utterances was divided by the total number of book-relevant utterances (*Book-Relevant Extra-Textual Talk* + Reading) then multiplied by 100 in order to obtain the Extra-Textual Talk scores. Extra-Textual Talk scores represented the degree to which mothers adopted a more verbal interactive style of shared book reading. Scores range from 0 to 100. Higher scores represented the less straight reading of the text and more using book-relevant extra-textual talk, while lower scores represent the more straight reading of the text and using less book-relevant extra-textual talk. Extra-Textual Talk was used to reflect mother's instructional quality.

Affective Quality

The affective quality of mother interacting with her child in the process of shared storybook at home was coded directly from the video recordings. Coding categories of affective quality of mothers interacting with her young children were based on the items modified from an adapted version of the Affective Aspects of Shared Reading Scale (Sonnenschein & Munsterman, 2002) and the Parent/Caregiver Involvement Scale (P/CIS; Farran, Kasari, Comfort, & Jay, 1986). The reason why I chose to combine these two scales to measure mothers' affective quality in this study was trying to capture the completed maternal observable behaviors that were rated as the affective quality during joint book

reading interactions. Because Affective Aspects of Shared Reading Scale assessed three dimensions of affective quality, including reading expression, involvement, and sensitivity; P/CIS was divided into eleven areas, including physical involvement, verbal involvement, responsiveness of caregiver to child, play interaction, teaching behavior, control over the child, directives, demands, relationship among activities, positive statements, negative statements, and goal setting. P/CIS seems to capture much details of the quality of involvement between caregivers and their children. Before combining these two scales, I thought about the aims of this study and completed the factor analysis, I had worked out to extract “play interaction”, “goal setting”, and “directives, demands” coding items. I also z-score them before combining them because the P/CIS with larger standard deviations will be weighted more in the composite, but I want to weight these two scales equally.

Nine coding criteria for affective quality of mother-child interactions in this study were (1) mother’s verbal reading expression, (2) contact with child, (3) child’s enjoyment and involvement, (4) mother’s sensitivity to child’s engagement, (5) mother’s enjoyment of child, (6) quality of handling of/controlling over child, (7) mother’s acceptance of the child, (8) amount of mother’s positive statements or regard when interacting with child, and (9) amount of mother’s negative statements or regard when interacting with child (see Appendix C).

Behaviors were coded directly from the video recordings. In order to capture the emotional or affective quality of mother-child book reading interactions, coding categories

were designed to rate how engaging and enjoyable the mother appeared to be when interacting with her child. The last five minutes of mother-child storybook reading were coded in order to capture the affective quality of mother-child interaction to do the following analysis in this study.

During a 20-second interval, these nine affective behaviors of mother-child interaction protocols were used to observe whether these behaviors were presented in the process of mother-child joint book reading. In order to ensure reliability, 20% (n=21) of all video-recorded observations were coded by two independent coders. The average intraclass correlation coefficient (ICC) for individual items was .87, ranging from .79 to .91, indicating the adequate inter-rater reliability.

An Affective Quality of Mother-Child Interaction composite score was computed using the nine affective quality items. This score was intended to provide an indicator of general emotional atmosphere in the process of mother shared storybook with her child at home. The Amount of Mother's Negative Statements/Regard when Interacting with Child was reversed coded in order to place all items on the same 5-point scale with higher scores indicating a more favorable rating. The nine items were summed and averaged which resulted in an Affective Quality of Mother-Child Interaction score which ranged from 1 to 5 (1=low Affective Quality of Mother-Child Interaction; 5= high Affective Quality of Mother-Child Interaction). The Cronbach's alpha value of the composite score was .81 indicated good

internal consistency.

Length of Time of Shared Book Reading

Length of time of mother-child shared book reading at home was calculated directly from the video recordings.

Home Literacy Environment

Caldwell and Bradley's (1984) the Early Childhood- Home Observation for Measurement of the Environment (EC-HOME) Inventory was adapted to assess children's supportive home environment to stimulate early literacy skills. The EC-HOME is designed to measure the supportive quality and quantity of stimulation received by a 3-to-6-year old child in the home environment. The original EC-HOME contained 55 items divided into a total score and eight separate subscales. The eight subscales included learning materials, language stimulation, physical environment, warmth and acceptance, academic stimulation, modeling, variety in experience, and acceptance (Caldwell & Bradley, 1984). The internal consistency of the total EC-HOME was excellent (Cronbach's $\alpha = .93$).

Four subscales from EC-HOME were adopted in this study to assess home literacy environment. These subscales were learning materials (e.g., the child has at least ten children's books, the child has record player/DVD player and at least five children's records/tapes/DVDs, etc.), language stimulation (e.g., the child is encouraged to learn Bopomofo (Chinese phonetic system) or simple Chinese characters, parent converse with

child at least twice during visit, etc.), academic stimulation (e.g., the child is encouraged to learn patterned speech or songs), and variety in experience (e.g., the child has been taken to library/bookstore by a family member at least every other week). Mothers responded to these 14 items from these four subscales on EC-HOME in a “yes” (scored as 1) or “no” (scored as 0) fashion. That is, if a behavior observed or the mother reported some events as examples of the specific behavior during the home visit, this item was marked as 1 representing the existence of this specific behavior, whereas the item was marked as 0 if a behavior did not observe or report by the mother. The total score that was computed by summing all marks tallied ranged from 0 to 14.

The EC-HOME adopted in this study consisted of 14 items clustered into a total score and four separated subscales. These 14 items were entered into a reliability analysis and the Cronbach’s alpha value was .52.

Child’s Measures

Children’s early literacy skills were assessed through three measures. These measures included child’s solo reading, completion of the Chinese version of the Peabody Picture Vocabulary Test-Revised (PPVT_R), and completion of a portion of Clay’s (1982) Concepts about Print Test. The latter two measures assessed young children’s receptive language ability and concepts of print and took approximately 10 minutes at their own home.

Emergent Reading

Every child was asked to read a storybook to the researcher in order to assess the child's emergent reading behaviors. Children's emergent reading behaviors were also videotaped and coded based on eight emergent reading protocols from the emergent reading classification that were modified and further adopted from Sulzby (1985), Valencia and Sulzby (1991), and Wu (2007). Eight children's emergent reading behavior codes were as follows: (1) refuse to read, (2) browse or turn pages without verbalizing, (3) Name the pictures but no story formed, (4) describe the pictures in short sentences but no story formed: child focused on the pictures only and only described characteristics (shape, size, color) or action, (5) tell a story based on the pictures or to read in monologue/dialogue: a repeated theme was shown in child's storytelling, for example, "I am going to..", "what are you doing?", "because", (6) notice words by pointing to written text but do not know how to read word or story, (7) try to read or spell Chinese characters by Bopomofo but still make mistakes in wrong pronunciation or spelling, and (8) read most words or a complete sentence on the page from the storybook correctly and independently. The scoring and the categories may be found in Appendix D.

In a 20-second interval, these eight children's emergent reading behaviors were observed to see if they were present when the child read alone. Frequencies of these eight emergent reading behaviors were recorded, and a total numbers of observations from all children were calculated. The last four minutes of the child's emergent reading behaviors were used into

further descriptive analysis to examine distribution of frequency of children's emergent reading behaviors. The eight children's emergent reading behavior codes along with their scoring criteria modified from Valencia and Sulzby (1991) are detailed in Table 6. The Emergent Reading score ranged from a possible 0 to 6 points. Higher Emergent Reading scores indicated that children had better emergent reading skills.

Table 6: Scoring Criteria of the Eight Children's Emergent Reading Behavior Codes

Code#	Emergent Reading Behavior Code's Description	Scoring (total possible=6)	
		Not present	Present
1	Refuse to read	0	0
2	Browse or turn pages without verbalizing	0	0
3	Name the pictures but no story formed	0	1
4	Describe the pictures in short sentences but no story formed: child focused on pictures and only described characteristics (shape, size, color) or action	0	1
5	Tell a story based on pictures or to read in monologue/dialogue: a repeated theme was shown in storytelling, for example, "I am going to..", "what are you doing?", "because"	0	1
6	Notice words by pointing to text but do not know how to read word/story	0	1
7	Try to read or spell Chinese characters by Bopomofo but still make mistakes in wrong pronunciation or spelling	0	1
8	Read most words or a complete sentence on the page from the storybook correctly and independently	0	1

Two coders, who were child development graduate students and also trained in the coding system, were asked to do the coding. They jointly coded 20% (n=21) of randomly selected children's emergent reading protocols to ensure inter-rater reliability. Cronbach's alpha for this scale was .87.

Receptive Language Ability

PPVT is a standardized measure of children's receptive vocabulary which requires them to choose pictures corresponding to spoken words (Lamb, 1986) in order to assess children's receptive language ability. In this dissertation research, young children's receptive language abilities were measured by the Chinese Language version of the Peabody Picture Vocabulary Test_Revised (Chinese version PPVT_R) (Dunn & Dunn, 1981). This measure may be found in Appendix E. The Chinese language version of the PPVT_R assessment includes 125 vocabulary items which has been widely used as well-established indicators of children's verbal intelligence, besides, these vocabulary items increase difficulty. Every item was presented via four pictures in one page, and children were asked to point out one black and white picture which conformed to the vocabulary the researcher said aloud, and then researcher recorded children's responses. PPVT_R scores were obtained by subtracting the number of errors from the total ceiling score. Controlling for child's age based on the manual instruction, all PPVT scores were transferred into standard scores (Dunn & Dunn, 1981).

Chinese version of PPVT_R which has been re-illustrated into another version of PPVT_R being close to Chinese culture has been standardized on a nationally representative sample of Taiwanese children whose ages are from 3 to 12 years old. The Chinese version of PPVT_R has been found to have high split-half reliability, the coefficients of the split-half reliability were between .90 and .98, and high test-retest reliability ($\gamma=.90$).

Concept of Print

Children's concepts of print were assessed using a portion of Clay's (1982) Concepts about Print Test. The Concepts about Print Test provides information about what children understood about written language around them in the environment. The Chinese version of "Stones" by Marie Clay was used for this observation task. Based on research of Sěněchal, LeFevre, Thomas, and Daley (1998), Korat, Klein, and Segal-Drori (2007), and the age range of little participants of this study, the researcher used items from 1 to 9 to measure these young children's concepts of print. In addition to the nine questions, another question, the last item of the Concepts about Print Test in this study, was developed specifically for the Chinese version, which related to children's awareness of the shape, presence, and location of Chinese punctuation marks. Administration instructions of the Concepts about Print Test and record sheet of 10 items used to measure young children's concept of print were provided in Appendix F. For example, children were asked to ten questions, such as show the front of this book, point to where the story begin to read, which way the researcher should go, and where the researcher read. Each correct answer scored 1 point, if wrong, scored as 0 point. The range of scores on this test was from 0 to 10 points. Full version of this measure has an established test-retest reliability of .95 (Clay, 1982), whereas the shortened version developed by Sěněchal and colleagues (1998) exhibited a Spearman-Brown reliability of .85. And I conducted split-half reliability analysis and obtained a Spearman-Brown coefficient of .84.

CHAPTER 4

RESULTS

The results of the analyses of the data are presented in three major sections. In first section, I present information on the demographic characteristics of the sample and descriptive information (means, standard deviations, range, etc.) about the scores of participants on the quantitative data collected in this study. In the second section, I present data describing the behavior of children and their mothers in shared reading session and the solo reading session. In addition, I analyze the qualitative data to examine how mothers interacted with their children during shared book reading activity and present some quantitative analyses in this section examining the relationships between maternal behavior and child behavior. In the third section, I present the results of quantitative analyses examining the testing of the full path model and its component parts (direct effects model, interaction model, and moderating model) in an attempt to assess the hypothesized relationships among and between the maternal instructional quality, affective quality, the home literacy environment, and children's early literacy skills.

Descriptive Analyses

This study involved observational measures of qualities of mothers' behavior while sharing a storybook with her child, the length of time of shared book reading, the child's solo reading, children's receptive language skills, concepts of print, and the child's home literacy

environment. Mothers also completed a family information survey to obtain demographic information.

Descriptive Data

The socio-demographic information describing the sample characteristics are reported in Table 5. Table 7 presented a summary of means, standard deviations, maximums, minimums, and ranges for major criteria variables. I will present an overview of Taiwanese children's emergent reading behaviors and mothers' instructional and affective characteristics when shared book-reading with their children were reported in the next section of this by graphs and tables. Frequency and descriptive statistical techniques (SPSS) were used to calculate the research results.

Table 7: Summary of Means, Standard Deviations, and Ranges for Major Predictor Variables and Criteria Variable

	Mean	SD	Range
Mother's Instructional Quality	77.54	14.81	0-100
Book-Related Questions/Requests	10.41	3.07	0-15
Book-Related Feedback	7.19	3.48	0-15
Story Structure Talk/Commentary	.27	.61	0-3
Reading	12.31	2.53	4-15
Mother's Affective Quality	4.53	.39	3.2-5.0
Mother's Verbal Reading Expression	4.43	.65	3.0-5.0
Contact with Child	4.47	.75	1.0-5.0
Child's Enjoyment and Involvement	4.56	.54	2.5-5.0
Mother's Sensitivity to Child's Engagement	4.22	.93	1.0-5.0
Mother's Enjoyment of Child	4.50	.73	1.3-5.0
Quality of Handling of/Controlling over Child	4.83	.33	3.5-5.0
Mother's Acceptance of the Child	4.93	.21	3.9-5.0
Amount of Mother's Positive Statements/Regard when Interacting with Child	4.82	.37	3.1-5.0
Amount of Mother's Negative Statements/Regard when Interacting with Child	1.20	.33	1.0-2.7
Length of Time of Shared Book Reading	6.8	172.0	3.0-17.3
Emergent Reading Ability	4.14	1.02	2-6
Refuse to Read	0.11	0.61	0-5
Browse or Turn Pages without Verbalizing	0.31	0.79	0-5
Name Pictures but No Story Formed	3.08	2.11	0-9
Describe Pictures in Short Sentences but No Story Formed	3.76	2.23	0-10
Tell a Story Based on Pictures or to Read in a Monologue/Dialogue	3.63	3.00	0-12
Notices Words by Pointing to Written Text but Do Not Know How to Read Word or Story	0.54	0.92	0-5
Try to Read or Spell Chinese Characters by Bopomofo but Still Make Mistakes in Wrong Pronunciation/Spelling	1.03	1.80	0-8
Read Most Words or a Complete Sentence on the Page Correctly and Independently	3.23	3.71	0-12
Receptive Language Ability (PPVT_R)	121.02	10.94	90-145
Concepts of Print Knowledge	7.59	1.91	1-10
Home Literacy Environment (EC-HOME)	12.30	1.41	7-14

Qualitative Data

In this study, children's emergent literacy and their mothers' instructional and affective quality during shared storybook reading interactions were assessed via video recording through the whole process of the child's solo reading and mother-child shared storybook reading activities.

Quantitative Data

Control Variables

Six demographic characteristics (child gender, social economic status, child age, school status, birth order, and mothers' education level) were considered as crucial control variables in the models. Preliminary exploratory analyses were conducted and correlation coefficients were used to determine if these six demographic characteristics were related to any of the major variables. Table 8 shows the correlations between demographic characteristics, independent variables, and dependent variables. The ideal variables acted as the control variables in the models were not only to have statistically significant correlation with all dependent variables, but also to have no significant correlation with independent variables.

A positive, statistically significant correlation between children's receptive language ability and the social economic status ($\gamma=.09$, $p<.05$) was observed, indicating that children from higher SES exhibited higher receptive language ability. Two correlational relationships between children's emergent reading skills and SES and between children's concepts of print

and SES seemed to be a trend toward significance ($\gamma=.08$, $p<.1$; $\gamma=.04$, $p<.1$, respectively). In addition, a negative, statistically significant correlation between children's emergent reading skills and child's gender ($\gamma=-.09$, $p<.05$) was observed, indicating that girls exhibited lower emergent reading skills than boys. Another correlation between children's receptive language ability and child's gender also seemed to be a trend toward significance ($\gamma=.01$, $p<.1$). Finally, a positive, statistically significant correlation between children's concepts of print and child age ($\gamma=.66$, $p<.01$) was observed, indicating that older children with higher concepts of print. A correlation between children's emergent reading skills and child age also seemed to be a trend toward significance ($\gamma=.12$, $p<.1$). The outputs for correlation illustrated that these three demographic characteristics (child gender, social economic status, and child age) acted close to the ideal control variables, therefore, I chose these three demographic characteristics as the control variables in the models. Statistically controlling for these three demographic characteristics was considered appropriate. Hence, in order to provide the consistency, these three control variables were included in all regression models to test the hypotheses of this study. Child gender was dummy-coded (1=boy, 2=girl) for analytic purposes.

Reasons why I did not choose the other three demographic characteristics (i.e., school status, birth order, and mothers' education level) as the control variables in this study were that two demographic characteristics (i.e., school status and birth order) were found to be associated with only one dependent variable, and mothers' education level was found to have

significant or weak correlation relationships with predictor and criterion variables.

Table 8: Correlations for Demographic Characteristics, Independent Variables, and Dependent Variables

	Child Gender	SES	Child Age	School Status	Birth Order	Mother Ed.
Instructional Quality	.05 (.65)	.01 (.96)	.01 (.93)	.07 (.48)	.07 (.50)	-.09 (.40)
Affective Quality	-.02 (.86)	-.06 (.54)	-.02 (.85)	.11 (.26)	.06 (.56)	-.15 (.14)
Instructional Quality*Affective Quality	.02 (.81)	-.06 (.54)	.07 (.51)	-.13 (.18)	.03 (.79)	.16 ⁺ (.10)
Home Literacy Environment	.12 (.24)	-.40 (.73)	.03 (.74)	.09 (.40)	.11 (.27)	-.20* (.04)
Receptive Language Ability	.01 ⁺ (.09)	.09* (.04)	.06 (.53)	-.01 (.91)	.20* (.04)	.07 (.47)
Emergent Reading Skills	-.09* (.04)	.08 ⁺ (.09)	.12 ⁺ (.10)	-.10 (.31)	.03 (.77)	-.16 ⁺ (.10)
Concepts of Print	.07 (.11)	.04 ⁺ (.07)	.66** (.00)	-.36** (.00)	-.06 (.56)	.12 (.23)

Note: ** $p < .01$, * $p < .05$, $p^+ \leq .1$

Correlational Analyses

Correlation and multiple regression analyses were conducted to test hypotheses. The analyses focused on whether the length of time that mothers spent sharing the book with their children related to mothers' instructional quality, affective quality, and children's early literacy skills, and relations between a child's home literacy environment, the two dimensions' mother-child shared book reading quality, and children's early literacy development.

Table 9 summarizes the bivariate correlations among major variables. In order to check whether the results from intercorrelations among major construct variables would result in the problems of multicollinearity, I computed multiple regression analyses to do a tolerance statistic for each independent variable to test for multi-collinearity. I checked the tolerance

values in the collinearity statistics output and obtained my following four tolerance statistic values. First, I computed regression analyses with the length of time of shared book reading as the independent variable and mothers' instructional quality, affective quality, and children's early literacy skills as dependent variables. I got the statistical tolerance value of .987. Second, I conducted regression analyses with mothers' instructional quality as the independent variable and children's early literacy skills as dependent variable. I obtained .585 as the tolerance statistics value. Third, I computed regression analyses with mothers' affective quality as the independent variable and children's early literacy skills as dependent variable. I obtained .583 as the tolerance statistics value. Finally, I conducted regression analyses with children's home literacy environment as the independent variable and children's early literacy skills as dependent variable. I obtained .748 as the tolerance statistics value.

A tolerance statistic below .20 is generally considered cause for the concern. The four tolerance statistics values got from my statistical analyses were .987, .585, .583, and .748. These values were not below .20, therefore, I concluded the results from intercorrelations among major construct variables demonstrated that variables were correlated but not to the degree which would result in problems of multicollinearity (Aiken & West, 1991).

Table 9: Bivariate Correlations among Major Variables

Length of Time of Shared Book Reading	Instructional Quality	Affective Quality	Home Literacy Environment	Receptive Language Ability	Emergent Reading Skills	Concepts of Print
Length of Time of Shared Book Reading	.34** (.00)	.17 (.09)	.15 (.14)	-.04 (.69)	.11 (.27)	-.14 (.17)
Instructional Quality		.61** (.00)	.44** (.00)	.29** (.00)	.61** (.00)	.03 (.77)
Affective Quality			.44** (.00)	.27** (.01)	.57** (.00)	.16 (.10)
Home Literacy environment				.26** (.01)	.35** (.00)	.09 (.37)
Receptive Language Ability					.45** (.00)	.30** (.00)
Emergent Reading Skills						.32** (.00)

Note: **p<.01

Regression Analyses

I designed this study not only to explore the relation between the length of time that mothers spent on book reading with their children and two dimensions of maternal behavior during shared book reading (i.e., instructional and affective quality of book reading), and children's outcomes, but also to examine to what extent the maternal instructional and affective quality of book reading relate and interact to influence Taiwanese 3-to-6-year old children's early literacy skills. Moreover, I was interested in exploring whether the patterns of these relationships differ as a function of children's home literacy environment.

Prior to conducting regression analyses, continuous variables included in interactions

(Instructional Quality*Affective Quality; Instructional Quality*Affective Quality*Home Literacy Environment) were centered at the mean. This procedure was recommended by Aiken and West (1991) to reduce the problem of multicollinearity. Child gender was dummy-coded (boy=1, girl=2). All models included child gender, social economic status, and child age as control variables.

In order to examine the moderation model, I tested whether the home literacy environment moderated the relationship between mothers' instructional quality, affective quality, the interaction of these two maternal quality of book reading interactions, and Taiwanese 3-to-6-year old children's early literacy skills using a series of regression equations. The triple interaction term was computed by multiplying predictor variable and moderator. On the first step of regression equation, child gender, SES, and child age were entered. On the second step, the predictors, the moderator variable, and the interaction between home literacy environment and each dimension of maternal quality of book reading interactions (Home Literacy Environment* Instructional Quality and Home Literacy Environment* Affective Quality) were entered simultaneously. On the third step, the triple interaction term (Instructional Quality*Affective Quality*Home Literacy Environment) was entered. Moderation was demonstrated only if the blocks including block 2 (without the interaction term) and block 3 (with the interaction term) were significant, the amount of variance accounted for in block 3 was significant more than block 2 (ΔR^2 needed to be

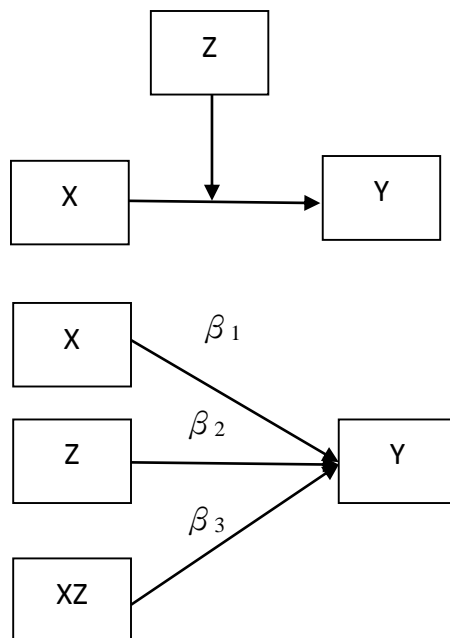
significant), and the interaction term (Instructional Quality*Affective Quality*Home Literacy Environment) yielded a significant effect. Finally, the reason why I also entered the interaction between home literacy environment and each dimension of maternal quality of book reading interactions (Home Literacy Environment* Instructional Quality and Home Literacy Environment* Affective Quality) in the second step was all two-way interactions (Instructional Quality*Affective Quality, Home Literacy Environment* Instructional Quality, and Home Literacy Environment* Affective Quality) should be put into the moderating effects model to examine in order to fully explain the complicated three-way moderating effects predicting children's early literacy skills.

Review of the Moderation Model

When a variable acts as a moderator, it specifies “under what condition” or “when” one variable is related to another variable. That is, the impact of the predictor variable on the criterion variable varies according to the value or level of the moderator. The moderation model tests whether the prediction of a criterion variable, Y, from an independent variable, X, differs across levels of a third variable, Z. The moderator variable interacts with the independent variable in determining the value of the dependent variable. That is, the association between independent and dependent variables would vary as a function of the value of the moderator. Therefore, moderator variable affects the direction or strength of the relation between a predictor and a criterion variable, such as enhancing or reducing the

influence of the predictor (See Fig. 8).

Figure 8: Alternate Path Diagram Representations of Moderation Model



In this study, the home literacy environment was considered as a moderator. Using the moderation model that I mentioned in the previous page, mother's instructional and affective quality when engaged in shared book reading interactions were expected to be most strongly related to a child's early literacy outcomes when a child's HLE was high. Also, I expected a statistically significant interaction between a mother's instructional and affective quality when engaged in shared book reading interactions and a child's home literacy environment (HLE). Moderation analyses tested whether the direction or strength of the relationship between the interaction of a mother's instructional and affective quality of shared book reading with her child and a child's early literacy outcomes varied depending on the child's home literacy environment (HLE). According to Baron and Kenny (1986), the moderator

hypothesis is supported if the interaction between a mother's instructional and affective quality of shared book reading interactions and a child's home literacy environment (HLE) is statistically significant.

After testing for statistical significance, the effect sizes for these interactions were computed by estimating the coefficient for predictor variable when a child's home literacy environment (HLE) was one standard deviation above and one standard deviation below the mean. Cohen (1988) proposed that effect sizes indicated the degree to which changes in standard deviation units in predictor variable accord with linear changes of 1 SD in criterion variable. For example, -1 represented a strong negative association, 0 indicated no association, and 1 indicated a strong positive association. Finally, due to the fact that all predictor variables in the analyses were continuous, a value of .10 was considered as a small effect size, .30 was considered as a moderate effect size, and .50 as a large effect size (Cohen, 1988).

Finally, Aiken and West (1991) presented a framework for estimation and interpretation of moderation effects. Multiple regression analysis is used to test moderation effects. Prior to model estimation, all independent variables and their interaction term are centered in order to improve interpretation of regression coefficients. Aiken and West furthered proposed a single regression equation to form the basic moderation model: $Y = \alpha + \beta_1 X + \beta_2 Z + \beta_3 XZ + e_5$

X is the independent variable, Y is the dependent variable, Z is the moderator variable, XZ is

the product of X and the moderator variable, β_1 is the coefficient relating the effect of X on Y when $Z=0$; β_2 is the coefficient relating the effect of moderator variable on Y, when $X=0$, β_3 is the regression coefficient for the interaction term that provides the estimate of the moderation effect. There is a significant moderation effect of the X-Y relation if β_3 is statistically different from zero.

Plotting interaction effects to show how the slope of Y on X dependent on the value of moderation variable helps to interpret the moderation effect. Regression slopes are simple slopes which correspond to the prediction of dependent variable from independent variable at a single value of moderation variable, Z.

The results of my statistical analyses are presented in five sections: (a) Mother-child shared book reading activity: summary of frequency distribution, percentage, and time spent on each mother's instructional behavior when mother shared a storybook with her child, qualitative data to present how mothers interact with their children during shared book reading activities at home, and the actual status of each mother's affective behavior of mother-child shared book reading interaction, (b) child solo reading activity: frequency distribution and summary of length of time and number of children spent on each emergent reading behavior during a 4-minute solo reading task, and examination whether sex, age or the interaction of sex and age influenced eight children's emergent reading behaviors, (c) examination of direct effects model: 1) testing the relations between the length of that mothers spent sharing the book, mothers' instructional quality, affective quality, and children's early literacy skills; 2) testing the relations among mothers' instructional and affective quality, the home literacy environment, and children's early literacy skills, (d) examination of interaction effects model: testing the relations among mother's instructional and affective quality, the home literacy environment, the interaction of mother's instructional and affective quality, and child's early literacy skills, and (e) examination of moderating model: testing moderation model and overview of the complete model.

Mother-Child Shared Book Reading Activity: Mother's Instructional Behaviors

I gathered 3109 20-second observation segments from 103 mother-child pairs while they jointly read a storybook at home. There were 9 pairs of siblings among 103 3-6 year-old participants participated in this study; these nine mothers jointly read a storybook with each child separately. The times of mother's joint reading task ranged from 3.0 to 17.3 minutes, and the average time spent on this task by each mother-child dyad was 6 minutes 48 seconds. Specifically, 28 mothers completed their shared reading tasks in 3.08 to 4.93 minutes. These mothers' instructional behaviors were repeated in order to yield a 5-minute observation period when two coders did the coding.

Frequency Distribution of Mother's Instructional Behaviors

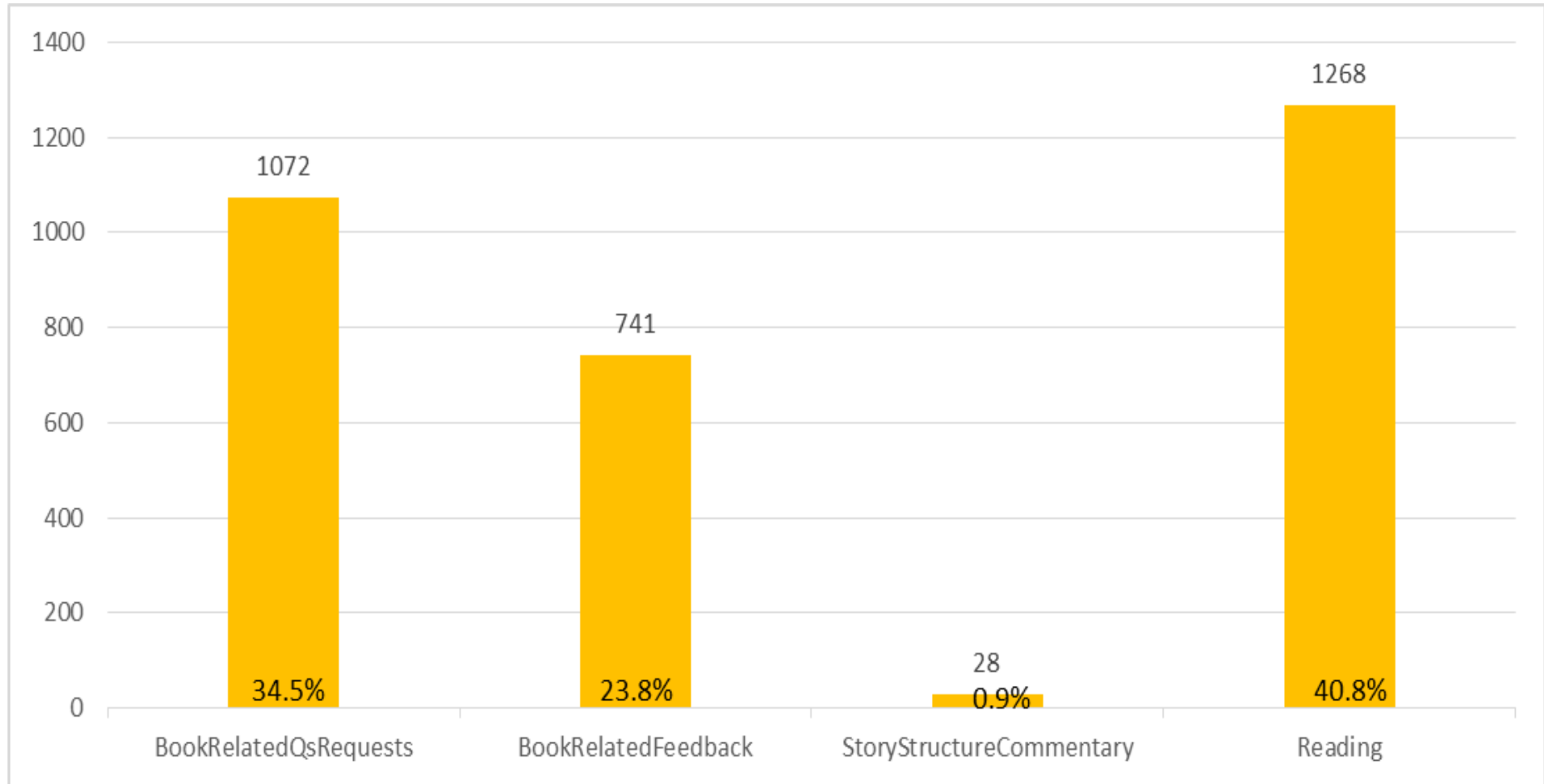
The most frequent instructional behavior used by mothers, 40.8 percent of 3109 mother-child shared storybook reading observation segments, was "reading." This included such behavior as directly reading or summarizing the text in mother's own words. An additional 34.5 percent of the time was spent on "book-related questions/requests" by mothers. Mothers adopted "book-related feedback" (such as praise, correction, word explanations, expanding or repeating children's response, and distancing prompts) for a total of 23.8 percent of all observations. Only 0.9 percent of the time was spent on "story structure talk/commentary" by mothers during these joint reading exercise with their children. In other words, the average time mothers spent on each instructional behavior was shown as follows: (1) reading: 2.77

minutes, (2) book-related questions/requests: 2.35 minutes, (3) book-related feedback: 1.62 minutes, and (4) story structure talk/commentary: 3.6 seconds. Table 10 summarizes the frequency distribution, percentage, and the average time spent on each mother's instructional behavior during a shared storybook reading task, and I also graphed the results in Figure 9.

Table 10: Summary of Frequency, Percentage, and the Average Time Spent on Each Instructional Behavior by Mothers

	Frequency	Percentage of Total Time	Average Time (minutes)
Book-Related Questions/Requests	1072	34.5%	2.35
Book-Related Feedback	741	23.8%	1.62
Story Structure Talk/ Commentary	28	0.9%	0.06
Reading	1268	40.8%	2.77
Total	3109	100%	6.8

Figure 9: Frequency Distribution of Each Mother's Instructional Behavior from Mother-Child Shared Storybook Reading Observations



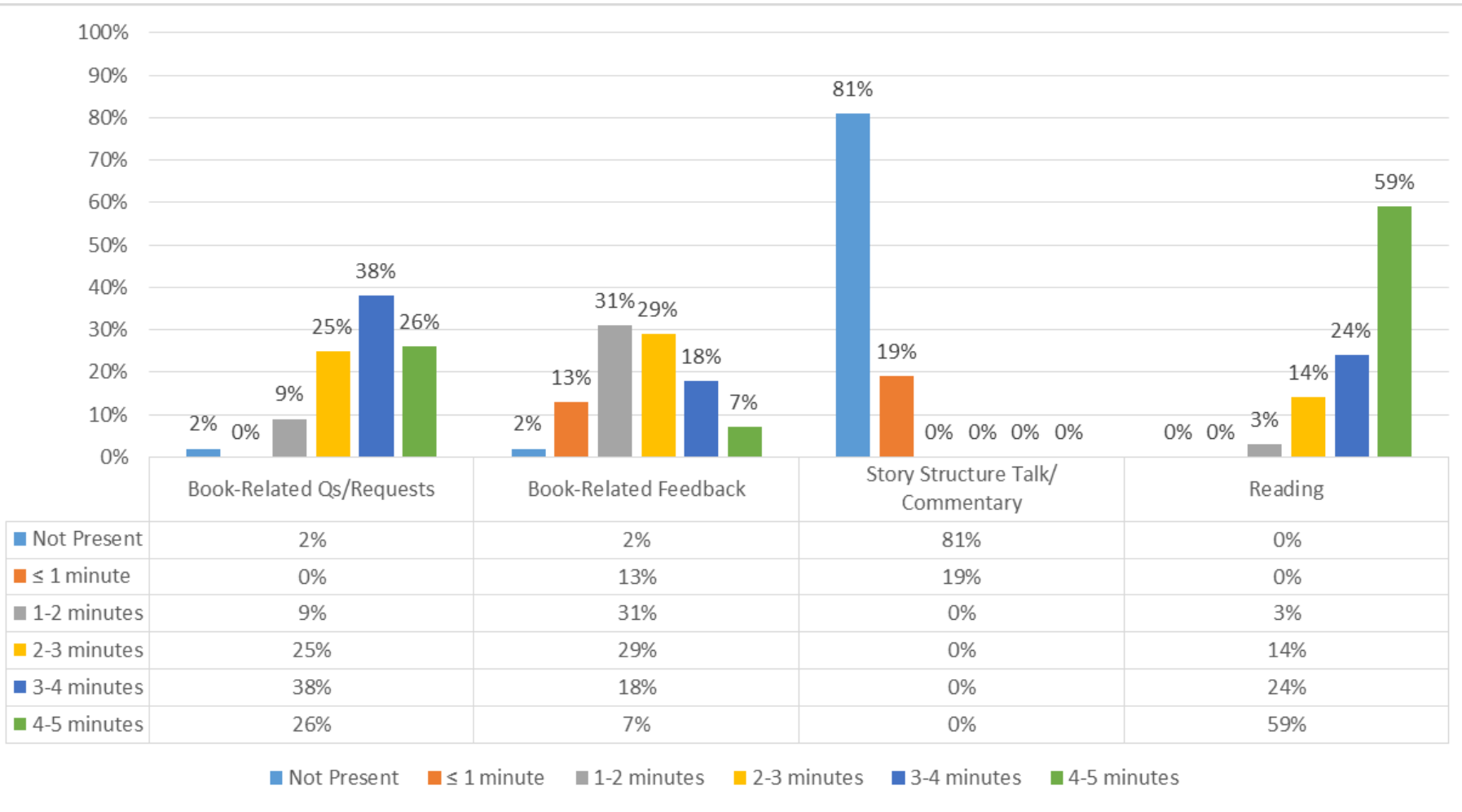
Length of Time and Number of Mothers Spent on Each Instructional Behavior

Table 11 summarizes the length of time and number of mothers spent time on each instructional behavior during a 5-minute shared storybook reading session. I also graphed the results in Figure 10.

Table 11: Summary of the Length of Time and Number of Mothers Spent Time on Each Instructional Behavior during a 5-Minute Shared Storybook Reading Session

Frequency (20-second Observation)	Instructional Behaviors by Number of Mothers			
	Book-Related Qs/Requests	Book-Related Feedback	Story Structure Talk/ Commentary	Reading
Not Present	2 (2%)	2 (2%)	83 (81%)	0 (0%)
≤ 1 minute	0 (0%)	13 (13%)	20 (19%)	0 (0%)
1-2 minutes	9 (9%)	32 (31%)	0 (0%)	3 (3%)
2-3 minutes	26 (25%)	30 (29%)	0 (0%)	14 (14%)
3-4 minutes	39 (38%)	19 (18%)	0 (0%)	25 (24%)
4-5 minutes	27 (26%)	7 (7%)	0 (0%)	61 (59%)
Total	103 (100%)	103 (100%)	103 (100%)	103 (100%)

Figure 10: Summary of the Length of Time and Number of Mothers Spent Time on Each Instructional Behavior during a 5-Minute Shared Storybook Reading Session



Based on the data presented in Table 11 and Figure 10, I concluded mothers spent time using all four instructional behaviors in the joint storybook reading exercise. Details of the summary of the length of time which 103 mothers spent their time on each instructional behavior during a 5-minute mother-child shared storybook reading session will be discussed below.

Book-Related Questions/Requests

Two mothers (2%) did not ask any question nor did they make requests related to content of the storybook to their children during the whole 5-minute shared storybook reading session. Nine mothers (9%) spent 1-2 minutes asking children book-related questions or requests. Twenty-six mothers (25%) spent 2-3 minutes asking book-related questions or requests, such as naming of characters, objects or details in the pictures which were not mentioned in the text, yes-no questions, open-ended questions, and so on. Thirty-nine mothers (38%) spent 3-4 minutes asking their children questions or requests related to the storybook. Finally, twenty-seven mothers (26%) spent 4-5 minutes asking children book-related questions or requests during the 5-minute shared book reading session.

Book-Related Feedback

Two mothers (2%) did not give their children book-related feedback during the whole 5-minute shared storybook reading session. Thirteen mothers (13%) spent less than one minute giving feedback about children's responses. Thirty-two mothers (31%) spent 1-2 minutes

giving their children feedback about their responses. Thirty mothers (29%) spent 2-3 minutes giving their feedback to their children's responses, such as praise, correction, word explanation, or distancing prompts, and so on. Nineteen mothers (18%) spent 3-4 minutes giving feedback to their children's responses. Finally, seven mothers (7%) spent 4-5 minutes giving their feedback to children's responses during the whole 5-minute shared storybook reading session.

Story Structure Talk/Commentary

Eighty-three mothers (81%) did not have story structure talks containing reference to setting, theme, episodes, characters, and comments with their children during the whole 5-minute shared storybook reading session. Twenty mothers (19%) spent less than one minute on having story structure talks or commentary.

Reading

Three mothers (3%) spent 1-2 minutes directly reading or summarizing the text in mother's own words. Fourteen mothers (14%) used 2-3 minutes directly reading the text of this storybook or summarizing the text in their own words. Twenty-five mothers (24%) spent 3-4 minutes directly reading the text or summarizing the text and tell the story via their own words. Sixty-one mothers (59%) spent 4-5 minutes directly reading or summarizing text in their own words during 5-minute shared book reading session.

Interactive Shared Book Reading

Among three different forms including dialogic reading, interactive shared book reading and shared book reading which were discussed in the literature review, interactive shared book reading was happening in my observations of most Taiwanese mothers engaged in a shared book reading with their children. I found that Taiwanese mothers showed a tendency to use a host of techniques before, during, and after book reading to ask their children answers of questions, point to pictures or words, provide explanation, ask the child to point to the title, and encourage him or her to make predictions about what might happen in the book in order to engage their children in the text.

Discussion during Shared Book Reading Focused on Distancing Prompts, Conveying Moral and Social Rules and Using Scaffolding to Help Children Learn Novel Words or Phrases

Ninety-six Taiwanese mothers (93%) used distancing prompts to ask their children to relate pictures or words in the storybook during or after the process of shared book reading activity to experiences outside the book.

Mother: Then, you see (mother pointed to the picture). There were so many toys in Cher's room. This is her little sister. Her name is little rabbit. Little rabbit asked her sister, "sister, could you please lend me your doll?" What did Cher respond to her sister?

Child: No!

Mother: What did Cher say to her little sister (mother pointed to that sentence)?

Child: "No! All toys are mine."

Mother: Yes! "These toys are all mine." Hum.. This sounded so familiar. (mother was smiling at her child and then said) Do you always say that to your sister?

Child: (the child was shyly nodding to his mother)

Seventy-three mothers (71%) conveyed moral and social rules during parent-child shared book reading activity. For example, the conversation between the mother and her child observed and recorded during their shared book reading activity is also called “opportunity education’, which reflected the influences of Confucian traditional Chinese values.

Mother: This time, what would Cher’s little brother like to borrow from Cher?

Child: Dinosaur toy.

Mother: Right! Cher’s little brother wanted to borrow her dinosaur toy. Then, what did Cher say?

Child: “No! This is mine.”

Mother: Oh.. Cher didn’t want to lend her sister and brother her toys. As a result, there..there was a scramble for the toys. What were they doing?

Child: (child pointed to little sister firstly, then pointed to little brother, and went back to little sister again) She cried...and he ran..and ran in the room. She cried a lot.

Mother: Um.. “No! Those were all mine.” Were they acting like you and your brother?

Child: (Child shyly smiled at his mother)

Mother: Right? You and your brother always fight for those tomica, right? Chris (the name of this child’s little brother) cried last night, right?

Child: (Child shyly smiled at his mother)

Mother: Do you think that Cher’s behaviors were good?

Child: No!..

Mother: Why don’t you think Cher’s behaviors were good?

Child: Be..because her sister and brother cried and ran.. And..and father (referred to his own father) said “ We need learn to share”

Mother: Great! So.. what do you think Cher make her sister cry?

Child: She is bad. Because... because....

Mother: Great! Cher is big sister.. like..you are a big brother. If you share your tomica with Chris, he will be willing to share with you his cars. Right? Then, you guys can happily play together. And no one will cry, right?..You will become a good big brother because you treat your little brother well and big brother should take good care of his little brothers and sisters !’.. So, if you were Cher, what would you do?

Child: I would give them all these toys and say “let’s play together”.

Mother: Wow! You are a generous boy!.. Could you share your tomica to your brother?

Child: Yes.

Fifty-four mothers (52%) were using a scaffolding-like procedure to help their children learn unfamiliar or novel words and phrases. Taiwanese mothers used a scaffolding-like procedures to help their young children's acquisition of elaborated novel word or phrase meanings.

Elaborated Novel Word Meaning

- Mother: What is this word? (mother pointed to the Chinese word with Bopomofo, zhuyin system of phonetic notation for the spoken Chinese, '抱ㄅㄠˋ')
 Child: ㄅㄠˋ/ㄠˋ/...bao/1/(the child used Mandarin reading system to read this word)
 Mother: bao/1/? Are you sure? Could you please read the Bopomofo again and pay attention to the tone?
 Child: ㄅㄠˋ/ㄠˋ/.....bao/2/
 Mother: Good! You are pretty close. But this word is read as bao/4/, the tone is the fourth tone.. so it is bao/1/..bao/2/..bao/3/...,then?
 Child: bao/4/
 Mother: Right! Good job!....then, do you know the meaning of bao/4/ (mother pointed to the word, '抱')?
 Child: Um..... I don't know.
 Mother: 抱(bao/4/) means..... Look! This word can be divided into left side and right side. Left side is 扌(so/3/) means hands, you know, right?
 Child: Yes.
 Mother: and right side is 包(bao/1/) means hold.. or embrace. Think about it! You have hands and hold.. hands and embrace... What does 抱(bao/4/) mean? Guess.
 Child: Take?
 Mother: All most closed!!..... Take another guess (mother put her arms around the child and hold him in a loving way)
 Child: Hug.
 Mother: Right!!!!!! You are so smart!

The Meaning of New Phrase

Mother: What is the name of this book? Cher~

Child: Cher~

Mother: Share~

Child: Share~

Mother: What is 'share'?

Child: Share is she (child pointed to the little rabbit)

Mother: What is 'share'?

Child: (Child pointed to the little rabbit and said) Cher! Her name is Cher. She is not happy...a doll.

Mother: Oh~ do you mean 'Share means this rabbit, her name is Cher, and she is not happy'?

Child: (Child nodded to her mother)

Mother: Great! Baby. Let's read the storybook and find out what share means and why she is hiding behind the door and looks unhappily! Ok?

(~2:07)

Mother: What does share mean?

Child: Share the doll with little sister.

Mother: And..

Child: give dinosaur to brother.

Mother: Will they become happily if Cher lend them her toys?

Child: Yes.

Mother-Child Shared Book Reading Activity: Mother's Affective Behaviors

Mothers' affective behavior during the joint storybook reading task was scored and the scores were subjected to further statistical analysis. Taiwanese mothers exhibited high to medium affective quality during the mother-child interaction. The range of maternal affective quality score ranged from a low of 3.2 points to a high of 5 points. Six mothers (6%) got 5 points on their affective quality of mother-child shared book reading interaction, 85 mothers' (82%) affective quality scores ranged from 4 to 4.9 points, and 12 mothers (12%) got 3.2-3.9 points on their affective quality.

The nine coding criteria for affective quality of mother-child shared book reading interactions were (1) mother's verbal reading expression, (2) contact with child, (3) child's enjoyment and involvement, (4) mother's sensitivity to child's engagement, (5) mother's enjoyment of child, (6) quality of handling of/controlling over child, (7) mother's acceptance of the child, (8) amount of mother's positive statements or regard when interacting with the child, and (9) amount of mother's negative statements or regard when interacting with her child. In order to capture the affective quality of mother-child book reading interaction in progress, these nine coding categories were designed to *rate* how engaging and enjoyable the mother appeared to be when interacting with her child instead of *examine the frequency* of maternal affective behaviors. Therefore, I summarized the actual status (the mean score, SD, range) in descending order of each of the nine maternal affective behaviors in Table 12.

Table 12: Summary of Nine Maternal Affective Behaviors from 103 Taiwanese Mothers Shared Storybook Reading with their Children at Home

	Mean Score	SD	Range
Mother's Acceptance of the Child	4.93	.21	3.9-5.0
Quality of Handling of/Controlling over Her Child	4.83	.33	3.5-5.0
Amount of Mother's Positive Statements or Regard when Interacting with the Child	4.82	.37	3.1-5.0
Child's Enjoyment and Involvement	4.56	.54	2.5-5.0
Mother's Enjoyment of Child	4.50	.73	1.3-5.0
Contact with Child	4.47	.75	1.0-5.0
Mother's Verbal Reading Expression	4.43	.65	3.0-5.0
Mother's Sensitivity to Child's Engagement	4.22	.93	1.0-5.0
Amount of Mother's Negative Statements or Regard when Interacting with the Child	1.20	.33	1.0-2.7
Mother's Affective Quality	4.53	.39	3.2-5.0

As can be seen from the data in Table 12, 103 Taiwanese mothers showed their highest levels of affective quality of mother-child book reading interaction via eight out of nine maternal affective behaviors. For example, mothers exhibited much acceptance and approval of their children more than 75% of the 5-minute shared book reading session based on coding criteria (please see Appendix F) ($M=4.93$). Mothers also handled of their children during the book reading activity ($M=4.83$). More than 50% of mothers' verbal and non-verbal behaviors expressed positive emotion ($M=4.82$). Coding indicated that children appeared to enjoy and be engaged in the interaction with their mothers, for example, smiling when talking about the book with mother, exploring the pages visually and physically, pointing to the book, asking mother questions relevant to the book, intently focusing on mother's reading or talking the storybook, and so on ($M=4.56$) 75% of the time during joint reading activity. The fact that mothers took pleasure in being with their children and their enjoyment was obvious and continuous ($M=4.50$). During 5-minute shared storybook reading session, many children sat on their mothers' lap, with the mother's arm around her child. Such contact occurred greater than 50% of 5-minute shared book reading session ($M=4.47$). Mothers shared the storybook with their children in multi-tonal reading, imitation of character voices, full of surprise, happiness, anger, and suspense expressions ($M=4.43$), and mothers showed their sensitivity to their children's engagement to display some of the following behaviors: asked their children if enjoying the story or understanding the questions, acknowledged children's feelings, made

periodic eye contact, and attempted to recapture their children's attention ($M=4.22$).

However, 50 mothers (49%) expressed negative emotion no more than 10% of their verbal and non-verbal behaviors during 5-minute shared book reading session ($M=1.20$).

Children's Emergent Reading Skills

I gathered 1616 20-second observation segments from 103 preschool/ kindergarten children when they read a storybook on their own. Children's solo reading ranged from 2 to 12 minutes, and the average time spent on this task by each child was 6 minutes 12 seconds. Specifically, twelve children (11.7%) spent 2 to 3.9 minutes to complete the solo reading task, so these children's emergent reading behaviors were repeated in order to make up 4-minute observation when two coders did the coding.

Frequency Distribution of Children's Emergent Reading Behaviors

Figure 11 represented the frequency distribution of 103 Taiwanese 3-to-6 year old children's emergent reading behaviors. Less than 1% (0.7%) of 1616 children's solo reading observation segments showed children refused to read the storybook. Two percent of all observations showed that children browsed or turn pages without verbalizing. Naming pictures by children comprised 19.6 percent of the solo reading time. Children used verbs or adjectives to describe the pictures' characteristics (e.g., size, shape, color) or action in short sentences without forming a coherent story. Such behavior comprised 24 percent of the time in the solo reading task. Children spent 23.1 percent of their time creating a story-like

dialogue or monologue about the characters based on the pictures. A total of 3.5 percent of all observations were comprised of children noticing words by pointing to written text but they did not know how to read the word or story. Children spent 6.6 percent of the times trying to read or spell Chinese characters by Bopomofo but they still made mistakes in pronunciation or spelling. Finally, children were capable of reading some or all texts on the storybook correctly and independently in 20.6 percent of all observations.

Most Taiwanese 3-to-6 year old children used verbs or adjectives to describe the characteristics of pictures in short sentences or created a story-like dialogue or monologue about the characters based on the pictures when they read a storybook alone. There was a relatively high percentage of children who showed their abilities to read some or all texts correctly and independently and named the pictures. Only a very few times of all observations were children unwilling to read the storybook alone.

Children's Emergent Reading Behavior

Table 13 provides the summary of the length of time and number of children spent time on each emergent reading behavior during a 4-minute solo reading task. In addition, I also graphed the results in Figure 12.

Figure 11: Frequency Distribution of 103 Taiwanese 3-to-6 Year Old Children's Emergent Reading Behaviors' Observations

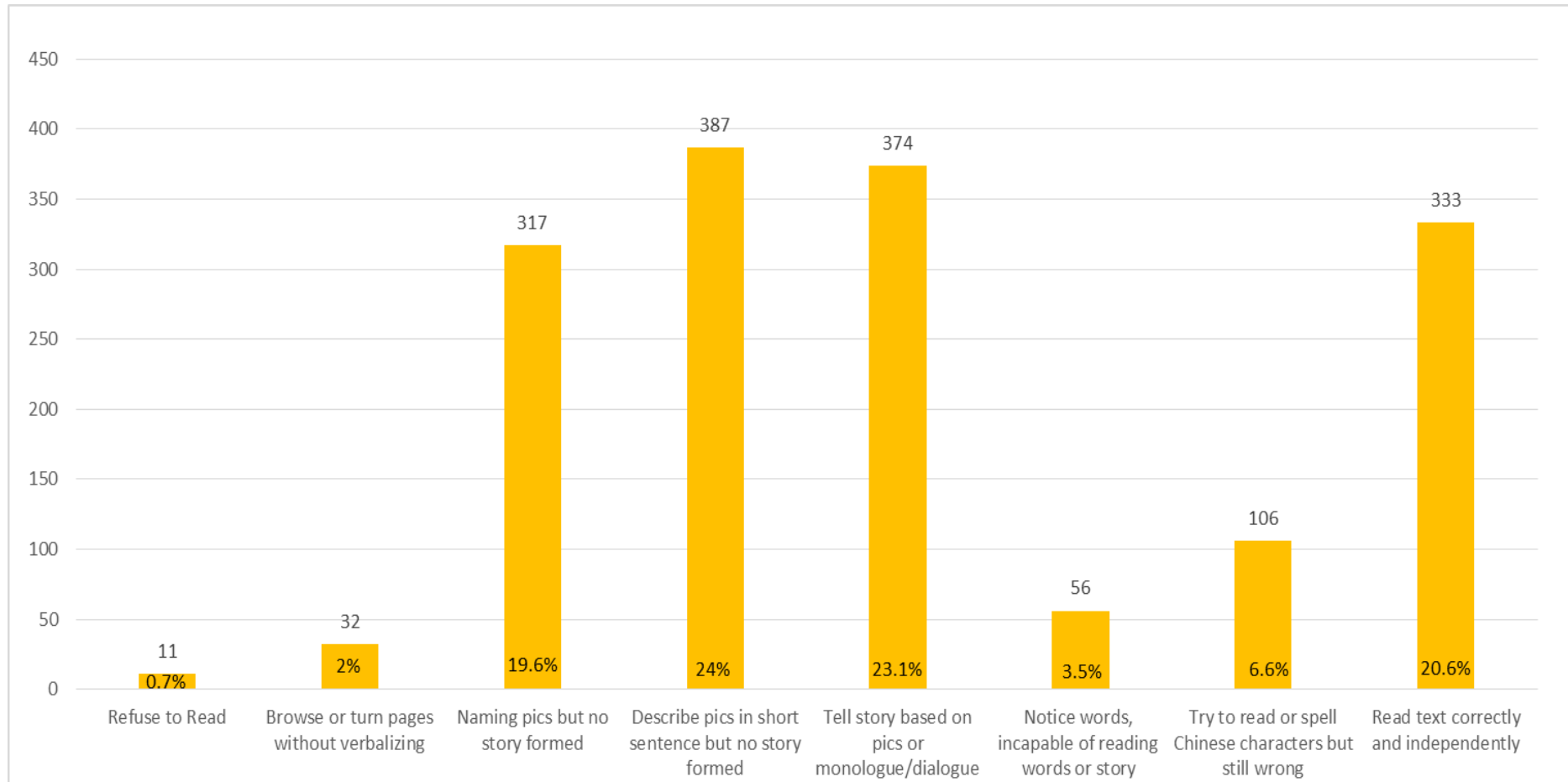
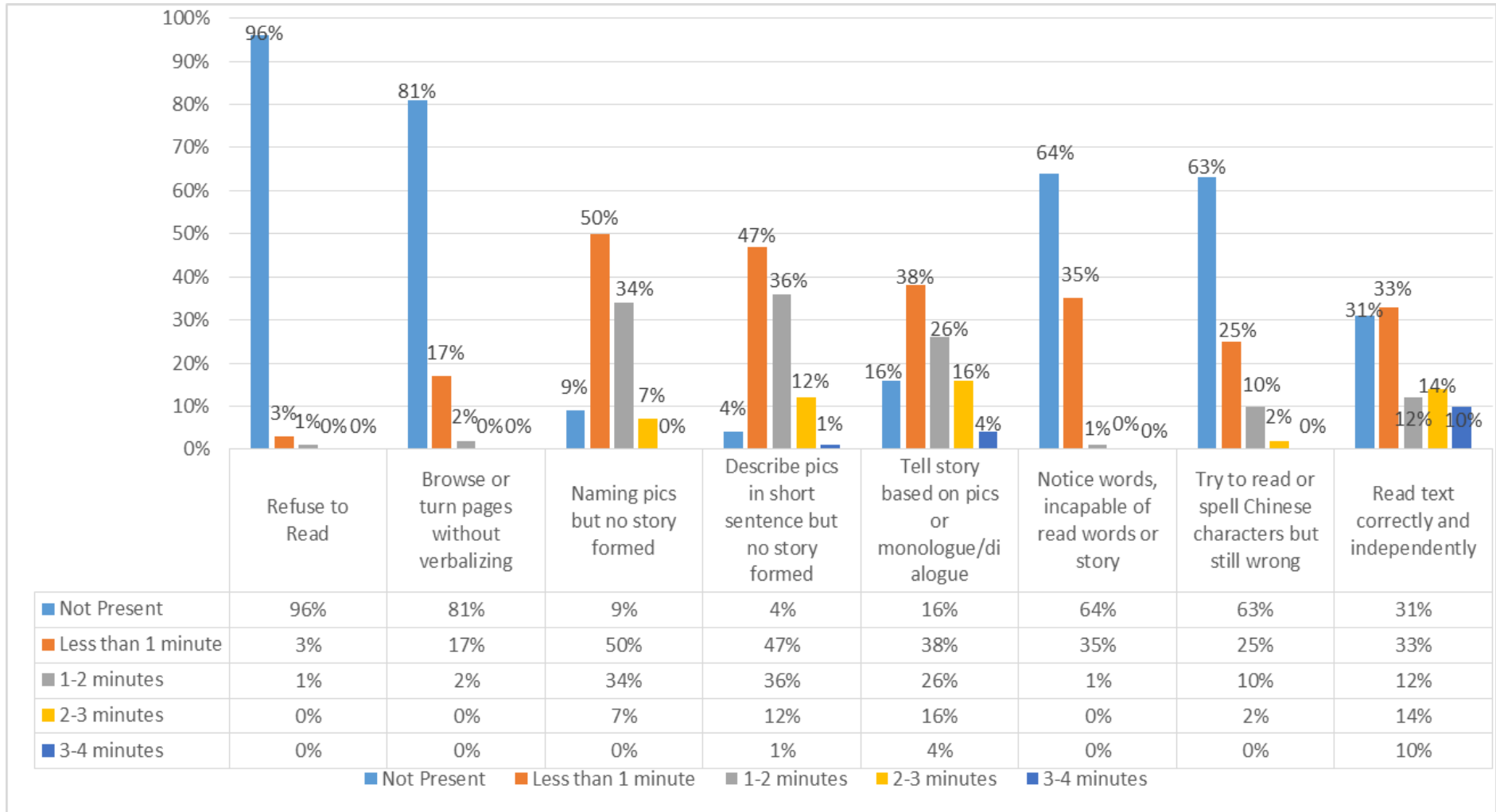


Figure 12: Summary of the Length of Time Children Spent Time on Each Emergent Reading Behavior during a 4-Minute Solo Reading Session



Based on the data from Table 13 as illustrated in Figure 12, I was able to determine the number of children and the time spent on these eight emergent reading behaviors from all solo-reading observations. Details of the summary of the length of time which children spent time on each emergent reading behavior are discussed below:

Refuse to Read

Ninety-nine children (96%) were willing to read a storybook alone. However, three children (3%) showed their unwillingness to read the storybook alone for less than one minute during the whole 4-minute solo reading session, and one child (1%) spent 1-2 minute to refuse to read the storybook.

Browse or Turn Pages without Verbalizing

Eighty-three children (81%) verbalized when they browsed or turned to pages. Eighteen children (17%) spent less than one minute on just browsing or turning pages without verbalizing. Two children (2%) spent 1-2 minutes on browsing or turning pages without verbalizing during the 4-minute solo reading session.

Naming the Pictures, but No Story Formed

Nine children (9%) did not name the pictures in the 4-minute solo reading session. Fifty-two children (50%) spent on less than one minute on naming pictures. Thirty-five (34%) children spent 1-2 minutes on naming pictures in the storybook. Seven children (7%) spent 2-3 minutes on naming pictures during the 4-minute solo reading session.

Describe Pictures in Short Sentences, but No Story Formed

Four children (4%) did not describe pictures in the storybook during 4-minute solo reading session. Forty-nine children (47%) spent less than one minute on using verbs or adjectives to describe the pictures' characteristics, such as shape, size, color, or action in short sentences. Thirty-seven children (36%) children spent 1-2 minutes on describing pictures in short sentences, but they formed no story. Twelve children (12%) spent 2-3 minutes on describing pictures. And only one child (1%) spent 3-4 minutes on describing pictures in short sentences.

Create a Story-Like Dialogue or Monologue

Seventeen children (16%) did not create a story-like dialogue or monologue or tell a story based on pictures in the 4 minutes. Thirty-nine children (38%) spent less than one minute on creating a dialogue or monologue in a story-like form or telling a story based on pictures. Twenty-seven children (26%) spent 1-2 minutes on creating a story-like dialogue or monologue during 4-minute solo reading session. Sixteen children (16%) spent 2-3 minutes on creating a dialogue or monologue in a story-like form. Four children (4%) spent 3-4 minutes on creating a story-like dialogue or monologue or tell a story based on pictures during 4-minute solo reading session.

Notice Words, but Do Not Know How to Read Word or Story

During the 4-minute solo reading session, sixty-six children (64%) gave no indication

that they knew the words or that they knew how to read the words or the story. Thirty-six children (35%) spent less than one minute on noticing words by pointing to written text but did not know how to read. Only one child (1%) spent 1-2 minutes on noticing words and Chinese characters on the pages of the storybook, but did not know how to.

Try to Read or Spell Chinese Characters by Bopomofo but Still Make Mistakes

Sixty-five children (63%) did not show the ability to read or spell Chinese characters by Bopomofo. Twenty-six children (25%) spent less than one minute on trying to read or spell Chinese characters by Bopomofo but still made mistakes in pronunciation or spelling. Ten children (10%) spent 1-2 minutes on attempting to read or spell Chinese characters but still made mistakes during 4-minute solo reading session. Two children (2%) spent 2-3 minutes on trying to read or spell Chinese characters by Bopomofo but still made mistakes in pronunciation or spelling Chinese characters.

Read Some or All Texts Correctly and Independently

Thirty-two children (31%) did not exhibit an ability to read text correctly and independently during 4-minute solo reading session. Thirty-four children (33%) spent less than one minute on reading some text from the storybook correctly and independently. Twelve children (12%) spent 1-2 minutes on reading some texts correctly and independently during 4-minute solo reading session. Fifteen children (14%) spent 2-3 minutes on reading most words or complete sentences on pages from the storybook correctly and independently.

Ten children (10%) spent 3-4 minutes on reading some or all text from the storybook correctly and independently during 4-minute solo reading session.

Children's Emergent Reading Behaviors as a Function of Sex and Age

I employed a 2 (Child sex) x 4 (Age Group: 3-, 4-, 5-, vs. 6-years-old) two way analysis of variance (ANOVA) to examine whether sex, age or the interaction of sex and age influenced eight children's emergent reading behaviors. Table 14 shows the results of Two-way ANOVA testing both main effect and the interaction effect.

Refuse to Read

There was a significant relationship between children's refusal to read and age. Children aged 3 showed more unwillingness to read storybook alone than children who aged 4, 5, or 6 years old ($p = .000$). Results the interaction term indicated that there was a statistically significant difference between boys and girls in the 3-year-old group when children refused to read the storybook alone. In 3 year-old group, boys refused to read storybook more than girls ($p = .007$).

Browse or Turn Pages without Verbalizing

ANOVA results showed that the interaction of gender and age had a statistically significant effect on children's tendencies to browse or turn pages without verbalizing behavior ($p = .003$). There was a statistically significant interaction of children's sex and age group when children browsed or turned pages without verbalizing. In 3 year-old group, boys

browsed or turned pages without verbalizing more than girls did ($p = .001$).

Describe of Pictures but No Story Formed

There was a statistically significant differences in description of pictures in the storybook during solo reading task between boys and girls. The results showed that boys described pictures from the storybook in short sentences more than girls did ($p = .037$). In terms of age, children aged 3 described more pictures than children aged 6 did ($p = .017$). In addition, 4-year-old children also described more pictures than 6-year-old children did ($p = .003$). Examination of mean difference values in pairwise comparison indicated that there were more statistically significant differences of this specific emergent reading behavior appearing in the 4-versus-6 year old age group than in the 3-versus-6 year old age group. Finally, the main effects for the interaction were tested. The results showed that there was a statistically significant interaction between sex and age group. In the 3 year-old group, boys described pictures more than girls did ($p = .039$).

Create a Story-Like Dialogue or Monologue

ANOVA results showed a statistically significant interaction of sex and age group on monologue/dialogue in story-like style emergent reading behavior ($p = .011$). In the 3 year-old group, girls told a story based on pictures or read alone in story-like monologue or dialogue more than boys did ($p = .028$). In contrast, in the 6 year-old group, boys told a story based on pictures or read alone in story-like monologue or dialogue more than girls did ($p = .026$).

Notice Words, Incapable of Reading Words or Story

Results of the analysis of variance indicated a significant age effect on the emergent reading behavior of noticing words but being incapable of reading words or story.

Examination of mean differences and the results of pairwise comparisons table indicated that children aged 5 showed more of this emergent reading behavior than children aged 4 did ($p=.048$). Children in 5-year-old age group showed more this emergent reading behavior than children in 6-year-old age group did ($p=.011$). Finally, children aged 5 showed more this specific emergent reading behavior than children aged 3 did ($p=.006$). Five year olds showed more of this specific emergent reading behavior than did children aged 3, 4, and 6.

Read Some or All Texts Correctly and Independently

There was a significant relationship between children capable of reading some or all texts correctly and independently and age ($p=.011$). Children aged 6 showed more ability to read some or all texts correctly and independently than children who aged 3, ($p= .001$).

Table 14: Two-Way ANOVA- Examining the Differences in Eight Children’s Emergent Reading Behaviors by Child’s Sex, Age, and the Interaction of Child Sex and Age

Children’s Emergent Reading Behaviors	Source of Variation	df	F-value	p
Refuse to Read	Gender	1	2.885	.093
	Age Group	3	8.138	.000*
	Gender * Age Group	3	2.155	.098
Browse or Turn Pages without Verbalizing	Gender	1	2.129	.148
	Age Group	3	1.437	.237
	Gender * Age Group	3	5.058	.003*
Naming Pics No Story Formed	Gender	1	.066	.797
	Age Group	3	.640	.591
	Gender * Age Group	3	.218	.884

Comparisons among Age		
Age Group	MD	p
3 yrs vs. 4yrs	.792	.000*
3 yrs vs. 5yrs	.792	.000*
3 yrs vs. 6yrs	.792	.000*
4 yrs vs. 5yrs	2.673E-18	1.000
4 yrs vs. 6yrs	3.124E-17	1.000
5 yrs vs. 6yrs	2.856E-17	1.000

Pairwise Comparisons			
Age Group	Gender	MD	p
3 yrs	Boy vs. Girl	.815	.007*
4 yrs	Boy vs. Girl	5.215E-17	1.000
5 yrs	Boy vs. Girl	-6.608E-18	1.000
6 yrs	Boy vs. Girl	-2.744E-16	1.000

Pairwise Comparisons			
Age Group	Gender	MD	p
3 yrs	Boy vs. Girl	1.400	.001*
4 yrs	Boy vs. Girl	-.288	.367
5 yrs	Boy vs. Girl	.229	.420
6 yrs	Boy vs. Girl	-.391	.177

Describe Pics No Story Formed	Gender	1	4.489	.037*
	Age Group	3	3.741	.014*
	Gender * Age Group	3	.790	.502
Monologue/Dialogue Story-Like	Gender	1	.880	.351
	Age Group	3	.735	.539
	Gender * Age Group	3	3.943	.011*
Notice Words, Incapable of Reading Words or Story	Gender	1	.109	.742
	Age Group	3	3.525	.018*
	Gender * Age Group	3	.972	.409

Boy	Girl	p
4.522	3.560	.037*

Comparisons among Age		
Age Group	MD	p
3 yrs vs. 4yrs	-.146	.838
3 yrs vs. 5yrs	.828	.229
3 yrs vs. 6yrs	1.676	.017*
4 yrs vs. 5yrs	.974	.104
4 yrs vs. 6yrs	1.822	.003*
5 yrs vs. 6yrs	.848	.135

Pairwise Comparisons			
Age Group	Gender	MD	p
3 yrs	Boy vs. Girl	2.338	.039*
4 yrs	Boy vs. Girl	.280	.752
5 yrs	Boy vs. Girl	.538	.497
6 yrs	Boy vs. Girl	.691	.392

Comparisons among Age		
Age Group	MD	p
3 yrs vs. 4yrs	-.300	.316
3 yrs vs. 5yrs	-.797	.006*
3 yrs vs. 6yrs	-.184	.524
4 yrs vs. 5yrs	-.497	.048*
4 yrs vs. 6yrs	.116	.643
5 yrs vs. 6yrs	.613	.011*

Pairwise Comparisons			
Age Group	Gender	MD	p
3 yrs	Boy vs. Girl	-3.415	.028*
4 yrs	Boy vs. Girl	.061	.960
5 yrs	Boy vs. Girl	-1.462	.178
6 yrs	Boy vs. Girl	2.487	.026*

Try to Read or Spell Chinese Characters but Still Wrong	Gender	1	.435	.511
	Age Group	3	.668	.574
	Gender * Age Group	3	.203	.894
Read Some or All Texts Correctly and Independently	Gender	1	1.573	.213
	Age Group	3	3.916	.011*
	Gender * Age Group	3	.148	.931

Comparisons among Age		
Age Group	MD	p
3 yrs vs. 4yrs	-1.878	.117
3 yrs vs. 5yrs	-2.162	.061
3 yrs vs. 6yrs	-3.837	.001*
4 yrs vs. 5yrs	-.285	.774
4 yrs vs. 6yrs	-1.959	.052
5 yrs vs. 6yrs	-1.675	.077

Note: *p < .05

Examination of Direct Effects Models

In this dissertation study, two direct effects models were examined to firstly test the relations between the length of that mothers spent sharing the book, mothers' instructional quality, affective quality, and children's early literacy skills, and secondly test the relations among mothers' instructional and affective quality, the home literacy environment, and children's early literacy skills.

Relations between the Length of Time Shared Book Reading, Two Dimensions of Maternal Book Reading Quality and Children's Early Literacy Skills

Predicting Mother's Instructional Quality

A multiple regression analysis was generated to examine the relation between the length of that mothers spent sharing the book and the mother's instructional quality during shared book reading. Prior to conducting regression analysis, two variables were continuous and centered at the mean.

The multiple regression was computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, the length of that mother spent sharing the book with her child entered as independent variable in block 2. This variable served as predictor in the regression equation. Mother's instructional quality was entered as dependent variable. Results revealed that the length of the mother spent on sharing book reading with her child was significantly related to mother's instructional quality of book reading interactions. Overall,

the model was significant and the independent variable accounted for 12.2% of the variance in mother's instructional quality ($R^2 = .122$, $F [4, 98] = 3.41$, $p = .012$). An examination of the beta weights showed that the length of time that the mother spent sharing book reading with her child was positively related to mother's instructional quality of shared book reading interactions (see Table 15 (a); $\beta = .35$, $p = .000$).

Predicting Mother's Affective Quality

A multiple regression analysis was generated to examine the relation between the length of that mothers spent sharing the book and the mother's affective quality during shared book reading. Prior to conducting regression analysis, two variables were continuous and centered at the mean.

The multiple regression was computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, the length of that mother spent sharing the book with her child entered as independent variable in block 2. This variable served as predictor in the regression equation. Mother's affective quality was entered as dependent variable. Results revealed that there was no statistically significant relationship between the predictor and the criterion variable. The model was not significant and the independent variables explained 3.1% of the variance for mother's affective quality in the model (see Table 15(a); $R^2 = .031$, $F [4, 98] = .79$, $p = .54$). Examination of the individual beta weights indicated that there was no statistically significant relationships between the length of time that the mother spent

sharing book reading with her child and mother's affective quality of shared book reading interactions ($\beta=.16$, $p=.11$).

Predicting Receptive Language Ability

A multiple regression analysis was generated to examine the relation between the length of that mother spent sharing the book reading with her child and the child's receptive language ability. Prior to conducting regression analysis, two variables were continuous and centered at the mean.

The multiple regression was computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, the length of that mother spent sharing the book with her child entered as independent variable in block 2. This variable served as predictor in the regression equation. A child's receptive language ability was entered as dependent variable. Results revealed that there was no statistically significant relationship between the predictor and the criterion variable. The model was not significant and the independent variables explained 1.2% of the variance for mother's affective quality in the model (see Table 15(b); $R^2 = .012$, $F [4, 98] = .29$, $p = .60$). Examination of the individual beta weights indicated that there was no statistically significant relationships between the length of time that the mother spent sharing book reading with her child and a child's receptive language ability ($\beta=-.03$, $p = .76$).

Predicting Emergent Reading Skills

A multiple regression analysis was generated to examine the relation between that mother spent sharing the book reading with her child and the child's emergent reading skills. Prior to conducting regression analysis, two variables were continuous and centered at the mean.

The multiple regression was computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, the length of that mother spent sharing the book with her child entered as independent variable in block 2. This variable served as predictor in the regression equation. Child's emergent reading skills was entered as dependent variable. Results revealed that the model was not significant and the independent variables explained 4% of the variance for mother's affective quality in the model (see Table 15(b); $R^2 = .04$, $F[4, 98] = 1.02$, $p = .40$). Examination of the individual beta weights indicated that there was no statistically significant relationships between the length of time that the mother spent sharing book reading with her child and the child's emergent reading skills ($\beta = .12$, $p = .23$).

Predicting Concepts of Print

A multiple regression analysis was generated to examine the relation between that mother spent sharing the book reading with her child and the child's concepts of print. Prior to conducting regression analysis, two variables were continuous and centered at the mean.

The multiple regression was computed as follows. First, child gender, SES, and child

age were controlled in block 1. Second, the length of that mother spent sharing the book with her child entered as independent variable in block 2. This variable served as predictor in the regression equation. A child's concepts of print was entered as dependent variable. Results revealed that although the model was significant and the independent variables explained 43.4% of the variance for mother's affective quality in the model (see Table 15(b); $R^2 = .434$, $F [4, 98] = 18.80$, $p = .000$), examination of the individual beta weights indicated that there was no statistically significant relationships between the length of time that the mother spent sharing book reading with her child and the child's concepts of print ($\beta = -.07$, $p = .36$).

Table 15 lists regression models and beta weights resulting from the analyses of this direct effects model. The diagrams are shown in Figure 13.

Table 15: Summary of Regression Analysis of the Length of Time Shared Book Reading, Two Dimensions of Maternal Book Reading Quality, and Children's Early Literacy Skills

(a)

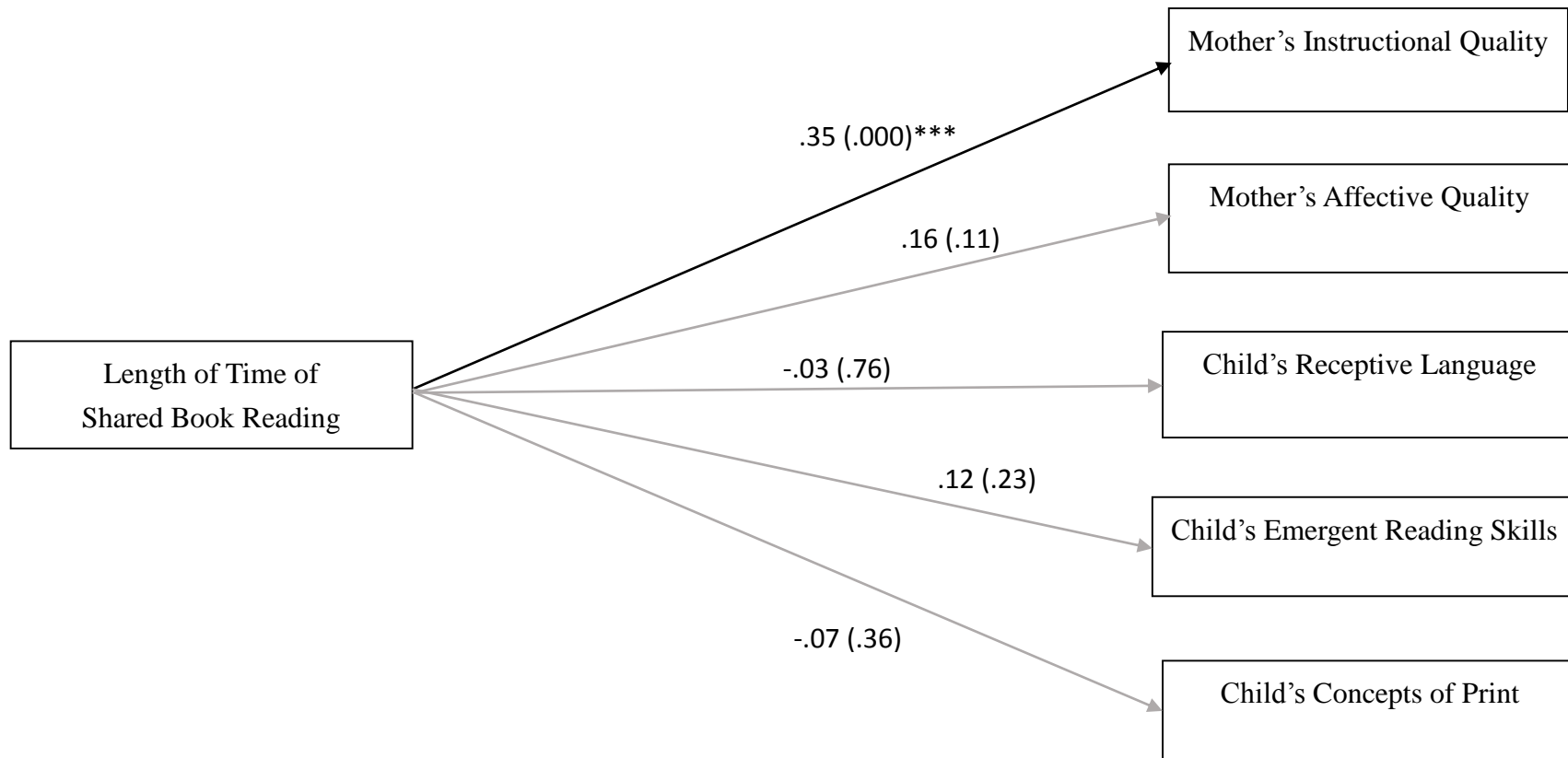
Variable	Maternal Instructional Quality						Maternal Affective Quality					
	B	SE B	B	R ²	F	df	B	SE B	β	R ²	F	df
Length of Time of Shared Book Reading	.03	.01	.35***	.122	3.41*	4, 98	.00	.00	.16	.031	.79	4, 98

(b)

Variable	Receptive Language Ability						Emergent Reading Skills						Concepts of Print					
	B	SE B	β	R ²	F	df	B	SE B	β	R ²	F	df	B	SE B	β	R ²	F	df
Length of Time of Shared Book Reading	-.00	.01	-.03	.012	.29	4, 98	.00	.00	.12	.04	1.02	4, 98	-.00	.00	-.07	.434	18.80***	4, 98

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 13: Testing Direct Effects Model: the Length of Time Shared Book Reading, Two Dimensions of Maternal Book Reading Quality, and Children's Early Literacy Skills



Note: ***p < .001

Relations among Mothers' Instructional and Affective Quality, the Home Literacy

Environment, and Children's Early Literacy Skills

Predicting Receptive Language Ability

A series of simultaneous multiple regression analyses were generated to examine the relation between the two dimensions of maternal shared book reading quality (mother's instructional and affective quality during joint reading), the home literacy environment, and a children's receptive language ability. Prior to conducting regression analyses, all variables were continuous and centered at the mean.

The simultaneous multiple regressions were computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, a mother's instructional quality, affective quality, and the home literacy environment were entered as independent variables in block 2. These three variables served as predictors in each of regression equations. Child's receptive language ability was entered as dependent variable. Results revealed that although the model was significant and the independent variables explained 12.6% of the variance for child's receptive language in the model ($R^2 = .126$, $F [6, 96] = 2.30$, $p = .04$). Examination of the individual beta weights indicated that there was no statistically significant relationship between any of the predictors taken individually and the criterion variable. Table 16 lists the regression models and beta weights resulting from this analysis.

Predicting Emergent Reading Skills

A second series of simultaneous multiple regression analyses were generated to examine the relation between the two dimensions of maternal shared book reading quality (mother's instructional and affective quality during joint reading), the home literacy environment, and a children's emergent reading skills. Prior to conducting regression analyses, all variables were continuous and centered at the mean.

The simultaneous multiple regressions were computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, a mother's instructional quality, affective quality, and the home literacy environment were entered as independent variables in block 2. These three variables served as predictors in each of regression equations. Children's emergent reading skills was entered as criterion variable. Results revealed that mother's instructional quality and affective quality of book reading interactions were significantly related to children's emergent reading skills. Overall, the independent variables accounted for 46.0% of the variance in children's emergent reading skills ($R^2 = .460$, $F [6, 96] = 13.63$, $p = .000$). An examination of the beta weights showed that both mother's instructional quality and affective quality of shared book reading interactions were positively related to children's emergent reading skills (see Table 16; $\beta = .40$, $p = .000$; $\beta = .31$, $p = .002$).

Predicting Concepts of Print

Finally, a series of simultaneous multiple regression analyses were generated to examine

the relation of two dimensions of maternal shared book reading quality (mother's instructional and affective quality during joint reading), the home literacy environment, and a children's concepts of print. Prior to conducting regression analyses, all variables were continuous and centered at the mean.

The simultaneous multiple regressions were computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, a mother's instructional quality, affective quality, and the home literacy environment were entered as independent variables in block 2. These three variables served as predictors in each of regression equations. Children's concepts of print was entered as dependent variable. Results revealed that mother's affective quality of book reading interactions was significantly related to children's concepts of print. Overall, the independent variables accounted for 47.1% of the variance in children's concepts of print ($R^2 = .471$, $F [6, 96] = 14.24$, $p = .000$). An examination of the beta weights showed that mother's affective quality of shared book reading interactions was positively related to children's concepts of print (see Table 16; $\beta = .25$, $p = .011$).

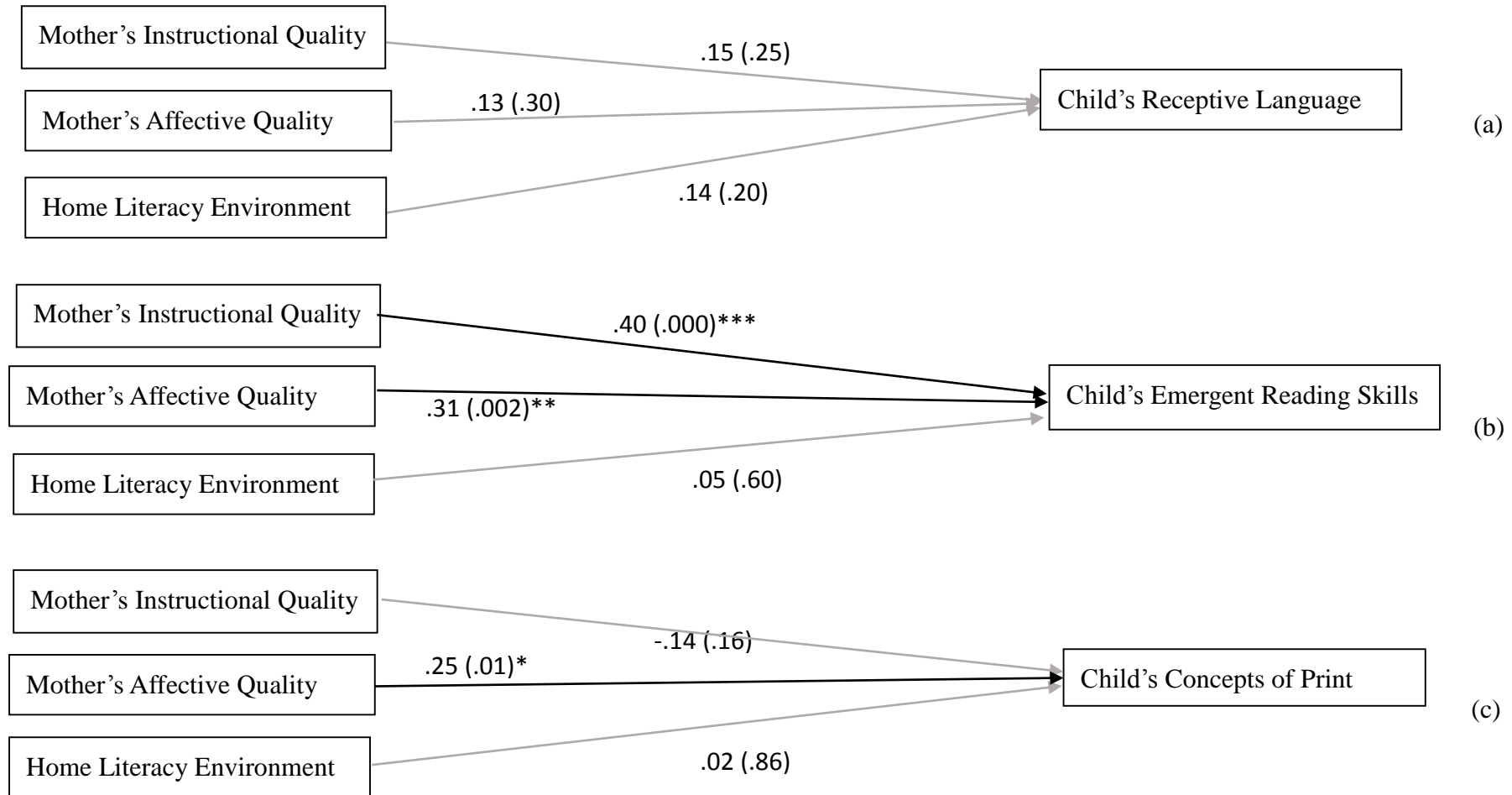
Table 16 summarizes regression analysis of two dimensions of maternal book reading quality and home literacy environment on children's early literacy skills. The diagrams are shown in Figure 14.

Table 16: Summary of Regression Analysis of Two Dimensions of Maternal Book Reading Quality, the Home Literacy Environment on Children's Early Literacy Skills

Variable	Receptive Language Ability						Emergent Reading Skills						Concepts of Print					
	B	SE B	β	R ²	F	df	B	SE B	β	R ²	F	df	B	SE B	β	R ²	F	df
Instructional Quality	.11	.09	.15	.126	2.30*	6, 96	.03	.01	.40***	.460	13.63***	6, 96	-.02	.01	-.14	.471	14.24***	6, 96
Affective Quality	3.67	3.55	.13				.81	.26	.31**				1.25	.48	.25*			
Home Literacy Environment	1.01	.75	.14				.03	.06	.05				.02	.12	.02			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 14: Testing Direct Effects Model: Mother's Instructional Quality, Affective Quality, Home Literacy Environment, and a Child's Early Literacy Skills



Note: ** $p < .01$, *** $p < .001$

Results of Direct Effects Model

Findings from two direct effects models were summarized as follows:

The first direct effect model was designed to examine whether the length of time that mothers spent sharing the book was associated with mothers' instructional quality, affective quality, and/or children's early literacy skills. From findings displayed in Table 15 and Figure 13, only one significant relationship between predictor and criterion variable was found.

Results revealed that a great length of the mother spent on sharing book with her child was strongly associated with higher level of mother's instructional quality during shared book reading with her child (see Table 15 (a); $\beta=.35$, $p=.000$).

The second direct effect model was designed to examine the relations among mothers' instructional and affective quality, the home literacy environment, and children's early literacy skills. The findings displayed in Table 16 and Figure 14 (a) confirmed that although the model was significant and predictor variables explained 12.3% of the variance for child's receptive language in the model ($R^2 = .123$, $F [5, 97] = 2.73$, $p=.02$), there was no statistically significant relationship between predictors and criterion variable found in regression models.

Figure 14 (b) revealed that higher level of mother's instructional quality during joint storybook reading with her child was strongly associated with children's higher emergent reading skills ($\beta=.40$, $p=.000$). Also, mother's affective quality of book reading interaction

was positively related to children's emergent reading skills ($\beta=.30, p=.003$).

Figure 14(c) revealed that mother's affective quality of shared book reading interactions was positively related to children's concepts of print ($\beta=.25, p=.011$).

Examination of Interaction Effects Model

Predicting Receptive Language Ability

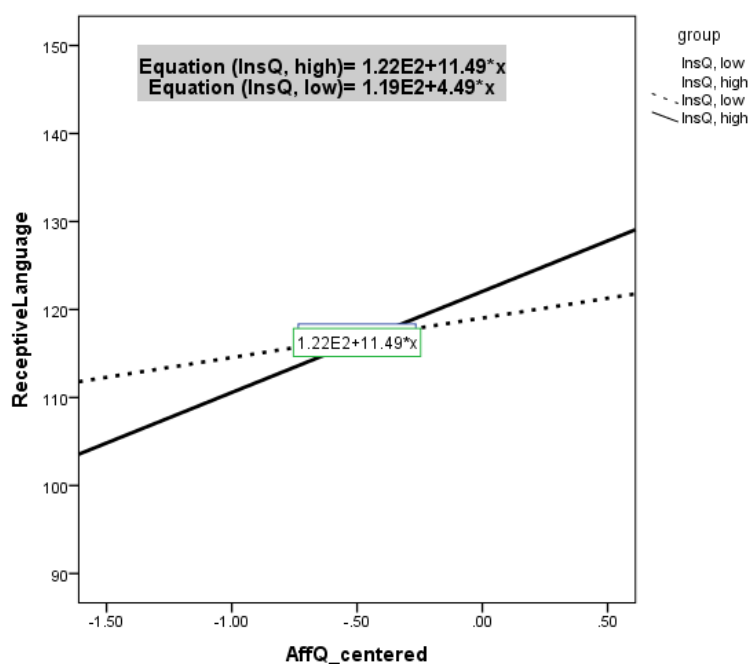
A series of simultaneous multiple regression analyses were generated to examine the relation between the two dimensions of maternal shared book reading quality (mother's instructional and affective quality during joint reading), the home literacy environment, the interaction of two dimensions of maternal behavior during joint storybook reading, and children's receptive language ability. Prior to conducting regression analyses, all variables including interactions (Instructional Quality * Affective Quality) were continuous and centered at the mean.

The simultaneous multiple regressions were computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, a mother's instructional quality, affective quality, the home literacy environment were entered in block 2. The interaction term (Instructional Quality * Affective Quality) were entered in block 3. Children's receptive language was entered as dependent variable.

Results revealed that the model was significant and the independent variables explained 20.0% of the variance for child's receptive language (see Table 17; $R^2 = .20$, $F [7, 95] = 3.31$, $p = .003$). An examination of the beta weights showed that the interaction of mother's instructional and affective quality was positively associated with a child's receptive language ability (see Figure 17(a); $\beta = .40$, $p = .005$). In order to explain the interaction between

mother's instructional quality and affective quality of book reading interactions predicting children's receptive language ability, Figure 15 has been provided to demonstrate the patterns of these relationships. As shown in Figure 15, the equation for high instructional quality group was $1.22E2+11.49x$ and the equation for low instructional quality group was $1.19E2+4.49x$. These slopes were different from zero. The finding suggested that the association between mothers' affective quality and children's receptive language ability was stronger when instructional quality was high.

Figure 15: Interaction between Mother's Instructional Quality and Affective Quality during Joint Storybook Reading Interactions Predicting Children's Receptive Language Ability



Predicting Emergent Reading Skills

A series of simultaneous multiple regression analyses were generated to examine the relation between the two dimensions of maternal shared book reading quality (mother's

instructional and affective quality during joint reading), the home literacy environment, the interaction of two dimensions of maternal behavior during joint storybook reading, and a children's emergent reading skills. Prior to conducting regression analyses, all variables including interactions (Instructional Quality * Affective Quality) were continuous and centered at the mean.

The simultaneous multiple regressions were computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, a mother's instructional quality, affective quality, the home literacy environment were entered in block 2. The interaction term (Instructional Quality * Affective Quality) were entered in block 3. Children's emergent reading skills scores were entered as dependent variable.

Results showed that there was no significant relationship between the interaction of mother's instructional and affective quality of book reading interactions and children's emergent reading skills. Although the model was significant and the independent variables explained 48.0% of the variance for children's emergent reading skills in the model (see Table 17; $R^2 = .48$, $F [7, 95] = 12.33$, $p = .000$), the beta weights showed that the interaction of mother's instructional and affective quality was not significant in predicting children's emergent reading skills (see Figure 17 (b); $\beta = .19$, $p = .09$).

Predicting Concepts of Print

A series of simultaneous multiple regression analyses were generated to examine the

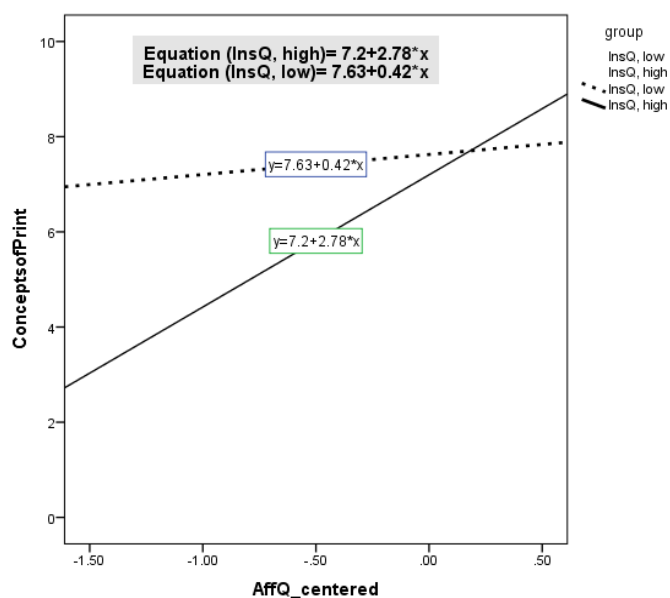
relation between the two dimensions of maternal shared book reading quality (mother's instructional and affective quality during joint reading), the home literacy environment, the interaction of two dimensions of maternal behavior during joint storybook reading, and children's concepts of print. Prior to conducting regression analyses, all variables including interactions (Instructional Quality * Affective Quality) were continuous and centered at the mean.

The simultaneous multiple regressions were computed as follows. First, child gender, SES, and child age were controlled in block 1. Second, a mother's instructional quality, affective quality, the home literacy environment were entered in block 2. The interaction term (Instructional Quality * Affective Quality) were entered in block 3. Children's concepts of print was entered as dependent variable.

Results showed that the model was significant and the independent variables explained 49.0% of the variance for a child's concepts of print (see Table 17; $R^2 = .49$, $F [7, 95] = 13.20$, $p = .000$). An examination of the beta weights showed that the interaction of mother's instructional and affective quality was positively associated with a child's concepts of print (see Figure 17(c); $\beta = .22$, $p = .045$). In order to explain the interaction between mother's instructional quality and affective quality of book reading interactions predicting children's concepts of print, the graph shown in Figure 16 has been provided to demonstrate the patterns of these relationships. As shown in Figure 16, the regression equation for high instructional

quality group was $7.2+2.78x$ and the regression equation for low instructional quality group was $7.63+0.42x$. These slopes were different from zero. The finding suggested that mothers' affective quality was positively associated with children's concepts of print when mothers showed high instructional quality during joint storybook reading.

Figure 16: Interaction between Mother's Instructional Quality and Affective Quality during Joint Storybook Reading
Interactions Predicting Children's Concepts of Print



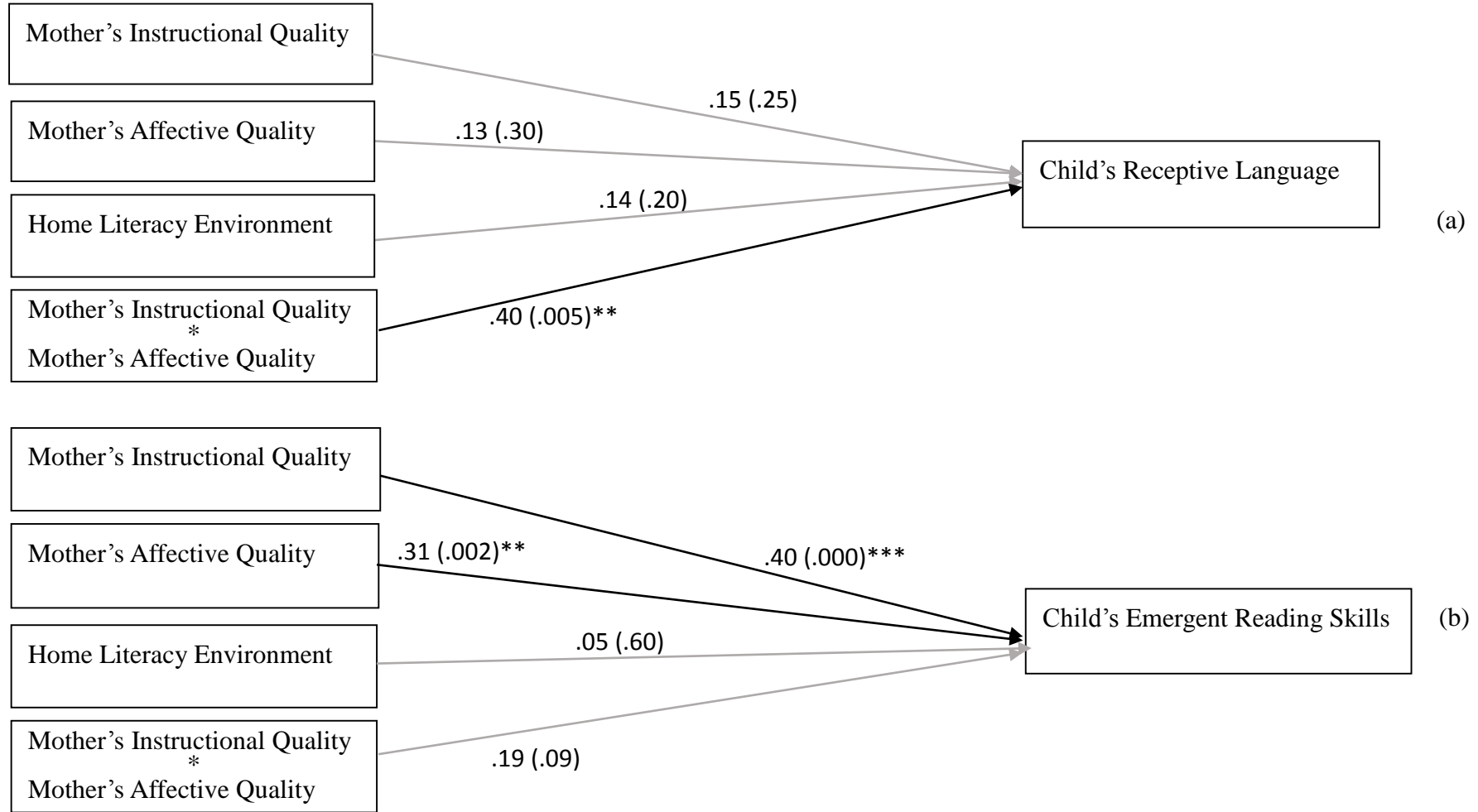
Finally, Table 17 summarizes the regression analysis of two dimensions of maternal book reading quality, home literacy environment, and the interaction of two dimensions of maternal book reading quality on children's early literacy skills. The diagrams are also shown in Figure 17.

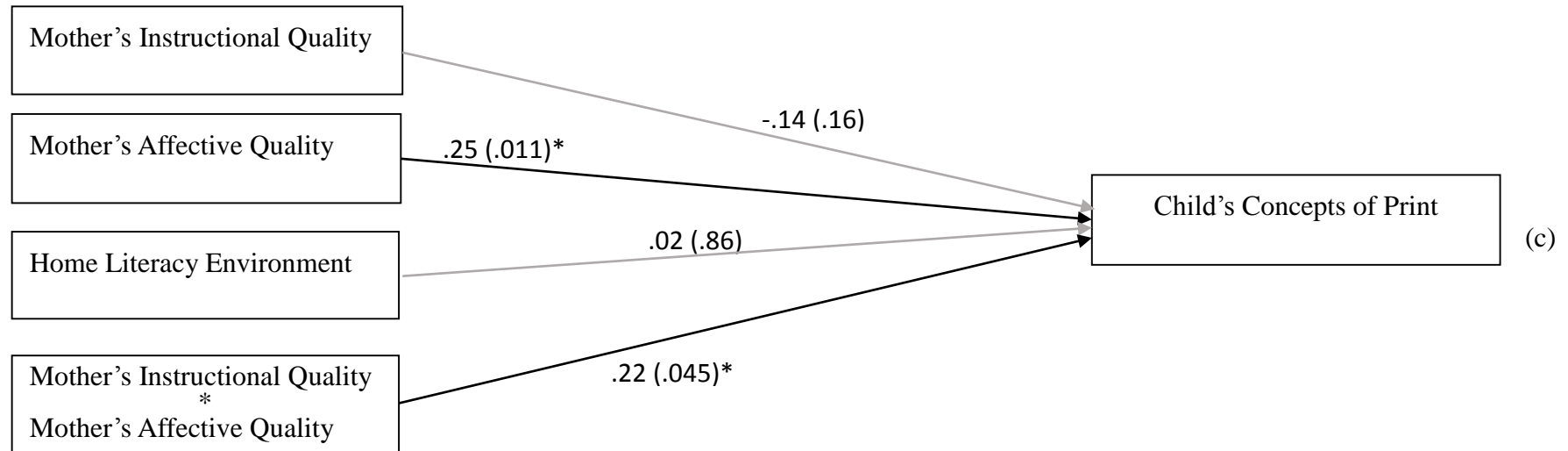
Table 17: Summary of Regression Analysis of Two Dimensions of Maternal Book Reading Quality, the Home Literacy Environment, and the Interaction of Two Dimensions of Maternal Book Reading Quality on Children's Early Literacy Skills

Block	Variables	Receptive Language Ability					Emergent Reading Skills					Concepts of Print				
		R ²	ΔR ²	β	F	df	R ²	ΔR ²	β	F	df	R ²	ΔR ²	β	F	df
1	Child Gender	.01		.02	.36	3, 99	.03		-.09	.87	3, 99	.43		.02	24.81***	3, 99
	SES			.09					.06					-.02		
	Child Age			.05					.12					.66***		
2	Instructional Quality	.13	.12	.15	2.30*	6, 96	.46	.43***	.40***	13.63***	6, 96	.47	.04	-.14	14.24***	6, 96
	Affective Quality			.13					.31**					.25*		
	Home Literacy Environment			.14					.05					.02		
3	Instructional Quality * Affective Quality	.20	.07**	.40**	3.31**	7, 95	.48	.02	.19	12.33***	7, 95	.49	.02*	.22*	13.20***	7, 95

Note: *p < .05, **p < .01, ***p < .001

Figure 17: Testing Interaction Effects Model: Mother’s Instructional Quality, Affective Quality, Home Literacy Environment, an Interaction between Mother’s Instructional and Affective Quality, and a Child’s Early Literacy Skills





Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Results of Interaction Effects Model

The findings displayed in Table 17 and Figure 17 (a) confirmed that mothers' instructional and affective quality of shared book reading interactions interacted together to contribute to children's receptive language ability ($\beta=.40$, $p=.005$). Figure 15 demonstrated that the association between mothers' affective quality and children's receptive language ability was stronger when instructional quality was high.

Figure 17 (b) revealed that the interaction of mother's instructional and affective quality was not significant in predicting children's emergent reading skills ($\beta=.19$, $p=.09$).

Figure 17 (c) illustrated that mothers' instructional and affective quality of shared book reading interactions interacted together to contribute to a child's concepts of print ($\beta=.22$, $p=.045$). Figure 16 demonstrated that mothers' affective quality was positively associated with children's concepts of print when mothers showed high instructional quality during joint storybook reading.

Examination of Moderating Model

Testing Moderating Effect of HLE on Children's Receptive Language Ability

A series of simultaneous multiple regression analyses were generated to examine whether children's home literacy environment (HLE) moderated the relationship between mothers' instructional and affective quality during joint storybook reading interactions and children's receptive language ability. Prior to conducting regression analyses, all variables were continuous and centered at the mean.

The analyses proceeded as followed. First, child gender, SES, and child age were entered in block 1. Second, mothers' instructional quality, affective quality, the home literacy environment, the interaction of instructional and affective quality during joint storybook reading interactions (Instructional Quality * Affective Quality), and two interactions between the home literacy environment and each dimension of maternal behavior during shared storybook reading (HLE* Instructional Quality) and (HLE* Affective Quality) were entered in block 2. Third, the triple interaction term (Instructional Quality* Affective Quality*Home Literacy Environment) was entered in block 3. Children's receptive language ability was entered as dependent variable.

Results of these analyses showed that mother's instructional quality and the interaction of two dimensions of maternal book reading interactions were significant positively related to a child's receptive language ability (see Figure 19(a); $\beta=.39$, $p=.013$; $\beta=.29$, $p=.045$). In

addition, after an examination of moderating effect of home literacy environment, results indicated that block 2 (without the triple interaction term) and block 3 (with the triple interaction term) were significant (see Table 18; $F[9, 93] = 3.34, p = .001$; $F[10, 92] = 3.91, p = .000$). The amount of variance accounted for in block 3 (with the triple interaction term) was significantly greater than block 2 (i.e., without the triple interaction term) (see Table 18; $\Delta R^2 = .05, p = .009$). Finally, the triple interaction term (Instructional Quality * Affective Quality * Home Literacy Environment) was found to be significant (see Figure 19(a); $\beta = .85, p = .009$). Therefore, these statistical results indicated that the home literacy environment moderated the association between mothers' instructional and affective quality of shared book reading interactions and children's receptive language ability.

In order to explain the complicated three-way moderating effect, three two-way interactions (Instructional Quality * Affective Quality), (Home Literacy Environment * Instructional Quality), and (Home Literacy Environment * Affective Quality) needed to be further examined. Figure 18 has been provided three main scatter plots of two-way interactions and the information of slopes to demonstrate the patterns of these relationships.

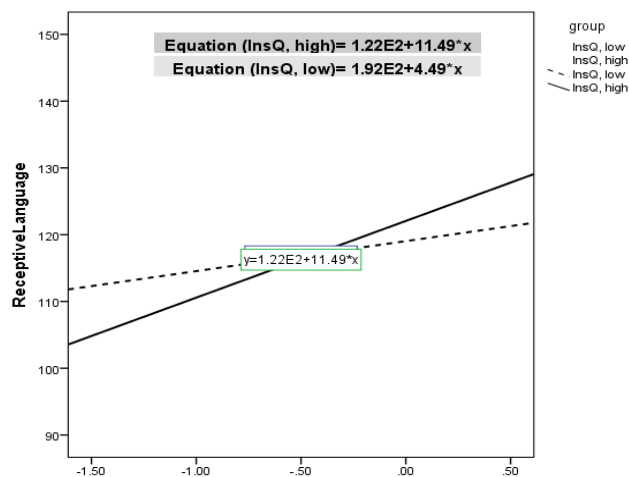
As shown in Figure 18(a), the equation for high instructional quality group was $1.22E2+11.49x$ and the equation for low instructional quality group was $1.19E2+4.49x$. These slopes were different from zero. The finding suggested that the association between mothers' affective quality and children's receptive language ability was stronger when

instructional quality was high. In addition, as shown in Figure 18(b), the equation for high home literacy environment group was $1.23E2+0.32x$ and the equation for low home literacy environment group was $1.18E2+9.47E-4x$. These slopes were different from zero. Findings suggested that the association between mothers' instructional quality and children's receptive language ability was stronger when children's home literacy environment was high; whereas the association between mothers' instructional quality and children's receptive language ability became weaker when home literacy environment was low. Finally, as shown in Figure 18(c), the equation for high home literacy environment group was $1.23E2+10.53x$ and the equation for low home literacy environment group was $1.19E2+3.57x$. These slopes were different from zero. The finding suggested that the association between mothers' affective quality and children's receptive language ability was stronger when children's home literacy environment was high.

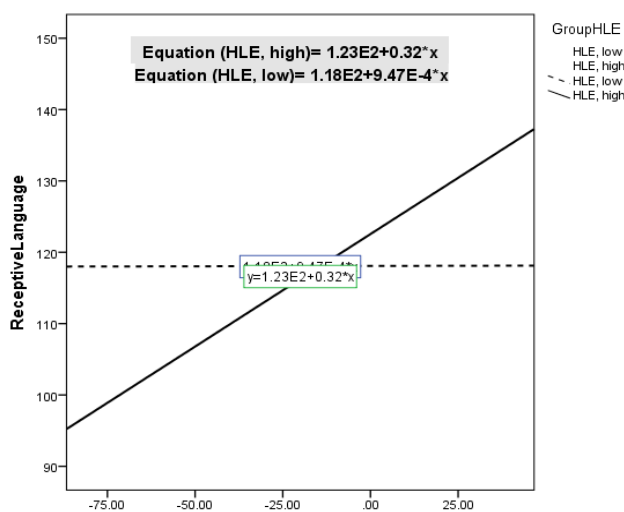
In sum, the association between mothers' affective quality and children's receptive language ability was stronger when mothers used high level of instructional behaviors during shared book reading and when the quality of children's home literacy environment was high. Also, the association between mothers' instructional quality and children's receptive language ability was stronger when the quality of children's home literacy environment was high; whereas the relationship became weaker when home literacy environment was low. Overall, having a supportive home literacy environment did advance and did lower home literacy

environment exacerbate the impact of Taiwanese mothers' instructional and affective quality during shared book reading on 3-to-6 year old children's receptive language ability.

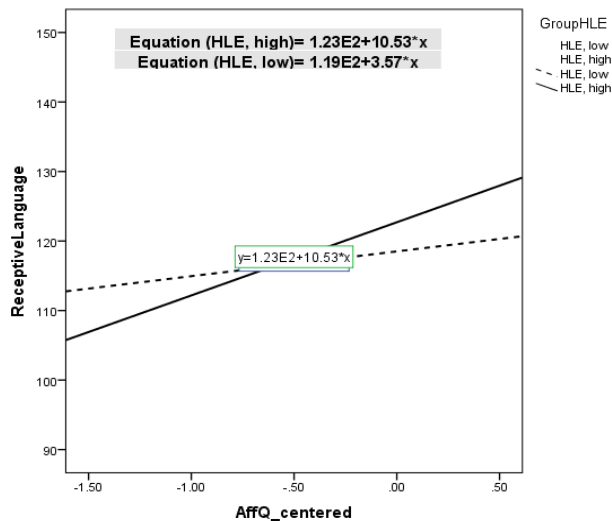
Figure 18: Three Main Scatter Plots of Two-Way Interactions and the Information of Slopes to demonstrate Moderating Effect Predicting Children's Receptive Language Ability



(a) Interaction between Instructional Quality and Affective Quality



(b) Interaction between Home Literacy environment and Instructional Quality



(c) Interaction between Home Literacy Environment and Affective Quality

Testing Moderating Effect of HLE on Children's Emergent Reading Skills

A series of simultaneous multiple regression analyses were generated to examine whether children's home literacy environment (HLE) moderated the relationship between mothers' instructional and affective quality during joint storybook reading interactions and children's emergent reading skills. Prior to conducting regression analyses, all variables were continuous and centered at the mean.

The simultaneous multiple regression proceeded as followed. First, child gender, SES, and child age were entered in block 1. Second, mothers' instructional quality, affective quality, the home literacy environment, the interaction of instructional and affective quality during joint storybook reading interactions (Instructional Quality * Affective Quality), and two interactions between the home literacy environment and each dimension of maternal behavior during shared storybook reading (HLE* Instructional Quality) and (HLE* Affective Quality) were entered in block 2. Third, the triple interaction term (Instructional Quality* Affective Quality*Home Literacy Environment) was entered in block 3. Children's emergent reading skills was entered as dependent variable.

Results of the multiple regression analysis indicated that both mothers' instructional quality and affective quality during joint reading interactions were significant positively related to a child's emergent reading skills (see Figure 19(b); $\beta=.56$, $p =.000$; $\beta=.31$, $p =.006$). After an examination of moderating effect of home literacy environment, results indicated

that although block 2 (without the triple interaction term) and block 3 (with the triple interaction term) were significant (see Table 18; $F[9, 93] = 9.51, p = .000$; $F[10, 92] = 8.64, p = .000$), the amount of variance accounted for in block 3 (with the triple interaction term) was not significantly more than block 2 (without the triple interaction term) ($\Delta R^2 = .01, p = .35$). Finally, the triple interaction term (Instructional Quality*Affective Quality*Home Literacy Environment) was found to be not significant (see Figure 19(b); $\beta = .26, p = .35$). Therefore, these statistical results indicated that the home literacy environment did not moderate the association between mothers' instructional and affective quality during shared reading interactions and children's emergent reading skills.

Testing Moderating Effect of HLE on Children's Concepts of Print

A series of simultaneous multiple regression analyses were generated to examine whether children's home literacy environment (HLE) moderated the relationship between mothers' instructional and affective quality during joint storybook reading interactions and children's concepts of print. Prior to conducting regression analyses, all variables were continuous and centered at the mean.

The simultaneous multiple regression proceeded as followed. First, child gender, SES, and child age were entered in block 1. Second, mothers' instructional quality, affective quality, the home literacy environment, the interaction of instructional and affective quality during joint storybook reading interactions (Instructional Quality * Affective Quality), and

two interactions between the home literacy environment and each dimension of maternal behavior during shared storybook reading (HLE* Instructional Quality) and (HLE* Affective Quality) were entered in block 2. Third, the triple interaction term (Instructional Quality* Affective Quality*Home Literacy Environment) was entered in block 3. Children's concepts of print was entered as dependent variable.

Results of the multiple regression analysis indicated that mothers' affective quality of joint book reading interactions was significant positively related to children's concepts of print (see Figure 19(c); $\beta=.31$, $p=.005$; $\beta=.22$). After an examination of the moderating effect of home literacy environment, results indicated that block 2 (without the triple interaction term) and block 3 (with the triple interaction term) were significant (see Table 18; $F[9, 93] = 10.11$, $p=.000$; $F[10, 92] = 9.15$, $p=.000$), the amount of variance accounted for in block 3 (with the triple interaction term) was not significantly more than block 2 (without the triple interaction term) (see Table 18; $\Delta R^2 = .00$, $p=.38$). Finally, the triple interaction term (Instructional Quality*Affective Quality *Home Literacy Environment) was not significant (see Figure 19(c); $\beta= -.24$, $p=.38$). Therefore, these statistical results indicated that the home literacy environment did not moderate the association between mothers' instructional and affective quality during joint storybook reading interactions and children's concepts of print.

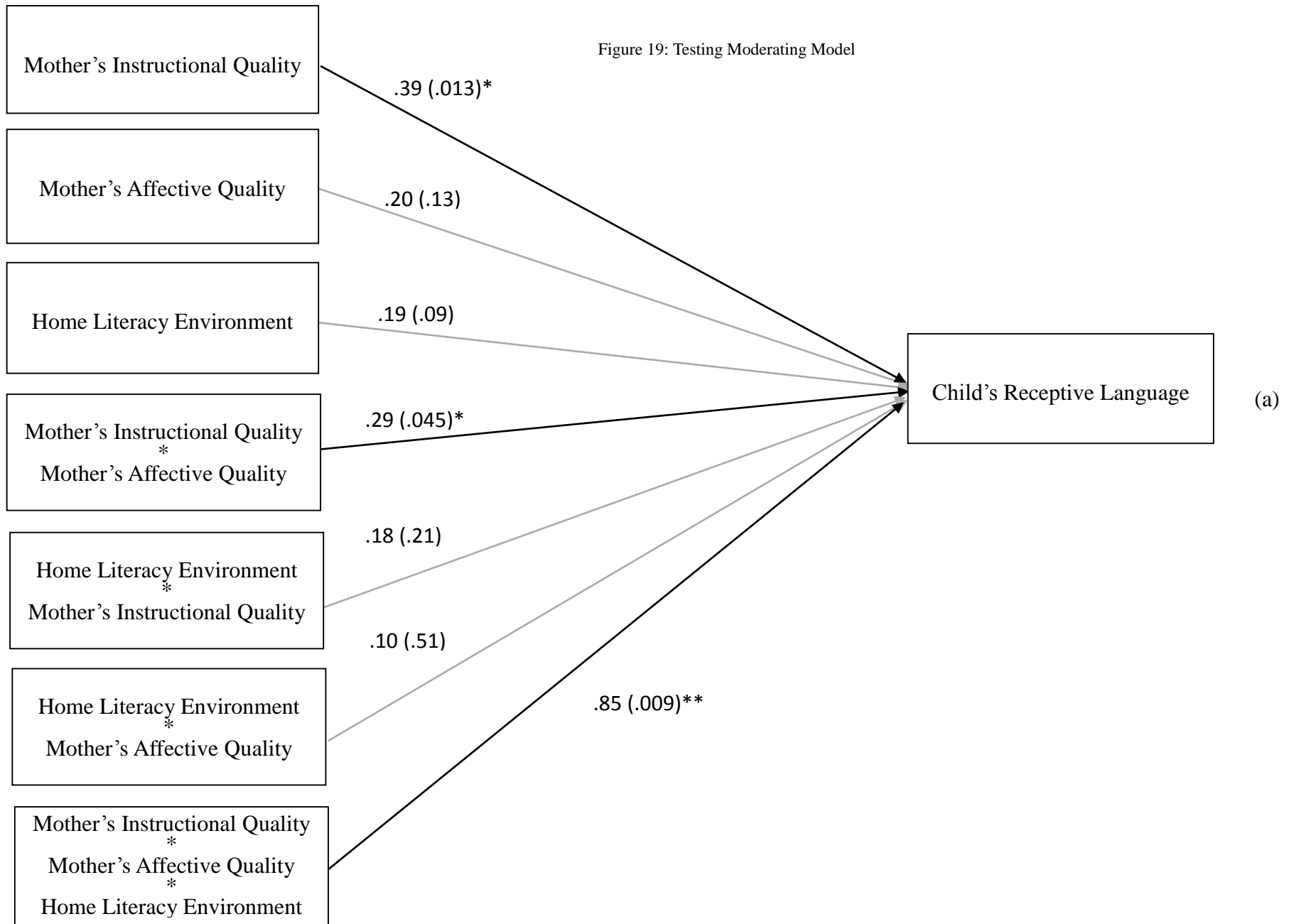
Table 18 summarized regression analysis testing the moderating effect of home literacy environments on children's early literacy skills. The diagrams are also shown in Figure 19.

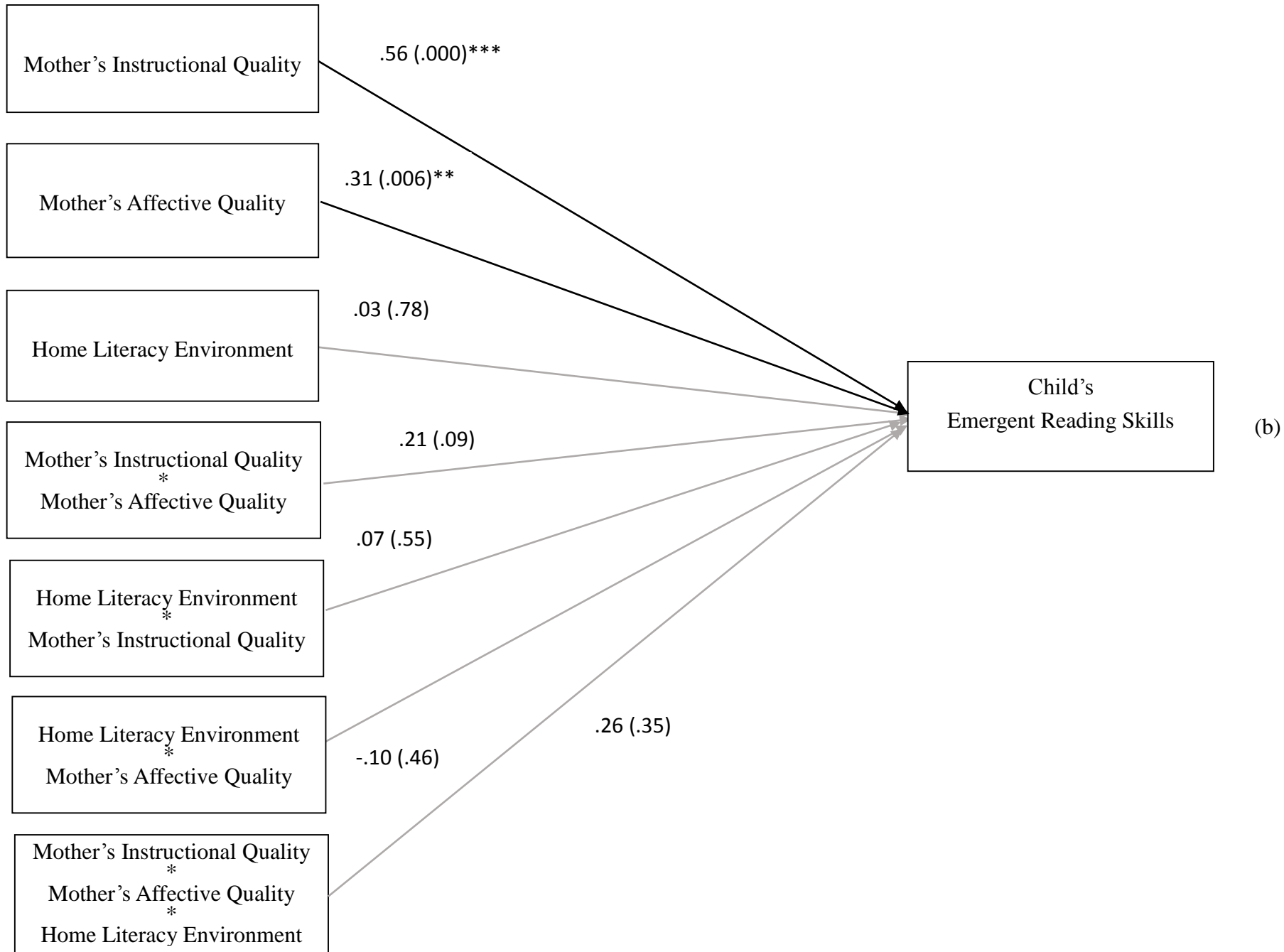
Table 18: Summary of Regression Analysis Testing Moderating Effect of Home Literacy Environments on Children's Early Literacy Skills

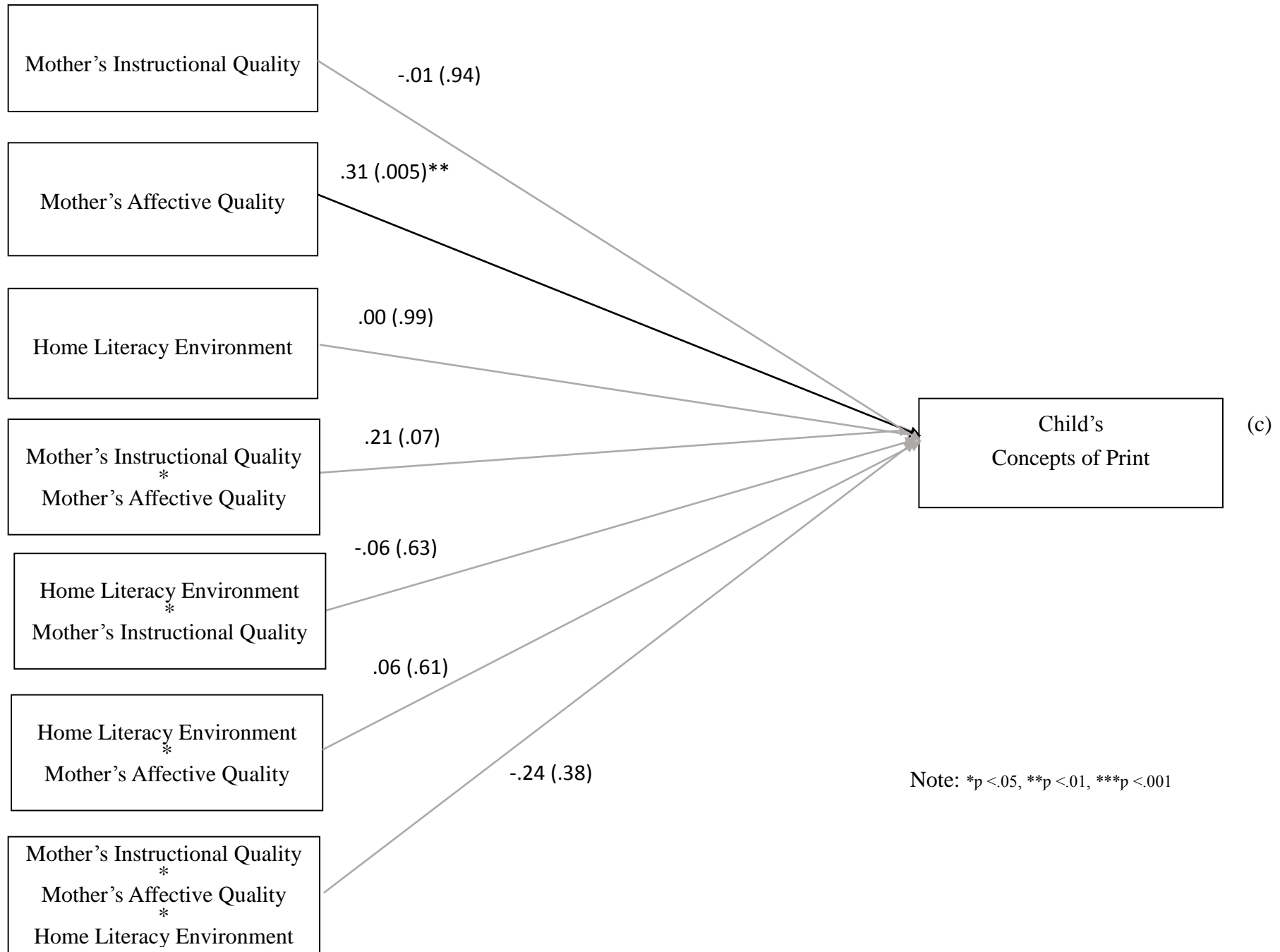
Block	Variables	Receptive Language Ability					Emergent Reading Skills					Concepts of Print				
		R ²	ΔR ²	β	F	df	R ²	ΔR ²	β	F	df	R ²	ΔR ²	β	F	df
1	Child Gender	.01		.02	.36	3, 99	.03		-.09	.87	3, 99	.43		.02	24.81***	3, 99
	SES			.09					.06					-.02		
	Child Age			.05					.12					.66***		
2	Instructional Quality	.24	.23***	.39*	3.34**	9, 93	.48	.45***	.56***	9.51***	9, 93	.50	.07	-.01	10.11***	9, 93
	Affective Quality			.20					.31**					.31**		
	Home Literacy Environment			.19					.03					.00		
	Instructional Quality *			.29*					.21					.21		
	Affective Quality *								.07					-.06		
	Home Literacy Environment *			.18												
	Instructional Quality *															
Home Literacy Environment *	.10		.06													
Affective Quality																
3	Instructional Quality *	.30	.05**	.85**	3.91***	10, 92	.48	.01	.26	8.64***	10, 92	.50	.00	-24	9.15***	10, 92
	Affective Quality *															
	Home Literacy Environment															

Note: *p < .05, **p < .01, ***p < .001

Figure 19: Testing Moderating Model







Results of Moderating Model

The findings displayed in Table 18 and Figure 19 (a) confirmed that Results of these analyses showed that mother's instructional quality was positively related to children's receptive language ability ($\beta=.39$, $p=.013$). Mothers' instructional and affective quality during joint reading interactions interacted together to contribute to children's receptive language ability ($\beta=.29$, $p=.045$). In addition, after an examination of moderating effect of home literacy environment, results indicated that block 2 (without the triple interaction term) and block 3 (with the triple interaction term) were significant (see Table 18; $F[9, 93] = 3.34$, $p=.001$; $F[10, 92] = 3.91$, $p=.000$). The amount of variance accounted for in block 3 (with the triple interaction term) was significantly greater than block 2 (i.e., without the triple interaction term) ($\Delta R^2 = .05$, $p=.009$). Finally, the triple interaction term (Instructional Quality*Affective Quality*Home Literacy Environment) was found to be significant ($\beta=.85$, $p=.009$). So, the home literacy environment moderated the association between mothers' instructional and affective quality of shared book reading interactions and children's receptive language ability.

I got the information to demonstrate the moderating effect predicting children's receptive language ability after computing three main scatter plots of two-way interactions. Statistical results indicated that the association between mothers' affective quality and children's receptive language ability was stronger when mothers used high level of instructional behaviors during shared book reading and when the quality of children's home

literacy environment was high. Also, the association between mothers' instructional quality and children's receptive language ability was stronger when the quality of children's home literacy environment was high; whereas the relationship became weaker when home literacy environment was low. Overall, having a supportive home literacy environment did advance and did lower home literacy environment exacerbate the impact of Taiwanese mothers' instructional and affective quality during shared book reading on 3-to-6 year old children's receptive language ability.

Through information from Table 18 and Figure 19(b), both mother's instructional quality and affective quality of maternal book reading interactions were found to be significantly and positively related to a child's emergent reading skills ($\beta=.56$, $p=.000$; $\beta=.31$, $p=.006$). In addition, although block 2 (without the triple interaction term) and block 3 (with the triple interaction term) were significant (see Table 18; $F[9, 93] = 9.51$, $p=.000$; $F[10, 92] = 8.64$, $p=.000$), the amount of variance accounted for in block 3 (with the triple interaction term) was not significantly more than block 2 (without the triple interaction term) ($\Delta R^2 = .01$, $p=.35$), and the triple interaction term (Instructional Quality*Affective Quality*Home Literacy Environment) was not found to be significant ($\beta=.26$, $p=.35$). Therefore, the home literacy environment did not moderate the association between mothers' instructional and affective quality during joint reading interactions and children's emergent reading skills.

The findings displayed in Table 18 and Figure 19 (c) indicated that mothers' affective quality of book reading interactions was significant positively related to a child's concepts of print ($\beta=.31, p=.005$). Besides, although both block 2 (without the triple interaction term) and block 3 (with the triple interaction term) were found to be significant ($F [9, 93] = 10.11, p=.000$; $F [10, 92] = 9.15, p=.000$), the amount of variance accounted for in block 3 (with the triple interaction term) was not significantly more than block 2 (without the triple interaction term) ($\Delta R^2 = .00, p=.38$). In addition, the triple interaction term (Instructional Quality*Affective Quality *Home Literacy Environment) was not significant ($\beta= -.24, p=.38$). The home literacy environment did not moderate the association between mothers' instructional and affective quality during joint reading interactions and children's concepts of print.

An Overview of the Complete Model

This study was designed not only to explore whether the length of time that mothers spent sharing the book with their children related to two dimensions of maternal behavior (instructional and affective quality of book reading) and children's early literacy skills, but also to understand to what extent maternal instructional and affective quality during joint storybook reading relate to and interact with Taiwanese 3-to-6-year old children's early literacy skills. This study also explored whether the pattern of these concurrent relationships differed as a function of children's home literacy environment. Figure 19 provided an overall summary of how the data predicted the model. Significant direct effects were indicated by one arrow with solid lines.

First, through my statistical analyses, the length of time that mothers shared book reading with their children was positively related to mothers' instructional quality. That is, a great length of time of shared book reading was strongly associated with higher level of maternal instructional quality during shared book reading activity. Also, higher level of mother's instructional quality during joint storybook reading with her child was strongly associated with children's higher emergent reading skills. Mother's affective quality of book reading interaction was positively related to children's emergent reading skills and concepts of print.

Secondly, mothers' instructional and affective quality of shared book reading

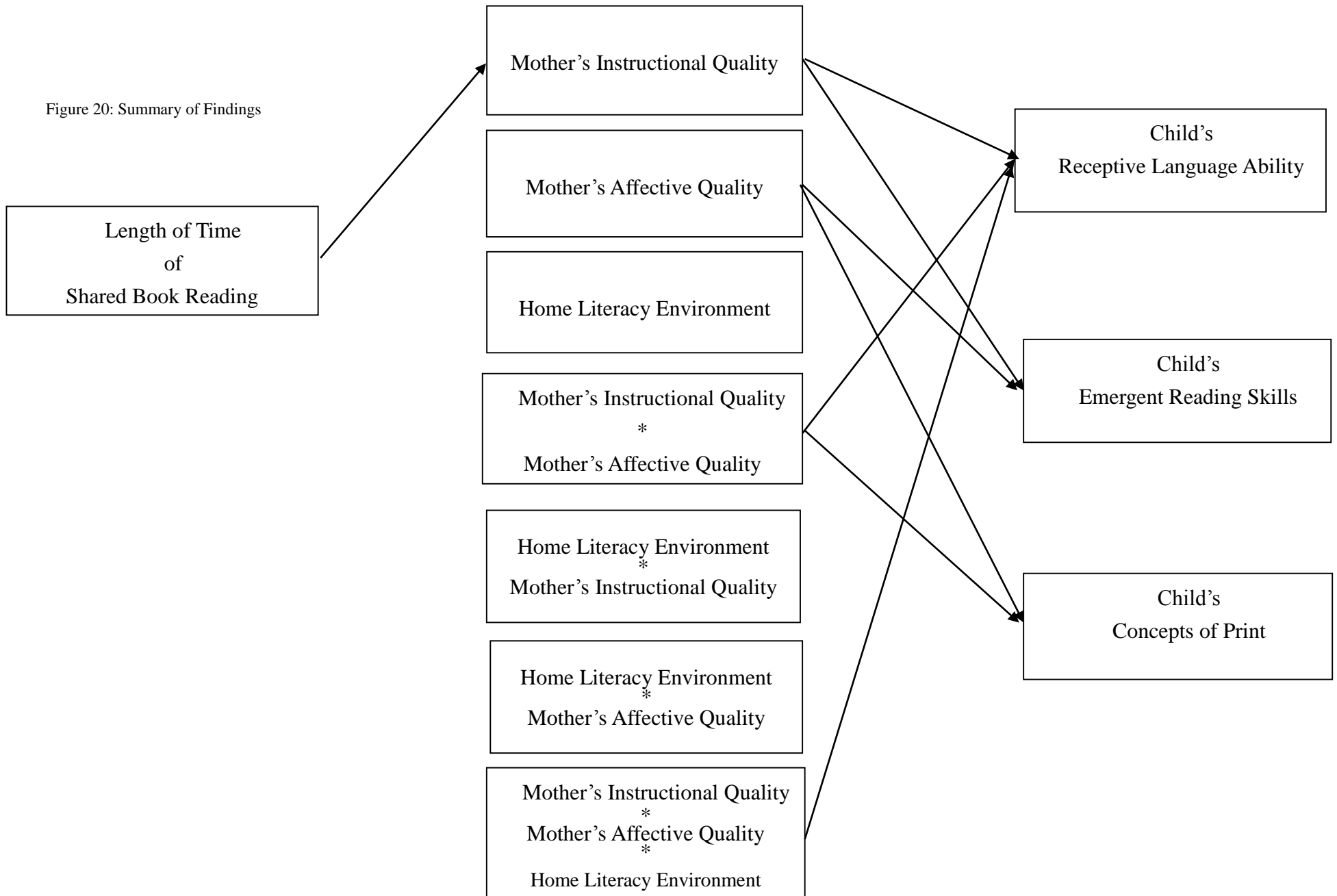
interactions interacted together to contribute to children's receptive language ability. Through scatter plot and the information of the slopes, the association between mothers' affective quality and children's receptive language ability was found to be stronger when instructional quality was high. Besides, mothers' instructional and affective quality of shared book reading interactions interacted together to contribute to a child's concepts of print. According to the scatter plot, I further found that mothers' affective quality was positively associated with children's concepts of print when mothers showed high instructional quality during joint storybook reading.

Thirdly, after testing moderating effects model predicting children's early literacy skills including receptive language ability, emergent reading skills, and concepts of print, I found that the home literacy environment moderated the association between mothers' instructional and affective quality of shared book reading interactions and children's receptive language ability. After computing three main scatter plots of two-way interactions and obtaining the information of slopes to explain the complicated three-way moderating effects predicting children's receptive language ability, statistical results indicated that the association between mothers' affective quality and children's receptive language ability was stronger when mothers used high level of instructional behaviors during shared book reading and when the quality of children's home literacy environment was high. Also, the association between mothers' instructional quality and children's receptive language ability was stronger when the

quality of children's home literacy environment was high; whereas the relationship became weaker when home literacy environment was low. Overall, having a supportive home literacy environment did advance and did lower home literacy environment exacerbate the impact of Taiwanese mothers' instructional and affective quality during shared book reading on 3-to-6 year old children's receptive language ability.

Finally, my statistical analyses indicated that mothers' instructional quality was positively related to children's receptive language ability and emergent reading skills respectively ($\beta=.39, p=.013$; $\beta=.56, p=.000$). Also, the maternal affective quality was positively related to children's emergent reading skills and concepts of print respectively ($\beta=.31, p=.006$; $\beta=.31, p=.005$). In sum, mothers' instructional quality and affective quality of shared storybook reading interactions contributed to children's emergent reading skills, but not the other two child outcomes. This result proved that mother-child shared book reading activities had a positive impact to a child's solo reading ability (emergent reading skills).

Figure 20: Summary of Findings



CHAPTER 5

DISCUSSION

This dissertation study was designed to present a more nuanced examination of relation among the observable maternal quality of shared book reading interactions, my observations and mothers' reports of the home literacy environment, children's receptive language ability as measured by the Chinese version of PPVT_R, observations of children's emergent reading behaviors via solo reading task, and an assessment of children's knowledge of print concepts using a portion of Clay's (1982) Concepts about Print Test. Results and design of this study underscored the importance of studying the relations between two dimensions of maternal quality of joint book reading interactions and the home literacy environment. These factors exerted crucial and positive effects on young children's early literacy development (Cline, 2010; Curenton & Kennedy, 2013; Parker, Boak, Griffin, Ripple, & Peay, 1999; Wu, 2007).

This chapter is divided into the following parts. First, I will discuss the characteristics of Taiwanese mothers' behaviors when engaged in a joint book reading with their children and impacts on 3-to-6-year-old children's early literacy skills, and I will analyze the qualitative data to present how mothers interact with their children during shared book reading activity. Second, I will examine the characteristics of the emergent reading behaviors I observed in 3-to-6-year-old Taiwanese children. Finally, I will examine the four models. The first model will explore whether the length of time that mothers spent sharing the book with their children related to two dimensions of maternal behavior (instructional and affective quality of book reading) and children's early literacy skills. The latter three models I proposed for explaining children's early literacy skills, specifically their receptive language abilities, their emergent reading skills, and their concepts of print and the relationships I observed between mother's behavior (specifically,

instructional and affective quality), the home literacy environment, and the interactions of these variables in influencing children's early literacy skills. The chapter ends with a discussion of the limitations of my study and the implications of this research for the future.

Characteristics of Taiwanese Mother's Shared Book Reading Behaviors

103 mother-child dyads among Mandarin-speaking families in Taipei City were recruited in this study. Each mother-child pair was asked to share a storybook at home, and the process of shared book reading activity was videotaped and observed. Characteristics of mother's shared book reading behaviors were focused on two aspects of the task: mothers' instructional behaviors and mothers' affective behaviors.

Mothers' Instructional Behaviors

In this study, duration of mother-child shared book reading task ranged from 3.0 to 17.3 minutes, and the average time spent on this task by each Taiwanese mother-child dyad was 6.8 minutes. This finding was close to Wu (2007)'s research result-an average of 5.6 minutes on shared book reading task at home. However, this result is inconsistent with data from Li and Rao's (2000) research. In their study, parents of 480 Chinese preschoolers in Beijing, Hong Kong, and Singapore reported about their involvement and the time they spent in literacy teaching (shared book reading activities) with their children. Ethnic Chinese parents in Beijing (69.4%), Hong Kong (45.6%), and Singapore (48.4%) reported that the typical duration of each shared book reading activity was 15-30 minutes. Chow and McBride-Chang (2003) reported that the 86 parents from Hong Kong who participated in their study reported on questionnaires that they typically read to their children dialogically for 15-17 minutes. The difference between the average times observed in the Li and Rao (2000) and Chow and McBride-Chang (2003) studies versus the time observed in the present study may reflect discomfort experienced by parents by the presence in their homes of a researcher, recording equipment, and testing procedures.

During 6.8-minute shared book reading observation, Taiwanese mothers spent 2.77 minutes on “reading,” such as direct reading or summarizing the text in mother’s own words. “Book-related questions/requests” came after the most frequently maternal instructional behavior, “reading.” Mothers spent 2.35 minutes out of 6.8-minute shared book reading observation on asking book-related questions or requests, such as naming of characters, objects or details in the pictures which were not mentioned in the text, yes-no questions, “what, when, where, and why” questions and open-ended questions about the pictures and story, asking the child to repeat what the mother said or read, completion prompts, recall prompts, and so on. The third frequently maternal instructional behavior was “book-related feedback,” at which Taiwanese mothers spent an average of only 1.62 minutes during 6.8-minute shared book reading observation. “Book-related feedback” included praise, correction, word explanations, expanding the child’s response, repetition child’s response, and distancing prompts. The least employed instructional behaviors by Taiwanese mothers was “story structure talk/commentary” who spent only 3.6 seconds during 6.8-minute shared book reading observation engaged in this type of behavior. The reason why these mothers did not use story structure talk or commentary that much was most Taiwanese mothers were taught by traditional Chinese cramming education which led them to direct read, summarize the text in their own words or focus on describe and labeling pictures, and not make comments or talk about the setting, episodes, and characters of the storybook during shared book reading activity.

According to my observations, I found that Taiwanese mothers’ shared book reading behaviors showed three styles: direct reading style, describer style and collaborator style. The first style focused on direct reading or summarizing the text in mothers’ own words, and the second and third styles, proposed by Haden and colleagues (1996), largely emphasized

elaborately describing and labeling pictures, and encouraged children to participate in the telling of the story.

In addition, research results indicated that Taiwanese mothers tended to use the first two instructional behaviors, “reading” and “book-related questions/ requests” during shared book reading. They tended to use pointing to pictures, labeling the pictures, and using questions to engage the children’s attention and responses. These tendencies were similar to Wu’s (2007) research findings and were also similar to what Justice, Weber, Ezell, and Bakeman (2002) labeled “print references” strategy, in which parents used questions, comments and requests about print to increase children’s responses during shared book reading interactions.

Although Taiwanese mothers in this study showed a tendency to use interactive shared book reading style, to relate pictures or words in the storybook during parent-child shared book reading activity to experiences outside the book, to convey moral and social rules during parent-child shared book reading activity, and to use a scaffolding-like procedure to help their children learn unfamiliar or novel words and phrases, they may need to learn how to evoke and stimulate children’s high level thinking skills and effectively challenge children cognitively. Such strategies could include techniques such as elaborating on pictures and text, or distancing prompts (Sigel, 1982) to help children form a bridge between the storybook and real world , asking open-ended and wh-questions including additional information, making connections beyond the text, and topic extension (Dale, Crain-Thoreson, Notari-Syverson, and Cole, 1996).

Finally, in this study Taiwanese mothers conveyed moral and social rules when reading the “Shared” storybook to their children. This finding is consistent with Miller, Wiley, Fung, and Liang’s (1997) research comparing middle-class Taiwanese with middle-class European American families. Miller and colleagues (1997) found that Taiwanese parents conveyed moral

and social standards during storybook reading whereas the European American parents employed stories as a medium of entertainment and affirmation. This behavior also may reflect the influences of Confucian traditional Chinese values on parents' teaching behaviors (Li & Rao, 2000).

Mothers' Affective Behaviors

The 103 Taiwanese mothers performed observable behaviors that were rated as high to medium in affective quality during a mother-child joint book reading interaction. Nine behaviors were the focus of this scale including, mothers exhibited much acceptance and approval of their children. For example, frequently mothers touched or held handle their children while engaged in the joint reading activity. In addition, mothers' expressed positive emotion very frequently in the form of both verbal and non-verbal behaviors. Children also appeared to enjoy and be engaged in the book reading with their mothers. Children frequently smiled when talking about the book with their mothers, explored the pages visually and physically, pointed to the book, asked their mothers questions relevant to the book, and focused intently on their mothers' reading or about talking the storybook. Mothers consistently seemed to take pleasure in being with their children and the mothers' enjoyment was obvious. Many mothers sat with their children on their laps and held their arms around their children. Such contact was present more than 50% of time spent in the joint book reading session. Mothers shared the storybook with their children using multi-tonal reading, imitating of the voices of characters, expressing expressions of surprise, happiness, anger, and suspense when conveying the story to their children. Mothers showed their sensitivity to their children's engagement in the story by asking their children if they were enjoying the story or understanding the questions, acknowledging children's feelings, making periodic eye contact, and attempting to recapture children's attention when children's attention had wandered.

Most of the interactions between mothers and their children were affectively positive. Only 50 mothers (49%) expressed negative emotions and such negative emotions comprised no more than 10% of their verbal and non-verbal behaviors during shared book reading.

It is perhaps not surprising that the general tone of the shared reading interaction between mothers and their children was positive. For example, Baker (2003) suggested that it was very important for parents to convey to their young children the perspective that reading is fun, pleasurable and worthwhile, and to give children opportunities to practice their emerging competences. A pleasurable entertainment perspective toward shared book reading parents was a better predictor of phonological awareness and concepts of print knowledge than the use of a skills perspective by parents (Sonnenschein & Munsterman, 2002). In addition, Sonnenschein and Munsterman's (2002) research showed that children who experienced reading in a comfortable and supportive home environment at age 5 were more likely to enjoy reading and recognize the value of reading. Clearly, pleasure and positive reading experiences with parents can have a positive impact on children's early literacy skills. Sonnenschein and Munsterman's (2002) finding of a positive influence on children's early literacy skills was consistent with the results came from this study. In both studies, the affective quality of mother-child book reading interactions was positively related to children's emergent reading skills and concepts of print.

Moreover, only 49 percent of Taiwanese mothers participating in this study expressed any negative emotion and those expressions of negative emotion comprised no more than 10% of their verbal and non-verbal behaviors during shared book reading observation. Baker, Mackler, Sonnenschein, and Serpell (2001) examined how parents interacted with their first-grade children during storybook reading. Results from their study showed that positive affective quality of book reading interactions was associated with meaning-related talk whereas negative affective quality

of book reading interactions was associated with parental attempts to ask their children to use decoding skills, such as identifying unknown words. Baker and colleagues (2001) also found that the affective quality of book reading interactions in first grade was a crucial contributor to children's reading of challenge materials in third grade. Therefore, parents should be encouraged to create a pleasurable, fun and supportive emotional shared book reading context to young children because such a context positively impacts on children's early literacy development.

Finally, the results of correlational analyses in this study suggested that there was a strong, statistically significant, and positive relationship between mothers' instructional quality and affective quality of joint book reading interactions. This pattern of findings would appear to indicate that mothers who provided a comfortable and supportive emotional quality atmosphere during shared book reading also tended to engage in more Extra-Textual Talk (higher instructional quality). This finding was consistent with Cline's (2010) and Leseman and de Jong's (1998) results.

Impact on Children's Early Literacy Outcomes

In this study, the instructional quality of mother-child book reading interactions was positively related to Taiwanese 3-to-6 year old children's early literacy skills. Specially, the instructional quality was an important predictor of children's receptive language ability and children's emergent reading skills. It did not, however, predict children's concepts of print. In contrast, the affective quality of mother-child book reading interactions was positively related to children's emergent reading skills and concepts of print but not predict children's receptive language ability. The impact of maternal instructional and affective quality of shared book reading on children's early literacy skills has been documented by previous studies and became a crucial topic of the nature of parent-child shared book reading interaction being studied

(Bingham, 2007; Curenton & Kennedy, 2013; Saracho & Spodek, 2010; Sěněchal & LeFevre, 2002; Sěněchal, et al., 1998; Wu, 2007).

Taking children's emergent reading skills for example, Allison and Watson (1994) indicated that children's emergent reading skills were positively associated with the high cognitive demands used by adults when shared book reading activities were in progress. In addition, findings from Bingham's (2007) research demonstrated that children's ability to participate in solo reading activities (emergent reading activities), which means children attempted to read independently, was not only related to the home literacy environment (i.e., how frequently children participated in literacy activities), but also related to the maternal affective quality of shared book reading interactions. In the latter case, it was not a surprising finding because children experiencing interesting and emotionally supportive parent-child book reading frequently in their home environment are willing to explore and read books by themselves. However, in this study, there was no statistically significant relationship found between the home literacy environment and children's early literacy skills. I will discuss this surprising finding in the "examination of proposed moderation model" section.

Finally, Curenton and Kennedy (2013) compared shared reading with emergent reading to children's early literacy outcomes and proposed that both mother's language input and socioemotional quality were associated with higher scores on early literacy assessments. As to mother's language input, in a series of intervention studies conducted to evaluate the effectiveness of dialogic reading style during parent-child shared book reading activities to children's learning outcomes, dialogic reading has been found to have a positive impact on children's vocabulary and language skills (Chow & McBride-Chang, 2003; Dale, Crain-Thoreson, Notari-Syverson, and Cole, 1996; Whitehurst, et al., 1988).

Characteristics of Taiwanese 3-to-6 Year Old Children's Emergent Reading Behaviors

The 103 Taiwanese 3-to-6 year old children ($M=5.20$ years old) participating in this study used the following four emergent reading behaviors the most (87.3% of all observations segments): “describe pictures in short sentences but no story formed” (24%), “tell story based on pics or monologue/dialogue”(23.1%), “read some or all texts correctly and independently” (20.6%), and “name pictures but no story formed” (19.6%). The least frequently used emergent reading behavior in this study was “refuse to read” (0.67%). There were some differences in the results of my study from those seen in Wu’s (2007) study of Taiwanese preschoolers’ emergent reading behaviors. Wu found that most 3-to-4 year old children (71%) used a “non-story like label and description” as a reading strategy when they engaged in a solo reading task and a high percentage (67%) of the children in her study displayed an unwillingness to read a storybook. One possible reason why the findings in my dissertation study were different from Wu’s (2007) findings might have been the age range of the participants. Wu (2007) recruited 82 Taiwanese children ranging in age from 3 to 4 years old with a mean age of her sample of 4.08 years old. In contrast, in my study, I recruited 103 3-to-6 year old Taiwanese children. Among 103 children, there were 29 5-year-old children (28.2%), 33 6-year-old children (32%), and 41 3-to-4 year old children (39.8%). Therefore, it is possible that because I recruited older children, there were fewer children who refused to read and more children (aged 5 to 6) showed their capacity to read some or all the written text correctly and independently during the solo reading session.

My statistical analyses indicated that the most frequently used emergent reading behavior was “describe pictures in short sentences but no story formed.” Children aged 3 described pictures in short sentences more than children aged 6 did; children aged 4 described pictures more than children aged 6 did. In addition, the third frequently exhibited emergent reading

behavior, “read some or all texts correctly and independently,” my results indicated that children aged 6 showed more ability to read some or all texts correctly and independently than did children aged 3. These findings were easy to understand because Teale (1987) and Sulzby (1985) suggested that children’s emergent reading behaviors from toddler to age 6 developed from using nonsense syllables, imitating adult’s reading behaviors, pretending to read, and producing a written-language-like monologues, to children’s decoding skills becoming more matured as children became capable of deriving meaning from letters or words within context, then having the capacity for reading some or all texts correctly and independently. Interestingly, boys described pictures in shorter sentences more than did girls, especially in 3-year-old group. Wu and Honig (2013) suggested that there was a marked preference for boys in Asian cultures. One explanation for this difference between boys and girls might be that parents devote greater effort to teaching their boys these early emergent literacy skills.

With regard to the second most frequently exhibited emergent reading behavior, “tell story based on pics or create a story-like monologue or dialogue,” Sulzby (1985) studied kindergarten children’s storybook reading behaviors through reading their favorite book and found that children imitated their parents’ (significant caregivers’) reading behaviors and reconstructed texts to produce complete written-language-like monologues. There was an interesting finding in this study indicating that in 3 year-old group, girls told a story based on pictures or created a story-like monologue or dialogue more than boys did. In contrast, in 6 year-old group, boys told a story based on pictures or created a story-like monologue or dialogue more than girls did.

I discovered no significant statistical relationships for sex, age, and the interaction of sex and age for the fourth most frequently used emergent reading behavior, “naming pictures but no

story formed.” This finding was inconsistent with Wu’s (2007) and Wu and Honig’s (2013) research results indicating 3-year-olds used more “label” reading behaviors than 4-year-olds did. Moreover, there was no statistically significant relationships found when examining the fifth most frequently used emergent reading behavior, “try to read or spell Chinese characters but still wrong,” by child’s gender, age, and the interaction of child’s gender and age in this study.

I identified several statistically significant relationships between children’s age and use of the sixth most frequently used emergent reading behavior, “notice words, incapable of reading words or story.” My statistical analyses indicated that 5-year-old children showed more of this specific emergent reading behavior than did children aged 3, 4, and 6. Mason and Allen (1986) indicated that children by the age of 5 learned about large amount of detail language has to do with meaning itself, many skills continued to develop, and before they learned to decode words in and out of context, children who speak English can recognize some letter sound information, remember them, and use them to spell words. “This is possible even if they are not taught the letter sounds, because the names of the alphabet letters provide clues to the phonemic representations in words” (p.18) Taking this viewpoint into Chinese literacy, in most kindergartens in Taiwan by the age of 5 most children have begun to learn Bopomofo, some Mandarin Chinese syllables, five tones (four pitched tones and one “toneless” tone), and learned how to read words. It was common among 5-year-old Taiwanese children starting to notice a Chinese word, try to use the consonant, vowels, and tones which they remembered to read it. However, due to the complex reading system of Mandarin Chinese, some children easily gave up pronouncing the syllable and responded that they did not know how to read it.

As to the last but one emergent reading behavior, “browse or turn pages without verbalizing”, statistical analyses found that in 3-year-old group, boys browsed or turned pages without verbalizing more than girls did.

Finally, as to the least frequently used emergent reading behavior, “refuse to read”, children aged 3 showed more unwillingness to read storybook alone than children who aged 4, 5 or 6 years old, I further found that in 3-year-old group, boys refused to read storybook alone more than girls did. This pattern of refusal to read was consistent with earlier research (e.g., Wu, 2007; Wu & Honig, 2013).

Examination of the Proposed Model

This study was designed not only to explore whether the length of time of mother-child shared book reading related to two dimensions of maternal behavior (instructional and affective quality) during shared storybook reading and children’s early literacy skills, but also to understand to the extent to which maternal instructional quality and affective quality of book reading relate to and interact with Taiwanese 3-to-6-year old children’s early literacy skills. This study further explored whether the pattern of these concurrent relationships differed as a function of children’s home literacy environment. In the following sections, I will discuss and compare my findings with those of previous studies in regard to the relationship among mothers’ instructional quality of book reading interactions, mothers’ affective quality of book reading interactions, the length of time of shared book reading, the interactions of these two dimensions of maternal shared book reading quality, the home literacy environment, and child’s literacy outcomes.

Examination of Direct Effects Models

One overarching aim in this study was to understand whether the length of time of mother-child shared book reading related to maternal instructional quality and affective quality during shared storybook reading and children's early literacy skills (i.e., receptive language ability, emergent reading, and concepts of print). I found only one significant relationship in the first direct effect model. A great length of time of shared book reading was strongly associated with higher level of maternal instructional quality during shared book reading activity.

Another overarching aim in this study was to examine the relationships among mothers' instructional and affective quality of shared book reading interactions, children's home literacy environment, and 103 Taiwanese 3-to-6-year old children's early literacy skills. I found only three significant relationships in the second direct effects model. First, mothers use of a higher level of instructional quality when sharing a storybook with their children was strongly associated with children's higher emergent reading skills ($\beta=.40$, $p=.000$). Second, mothers' use of a higher affective quality in the book reading interaction was positively related to children's emergent reading skills ($\beta=.30$, $p=.003$). Finally, mother's affective quality of shared book reading interactions was positively related to children's concepts of print ($\beta=.25$, $p=.011$). These findings were consistent with previous studies (Bingham, 2007; Curenton & Kennedy, 2013; Saracho & Spodek, 2010; Sěněchal & LeFevre, 2002; Sěněchal, et al., 1998; Wu, 2007).

I found a really interesting finding after combined these two direct effects models. Research results indicated that a great length of time of shared book reading was strongly associated with higher level of maternal instructional quality during shared book reading activity (from first direct effect model), and mothers use of a higher level of instructional quality during shared book reading activities was strongly associated with children's higher emergent reading skills (from

second direct effect model). If mothers can spend a lot of time on explaining novel words and phrases, talking more about characters, pictures, and the theme of the story with children, distancing prompts, asking children to make predictions before starting book reading and making sure children understand the main topic of the storybook after finished shared book reading, asking more open-ended questions instead of direct reading, children are more capable to explore and read independently, and will gain stronger emergent reading skills. According to Cottone (2012) proposed that children who exhibit strong emergent literacy skills when entering elementary schools tend to develop into strong readers; whereas children who lack of emergent reading skills when they enter kindergartens are more likely struggle in their later language and literacy performance. So, the Taiwanese Ministry of Education should use this information to teachers, social workers, and educators in order to provide assistance and wise suggestions to parents.

However, unexpectedly, statistically significant relationships were not found between the home literacy environment and children's early literacy skills in the second direct effects model. Due to the absence of significant relationships between the home literacy environment and children's early literacy skills found in the second direct effects model and interaction effects model, I would like to discuss this surprising non-finding and compare this with findings from prior studies in regard to the relationship between the home literacy environment and children's literacy outcomes.

In this study, there was no statistically significant relationship found between the home literacy environment and children's early literacy skills. This finding was inconsistent with my expectations and with results from prior research in this area (Bingham, 2007; Honig, 1982; Li & Rao, 2000; Liu, 2013; Rodriguez, et al., 2009; Sěněchal, et al., 1998; Wu, 2007). This

discrepancy is really surprising. For example, Burgess, et al. (2002) described the home literacy environment as the “variety of resources and opportunities provided to children as well as by the parental skills, abilities, dispositions and resources that determine the provision of these opportunities for children” (p.413). Children experienced from different home literacy environments have different experiences in language and early literacy in the home environment. In prior research, these variations in children’s home literacy environment were associated with different opportunities for acquiring emergent literacy skills (Burgess, et al., 2002; Haney & Hill, 2004). Also, children frequent exposed to storybooks in the home environment and rare words during shared book reading interactions contributed to their vocabulary and language development (Rodriguez & Tamis-LeMonda, 2011).

After comparing this surprising finding with previous studies, I would propose that there might be limited statistical power for conducting this analysis due to small sample size. It is also possible that the content of modified version of home literacy environment measurement needed to be adjust. Finally, it is also possible that the lack of relationships could reflect a homogeneity in the characteristics of the sample I employed. A relative lack of sufficient variance in the home literacy environments among the members of my sample would make it difficult, if not impossible, to establish statistically significant relationships among the variables included in the analysis. Therefore, it is important that this finding should be interpreted with appropriate level of caution.

Examination of Interactions Effect Model

My second overarching aim in this study was to explore the relationships among Taiwanese mothers’ instructional and affective quality of shared book reading interactions, children’s home literacy environment, the interactions of two dimensions of maternal book reading quality, and

103 Taiwanese 3-to-6-year old children's early literacy skills (i.e., receptive language ability, emergent reading, and concepts of print).

Mothers' instructional and affective quality of while engaged in shared book reading interactions interacted together to contribute to children's receptive language ability and concepts of print respectively ($\beta=.40$, $p=.005$; $\beta=.22$, $p=.045$). In the former case, according to the scatter plot, the association between mothers' affective quality and children's receptive language ability was stronger when instructional quality was high. That is, mothers' instructional quality moderated the association between affective quality and receptive language ability. In addition, as to latter case (concepts of print), the scatter plot showed that mothers' affective quality was positively associated with children's concepts of print when mothers showed high instructional quality during joint storybook reading. That is, mothers' instructional quality moderated the association between affective quality and children's concepts of print.

Examination of Moderating Model

My final overarching aim in this study was to examine whether children's home literacy environment (HLE) moderated the relationship between Taiwanese mothers' instructional and affective quality during shared book reading and 3-to-6 year old Taiwanese children's early literacy skills (i.e., receptive language ability, emergent reading, and concepts of print). After executing a series of regression analysis to test moderating effect of home literacy environment on children's early literacy outcomes, I discovered that children's home literacy environment moderated the association between Taiwanese mothers' instructional and affective quality during shared book reading and children's receptive language ability.

Here, I am going to elaborate how to interpret this complicated three-way interaction (Instructional Quality*Affective Quality*Home Literacy Environment) moderating effects

predicting 3-to-6 year old Taiwanese children's receptive language ability. In order to fully explain this moderating effect, I computed three main scatter plots of two-way interactions (Instructional Quality*Affective Quality, Home Literacy Environment*Instructional Quality, and Home Literacy Environment* Affective Quality) obtained the information to demonstrate the patterns of these relationships (see Figure 19). Statistical results indicated that the association between mothers' affective quality and children's receptive language ability was stronger when mothers used high level of instructional behaviors during shared book reading and when the quality of children's home literacy environment was high. Also, the association between mothers' instructional quality and children's receptive language ability was stronger when the quality of children's home literacy environment was high; whereas the relationship became weaker when home literacy environment was low. Overall, having a supportive home literacy environment did advance and did lower home literacy environment exacerbate the impact of Taiwanese mothers' instructional and affective quality during shared book reading on 3-to-6 year old children's receptive language ability.

In addition, although I found that the home literacy environment was a significant moderator to predict children's receptive language ability in this Taiwanese sample, I did not find any statistically significant relationship between the home literacy environment and children's early literacy skills in the second direct effects model. Therefore, it would be better to recruit a larger sample size from full SES range and to enhance the content of modified home literacy environment measurement in order to explore deeper the moderation effects of home literacy environment on children's early literacy skills.

Finally, my statistical results indicated that mothers' instructional quality was positively related to children's receptive language ability and emergent reading skills respectively ($\beta=.39$, p

=.013; $\beta=.56$, $p=.000$). Also, the affective quality of mother's book reading interaction was positively related to children's emergent reading skills and concepts of print respectively ($\beta=.31$, $p=.006$; $\beta=.31$, $p=.005$). In sum, mother's instructional quality and affective quality contributed to children's emergent reading skills, but not the other two child outcomes. This result proved that mother-child shared book reading activities had a positive impact to a child's solo reading ability (emergent reading skills). Therefore, when mothers used of a higher level of instructional quality and children experienced interesting and emotionally supportive during shared book reading activities, children were willing to read independently.

Conclusion

Through the observations and videotaped recording, I examined the characteristics of 103 Taiwanese mothers' instructional and affective behaviors as they interacted with their children in a shared book reading, analyzed the qualitative data to examine how mothers interact with their children during shared book reading activity, and examined 3-to-6-year-old children's emergent reading behaviors. In addition, this study was designed to present a more nuanced examination of relationships among the quality of maternal behaviors in shared book reading interactions, the length of time of mother-child shared book reading, characteristics of the home literacy environment, and children's early literacy skills. Early literacy skills were included children's receptive language ability (as measured by the Chinese version of PPVT_R), the children's emergent reading behaviors (as assessed in a solo reading task), and children's knowledge of print concepts (as assessed using a portion of Clay's (1982) Concepts about Print Test).

Taiwanese mothers' instructional behaviors during a shared reading task were characterized (from the most frequently used to the least) as "reading," "book-related questions/requests," "book-related feedback," and "story structure talk/commentary." Taiwanese mothers

tended to use the first two instructional behaviors during shared book reading. For example, they tended to use pointing to pictures, labeling the pictures, and using questions to engage the children's attention and responses. Although Taiwanese mothers showed a tendency to use interactive shared book reading style, to relate pictures or words in the storybook during or after parent-child shared book reading activity to experiences outside the book, to convey moral and social rules during parent-child shared book reading activity, and to use a scaffolding-like procedure to help their children learn unfamiliar or novel words and phrases, they may need to learn how to evoke and stimulate children's high level thinking skills and effectively challenge children cognitively. Finally, Taiwanese mothers conveyed moral and social rules when reading the storybook to their children. This result may reflect the influences of Confucian traditional Chinese values.

The 103 Taiwanese mothers engaged in high to medium levels of affective quality of mother-child book reading interactions. For example, mothers exhibited much acceptance and approval of their children, mothers held their children when engaged in the shared book reading activity, and mothers expressed positive emotion very frequently via verbal and non-verbal behaviors. Mothers generally seemed to take pleasure in being with their children and their enjoyment was obvious and continuous. Many mothers sat with their children on their laps and held their arms around their children for more than 50% of shared book reading interactions. Mothers used multi-tonal reading, imitation of character voices, showed their sensitivity to children's engagement in the stories. Children appeared to enjoy and be engaged in the book reading with their mothers. However, 50 mothers (49%) expressed negative emotion although these comprised no more than 10% of their verbal and non-verbal behaviors during shared book reading.

Taiwanese 3-to-6 year old children used nine emergent reading behaviors. These behaviors were (from the most to the least used): “describe pictures in short sentences but no story formed,” “tell story based on pics or monologue/dialogue,” “read some or all texts correctly and independently,” “name pictures but no story formed,” “try to read or spell Chinese characters but still wrong,” “notice words but cannot read,” “browse or turn pages without verbalizing,” and “refuse to read.” Results showed that children aged 3 and 4 described pictures in short sentences more than 6-year-old children did, but they failed to form a story. Children aged 6 showed a greater ability to read some or all texts correctly and independently than did children aged 3. Moreover, there was an interesting finding in this study indicated that in 3 year-old group, girls told a story based on pictures or created a story-like monologue or dialogue more than boys did. In contrast, among 6 year-olds, boys told stories based on pictures or created a story-like monologue or dialogue more than girls did. Furthermore, 5-year-old children showed more evidence that they “notice words but do not know how to read” emergent reading behavior than did children aged 3, 4, and 6. Finally, children aged 3 showed more unwillingness to read storybook alone than did children who were aged 4, 5 or 6 years old. Examination of this behavior among 3-year-olds indicated that boys refused to read storybook alone more than girls did.

Research results indicated that a great length of time of shared book reading was strongly associated with higher level of maternal instructional quality during shared book reading activity (from first direct effects model), and mothers use of a higher level of instructional quality during shared book reading activities was strongly associated with children’s higher emergent reading skills (from second direct effect model). Combining these two findings which I addressed in the discussion section will make a strong contribution to Taiwan’s shared book reading activities and

provide the crucial information to the Taiwanese Ministry of Education to promote parent-child reading movement in Taiwan. In addition, mothers' use of a higher affective quality in the book reading interaction was positively related to children's emergent reading skills and concepts of print. And there was a strong statistically significant positive relationship between mothers' instructional and affective quality in book reading interactions, indicating that mothers who provided a comfortable and supportive emotional quality atmosphere during shared book reading also tended to engaged in more Extra-Textual Talk (higher instructional quality). However, unexpectedly, statistically significant relationships were not found between the home literacy environment and children's early literacy skills.

In the interaction effects model, the association between mothers' affective quality and children's receptive language ability was found to be stronger when instructional quality was high. And, mothers' affective quality was positively associated with children's concepts of print when mothers showed high instructional quality during joint storybook reading. These findings indicated that mothers' instructional quality moderated the association between affective quality and receptive language ability and between affective quality and concepts of print.

In addition, mother's instructional quality and affective quality contributed to children's emergent reading skills, but not the other two child outcomes. This result proved that mother-child shared book reading activities had a positive impact to a child's solo reading ability (emergent reading skills). That is, when mothers used of a higher level of instructional quality and children experienced interesting and emotionally supportive during shared book reading activities, children are willing to read independently. At last, the home literacy environment moderated the association between Taiwanese mothers' instructional and affective quality when engaged in shared storybook reading and 3-to-6 year old children's receptive language ability.

Having a supportive home literacy environment did advance and having lower home literacy environment did exacerbate the impact of mothers' instructional and affective quality during shared book reading on 3-to-6 year old Taiwanese children's receptive language ability.

Limitations and Implications

The first limitation of this study was some models tested with limited statistical power due to a small sample size. Some crucial predictors may not be identified due to lack of statistical power. Even though some significant results came out from regression analyses, results needed to be interpreted with an appropriate level of caution. Therefore, future research will need to recruit larger sample size from city and rural in order to represent the "true and whole" shared storybook reading experience in Taiwan.

Sample characteristics also may play a role in limiting the generalizability of these data. First, the 103 mother-child dyads were from a convenience sample of volunteers where children attended preschools whose directors allowed for the distribution of information about the study to the parents of children attending the schools. These factors, and the fact that only mothers who volunteered to participate, may have set up a situation with a highly selective sample that could be unrepresentative of the population of Taipei, much less the population of the nation as a whole.

Socioeconomic factors may also have played a limiting role in the data. Among 103 3-to-6 year old children, 46 children came from low-income families, 40 children from middle-income families, and only 17 children came from high-income families. Therefore, another limitation of this study was that the sample did not include enough high-income families. Not only the small sample size (N=103) but also small variance in SES are likely to affect the variability in participant response and the potential statistical significance of the results. Finally,

because the sample was restricted to families living in Taipei City, the findings cannot be assumed to be representative of other cities or of rural areas in Taiwan.

Chinese version of PPVT_R was used to measure the receptive language ability of 103 Taiwanese 3-to-6 year-old children. These Taiwanese children had high average receptive language scores ($M=121$), which is over one standard deviation above the mean. This higher-achieving sample is the fourth limitation of this study.

The fifth limitation of this study was the lower reliability of the HOME. After conducting reliability analysis, I got the Cronbach's alpha value 0.52, which means the revised HOME I employed in this study had poor reliability because this Cronbach's alpha value was lower than 0.6. The poor internal consistency reliability will minimize the power of the size of effects much more, and this is the potential reason why there was not significant relationships found between the home literacy environment and children's early literacy skills in direct effects models and interaction effects model.

The sixth limitation of this study was that some other characteristics of the home literacy environment (e.g., frequency) should be taken into consideration in order to obtain a better sample of behaviors that might influence the relationships between mothers' instructional and affective quality of book reading interactions and children's early literacy skills. For example, "mother could be asked how often they shared a storybook with their child," "how often families engage in other language or literacy activities," "how often parents play children's DVDs or records to their children", and so on. Reports of such behaviors might be a better indication of the literacy environment in contemporary homes that were some of the items on the measure I chose to employ in this study.

The seventh limitation of this study was that the effects of videotaping on mothers' and children's behaviors. The whole process of mother-child shared book reading and children's solo reading activities were videotaped and thus these mothers and children behaved differently than when mothers naturally shared a book at home with children or these children read a storybook independently at home.

Future research also will need to include fathers into the study design in order to explore the interaction between father and his child during shared a storybook reading activity and see how their interaction and home literacy environment contribute to children's early literacy skills. Also, future research can examine the differences between mothers' contributions and fathers' contributions to their children's early literacy skills.

In terms of the HOME scale, future research will need to conduct factor analysis. Because it is really surprising and very odd that the home literacy environment is not related to any of the child outcomes, I would suggest to try factor analysis to see if one or more scales not working well.

Future research also will not limit to conduct parents' instructional and affective behaviors on children's early learning outcomes in the context of shared book reading activities. Language and literacy learning opportunities are not limited to exist in the context of shared book reading activities. Future research can examine parents' and children's conversations focused on print and literacy outside of shared book reading context, such as talking about the words and images on billboards on the street or talking about the words and pictures during the grocery shopping.

Shared book reading is widely viewed as an important activity to encourage young children learning. Results from this study indicated a great length of time of shared book reading was strongly associated with higher level of maternal instructional quality during shared book reading activity, and mothers used of a higher level of instructional quality during shared book reading activities was strongly associated with children's higher emergent reading skills. Therefore, if Taiwanese mothers can spend more time on learning how to evoke and stimulate children's high level thinking skills and effectively challenge children cognitively, and willing to spend a lot of time on explaining novel words and phrases, talking more about characters, pictures, and discussing the relationships between colors in each page and the theme of the story with children, distancing prompts, asking children to make predictions before starting book reading and more open-ended questions instead of direct reading, children will gain stronger emergent reading skills and willing to read independently. Again, according to Cottone (2012) proposed that children who exhibit strong emergent literacy skills when entering elementary schools tend to develop into strong readers; whereas children who lack of emergent reading skills when they enter kindergartens are more likely struggle in their later language and literacy performance. Therefore, the Taiwanese Ministry of Education should use this information to teachers, social workers, and educators in order to provide assistance and wise suggestions to parents.

The Taiwan Ministry of Education and policymakers should utilize findings from this dissertation to make policies or plans to promote parent-child book reading movement in Taiwan. For example, I found that mother-child shared book reading activities had a positive impact to a child's solo reading ability through this dissertation study and Taiwanese mothers showed a tendency to use interactive shared book reading style, to relate pictures or words in the storybook

during or after parent-child shared book reading activity to experiences outside the book, to convey moral and social rules during parent-child shared book reading activity, and to use a scaffolding-like procedure to help their children learn unfamiliar or novel words and phrases. However, policymakers should pay attention to the following suggestions came from this dissertation findings to make effective policies or plans to implement in order to make strong contribution to help promote Taiwan's parent-child book reading movement: 1) parents should learn how important parent-child shared book reading activity is, 2) what interactive shared book reading style is, 3) how to share a storybook effectively with their children, 4) how to teach children to read Bopomofo and tones correctly, and 5) how to correctly use a scaffolding to help their children to learn novel words and phrases in order to foster the highest level of Taiwanese children's early literacy skills during the preschool years.

Appendices

Appendix A
Family Information Survey

ID: _____
(Research use only)

Family Information Survey

1. Child's Information

Child Name: _____ **Date of Birth:** _____ (mm/dd/yy)

Child Gender: _____ Boy _____ Girl

Birthplace: _____

Did your child attend school or group like setting? _____ Yes _____ No

If yes, what kind: _____ Kindergarten/Preschool _____ Daycare
_____ Other (please explain _____)

Duration of the program: _____ days a week, _____ hours per course

2. Mother's Information

Mother's Age: _____ years old

Birthplace: _____ **Mother's Occupation:** _____

Mother's Relation to Child:

Biological Mother _____ Adoptive Mother _____ Stepmother _____

Other (please explain _____)

Mother's Marital Status:

Married _____ Single _____ Separated _____ Divorce _____ Remarried _____

Mother's Education Level:

High School _____ College _____ Master Degree _____ PhD _____

Other (please explain _____)

3. Father's Information

Father's Age: _____ years old

Birthplace: _____ **Father's Occupation:** _____

Father's Education Level:

High School _____ College _____ Master Degree _____ PhD _____

Other (please explain _____)

4. Other Information

Primary caregiver to the child: _____

Total number of siblings to the child: _____

Number of older brothers: _____ Age: _____ Number of older sisters: _____ Age: _____

Number of younger brothers: _____ Age: _____ Number of younger sisters: _____ Age: _____

Family gross income per month (including father and mother's) _____ NT

Language spoken at home _____

身分代碼:_____

(僅供研究使用)

家庭問卷調查

1. 參加研究的孩子資料

孩子姓名:_____ 出生日期:_____ (月/日/年)

孩子性別:_____ 男生 _____ 女生 出生地:_____

您的孩子是否有參加教育課程? _____ 是 _____ 否

如果有的話,是哪種類型: _____ 幼稚園/學前教育班(幼幼班) _____ 安親班
_____ 其他(請說明_____)

課程時數:每週_____天,課程一次上_____小時

2. 母親資料

母親的年齡:_____ 歲

出生地:_____ 母親的職業:_____

母親與孩子的關係:

生母 _____ 養母 _____ 繼母 _____

其他(請解釋 _____)

母親的婚姻狀態:

已婚 _____ 單身 _____ 分居 _____ 離婚 _____ 再婚 _____

母親的教育程度:

高中 _____ 大學 _____ 碩士 _____ 博士 _____

其他(請解釋 _____)

3. 父親資料

父親的年齡:_____ 歲

出生地:_____ 父親的職業:_____

父親的教育程度:

高中 _____ 大學 _____ 碩士 _____ 博士 _____

其他(請解釋 _____)

4. 其他資訊

主要照顧這名孩子的是:_____

這名小孩共有多少個兄弟姐妹:_____

哥哥有幾位:_____ 年齡:_____ 姊姊有幾位:_____ 年齡:_____

弟弟有幾位:_____ 年齡:_____ 妹妹有幾位:_____ 年齡:_____

家庭每月總收入(包含父親與母親的):_____ 台幣

家中使用的語言 _____

Appendix B

Instructions for Mother-Child Shared Storybook Reading

Coding Criteria for Mother's Instructional Quality

Coding Sheet and Scoring for Mother's Instructional Quality

Instructions for Mother-Child Shared Storybook Reading

Hi, Mrs. _____ (Mother's name). Hello, _____ (Child's name). My name is Hui-Hua. How are you? I am really glad to see you! Today, I bring a really interesting storybook for you. This storybook called _____. Now, I am going to ask your mother to read this storybook with you. Mrs. _____ (Mother's name) please read this book in any way that you are used to or feel comfortable to your child. I will videotape the whole book reading process. Please let me know when you feel comfortable and are ready to read this book to your child. Then we can start. Thank you!

執行親子共讀錄影前的口說指示

您好！_____媽媽。嗨！_____小朋友，你(妳)好啊。很高興能來你(妳)們家，我的名字是王王蕙樺。今天，我帶來一本很有趣的故事書喔，這本書的名字叫作是_____，待會我要請你(妳)媽媽念這本故事書給你(妳)聽。

_____媽媽請用您平常跟孩子閱讀的方式或是以您覺得最舒服自在的方式唸書給孩子聽就可以了。然後，我會把整個唸書的過程錄影起來。如果當您和您的小朋友覺得自在且準備好了，請告訴我。我就會開始錄影了。謝謝！

Coding Criteria for Mother's Instructional Quality when Shared Storybook Reading

Category	Utterances being coded
Book-Related Questions/ Requests	<ol style="list-style-type: none"> 1. Ask the child to complete an action or gesture related to the storybook (ex. "We can't act like James. If you have questions needed to ask teacher, what should you do?") 2. Ask the child to repeat what the mother said or read 3. Yes-No questions (ex. "Does Jane like dogs?") 4. "What, when, where, and why" questions or open-ended questions about the pictures and story (ex. "What is Jane doing in this picture?") 5. Naming of characters, objects, or details in the pictures that are not mentioned in the story or referring to the relationships between the text and the pictures 6. Tag questions (ex. "He is a good boy, isn't he?") 7. Completion prompts: The child is asked to complete sentences in this storybook (ex. "Jane likes swimming and singing, but James _____") 8. Recall prompts: the child is asked about what happened in the story which is already read (ex. "Do you remember what Jane is doing in the kitchen?")
Book-Related Feedback	<ol style="list-style-type: none"> 1. Praise (ex. "That's right. A cat says meow meow!") 2. Correction (ex. "A book? Let's recall the specific episode through turning to page 5. What did she leave on the bus? Yes, handkerchief!") 3. Word explanations 4. Expanding the child's response (ex. "And a dog says woof woof!") 5. Repetition child's response (ex. "Why does James not like Jane?") 6. Distancing prompts: relating the child's own relevant experiences to further text comprehension; making connections beyond the text; topic continuation
Story Structure Talk/ Commentary	Conversations making reference to comments or talking about the setting, theme, episodes, characters in the storybook
Reading	<ol style="list-style-type: none"> 1. Direct reading 2. Close paraphrasing: Summarizing the text in mother's own words

親子共讀時母親的教學品質編碼之四大類型

類型	被編碼的話語
與書本內容相關的 問題/要求	<ol style="list-style-type: none"> 1. 要求孩子做跟圖畫書中相關的動作或手勢 (例:“我們不能和約翰一樣喔~如果你(妳)有問題要問老師，應該怎麼做?”) 2. 要求孩子重複母親剛剛的話或動作 3. 是-否問題 (例:“珍喜歡小狗嗎?”) 4. “甚麼，何時，哪裡，和為何”問題或是關於書中的圖或故事內容的開放性問題 (例:“在這張圖裡，珍在做甚麼?”) 5. 命名角色、物體或圖中細節且未在故事文字裡出現的地方；亦或提及文字與圖的關係 6. 附加問句(例:“他是好男孩，不是嗎?”) 7. 完成提示句：孩子被要求完成圖畫書中的句子 (例:“珍喜歡游泳和唱歌，但約翰_____”) 8. 回想提示句：孩子被問已經讀過的故事情節問題 (例:“你(妳)還記得珍在廚房做甚麼嗎?”)
與書本內容相關的 回應回饋	<ol style="list-style-type: none"> 1. 稱讚 (例:“答對了!小貓的叫聲是喵~喵~!!”) 2. 更正錯誤 (例:“是書嗎?讓我們翻回第五頁然後一起回想這個情節在講些甚麼。她落了甚麼東西在公車上? 答對了! 是手帕!”) 3. 文字的解釋 4. 延伸孩子的回答(例:“還有~小狗是旺~旺~叫!”) 5. 重複孩子回應的問題 (例:“為何約翰不喜歡珍?”) 6. 延伸文本中的辭彙：孩子被問到自己在現實生活裡有否發生跟書中相關的事件或狀況，來更深一層的理解故事或文本中所傳遞的意義；將那些超出故事內容，亦即將延伸概念做連結；話題延伸
故事結構的談話/ 評論	母子對話跟評論故事書中的背景、主題、情節跟角色
閱讀	<ol style="list-style-type: none"> 1. 直接讀出 2. 用媽媽自己的話來統整結尾書中的內容，讓孩子聽得懂

Coding Sheet for Mother’s Instructional Quality when Shared Storybook Reading Coder 1 2 Coding Date: _____

Date: _____ Time: From _____ to _____ Name and ID#: (Mother: _____ Child : _____)

Duration (min) 20-second interval Category	1			2			3			4			5		
	1	21	41	1	21	41	1	21	41	1	21	41	1	21	41
	Book-Related Questions/Requests														
Book-Related Feedback															
Story Structure Talk/ Commentary															
Reading															

Duration(min) 20-second interval Category	6			7			8			9			10		
	1	21	41	1	21	41	1	21	41	1	21	41	1	21	41
	Book-Related Questions/Requests														
Book-Related Feedback															
Story Structure Talk/ Commentary															
Reading															
Reliability: _____															

	Row Score
Book-Related Questions/Requests	
Book-Related Feedback	
Story Structure Talk/Commentary	

Book-Relevant Extra-Textual Talk utterances <= SUM: _____

Extra-Textual Talk score = $\frac{\text{Book-Relevant Extra-Textual Talk utterances}}{\text{Total Number of Book-Relevant utterances}} * 100 =$ _____

(Total Number of Book-Relevant utterances = *Book-Relevant Extra-Textual Talk* utterances + Reading)

親子共讀時母親的教學品質編碼單 編碼者: 1 2 編碼日期: _____
 日期: _____ 時間: 從 _____ 到 _____ 姓名與身分代碼#: (母親: _____ 小孩: _____)

時間(分) 20 秒間隔 類型	1			2			3			4			5		
	1	21	41	1	21	41	1	21	41	1	21	41	1	21	41
	與書本內容相關的問題/要求														
與書本內容相關的回應回饋															
故事結構的談話/評論															
閱讀															

時間(分) 20 秒間隔 類型	6			7			8			9			10		
	1	21	41	1	21	41	1	21	41	1	21	41	1	21	41
	與書本內容相關的問題/要求														
與書本內容相關的回應回饋															
故事結構的談話/評論															
閱讀															
信度: _____															

	原始分數
與書本內容相關的問題/要求	
與書本內容相關的回應回饋	
故事結構的談話/評論	

與書本相關的非逐字原文談話言論 <= 總和: _____

$$\text{非逐字原文的談話分數} = \frac{\text{與書本相關的非逐字原文談話言論}}{\text{與書本相關的總談話言論}} * 100 = \underline{\hspace{2cm}}$$

(與書本相關的總談話言論 = 與書本相關的非逐字原文談話言論 + 閱讀)

Appendix C

Coding Criteria for Affective Quality of Mother-Child Interaction Rating

Coding Sheet and Scoring for the Affective Quality of Mother-Child Interaction

Coding Criteria for Mother's Affective Quality when Shared Storybook Reading

Category	Scoring and Criteria
Mother's Verbal Reading Expression	1—Monotonous, flat reading, little attention to punctuation 2— 3—Some tonal change, no imitation of character voices, moderate expression 4— 5—Expressive, multi-tonal reading, imitation of character voices, expressions suggest surprise, suspense, etc.
Contact with Child	1—No or very little contact 2— 3—Occasional or little contact, less than 50% of time 4— 5—Child sit on lap, arm around child, contact greater than 50% of the time
Child's Enjoyment and Involvement	1—Child rarely appeared to enjoy and be engaged in the interaction with mother, bored, upset, no question asking to mother, unengaged, playing toy alone 2— 3—Around 25%-75% of the time, the child sometimes appeared to enjoy and be engaged in the interaction with mother. Indicators of enjoyment and engagement include but not limit to smiling/laughing when talking about the book with mother, exploring the pages visually and physically, pointing to the book, asking mother questions relevant to the book, and intently paying attention to mother's talking/reading the book 4— 5—More than 75% of the time, the child appeared to enjoy and be engaged in the interaction with mother. Display the behaviors of enjoyment and engagement listed above.
Mother sensitivity to Child's Engagement	1— Display none of behaviors listed below 2— 3— Display 1 or 2 of the following behaviors: asking child if enjoying the story/understanding the questions, acknowledges child's feelings, periodic eye contact to gauge child's interest, attempts to recapture child's attention if wanting 4— 5— Display 3 or more of the behaviors listed above

<p>Mother's Enjoyment of Child</p>	<p>1—Mother seems never to take pleasure in or enjoy being with child; mother is either not involved or merely accepting</p> <p>2—</p> <p>3—About 50% of the time, mother seems sometimes to take pleasure in or enjoy being with child; mother is neutral</p> <p>4—</p> <p>5—Mother always takes pleasure in being with child; mother's enjoyment is obvious and continual</p>
<p>Quality of Handling of /Controlling over Child</p>	<p>1—Very little to none; mother cannot control over the child; child ignores exhorted by mother and keeps playing the toy or inattentive in the book reading interaction</p> <p>2—</p> <p>3—Around 25% of the time, mother can handle of her child</p> <p>4—</p> <p>5—Mother can always handle of her child</p>
<p>Mother's Acceptance of the Child</p>	<p>1—Disapproval, rejecting, or indifferent; mother exhibits very low acceptance and approval</p> <p>2—</p> <p>3—About 50% of the time, mother exhibits moderate acceptance and approval</p> <p>4—</p> <p>5—More than 75% of the time, mother exhibits much acceptance and approval</p>
<p>Amount of Mother's Positive Statements/Regard when interacting with Child</p>	<p>1—Very little to none; mother almost never expresses positive emotion/statement</p> <p>2—</p> <p>3—Around 25% of mother's verbal behavior and non-verbal initiations express positive emotion in moderate amount</p> <p>4—</p> <p>5—More than 50% of mother's verbal behavior and non-verbal initiations express positive emotion very frequently</p>
<p>Amount of Mother's Negative Statements/Regard when interacting with Child</p>	<p>1—Very little to none; mother almost never expresses negative emotion/statements</p> <p>2—</p> <p>3—No more than 10% of mother's verbal behavior and non-verbal initiations express negative emotion</p> <p>4—</p> <p>5—More than 25% of mother's verbal behavior and non-verbal initiations express negative emotion very frequently</p>

親子共讀時的情感互動品質編碼標準與評分

類型	分數與標準
母親閱讀時的 語言表情聲調	1—聲音單調，無抑揚頓挫，不太注意標點符號 2— 3—一些音調改變，沒有模仿故事人物的聲音，普通的語言表情 4— 5—語言表情豐富，多種音調的閱讀，模仿故事人物的聲音，懸疑、驚訝..等的語言聲調
與孩子眼神接觸或 碰觸	1— 沒有或很少很少的眼神接觸或碰觸 2— 3—偶爾或很少眼神接觸或碰觸，少於 50% 共讀的時間 4— 5—小孩坐在大腿上，手臂圍著小孩或放在肩膀附近，眼神接觸或碰觸時間多於 50% 共讀的時間
孩子的享受與參與	1—與母親言語或行為互動時，孩子很少表現出享受或樂在其中的樣子。表現出無聊、生氣、沒問題問媽媽，不參與共讀活動，獨自玩玩具 2— 3—與母親言語或行為互動的時間中，大約 25%-75% 時間裡，孩子表現出享受或樂在其中的樣子。包含(但不侷限)：跟媽媽討論時，孩子微笑或笑；用手翻頁用眼睛看書裡的圖畫與字；指著書裡的某處；問媽媽關於書中內容的問題；試圖專心聽媽媽回答或念這本書 4— 5—與母親言語或行為互動的時間中，超過 75% 的時間裡，孩子表現出享受或樂在其中的樣子。表現出享受或樂在其中的行為表現列於上方
母親對於小孩享受/ 樂在其中的敏感度	1—完全沒有出現下述的行為表現 2— 3—出現一個或兩個下列的行為：問小孩喜不喜歡這個故事/是否了解剛剛問的問題，了解並接受孩子的看法與感受，定期眼神接觸以揣測孩子對這本書或討論有沒有興趣，企圖拉回孩子的注意 4— 5—出現三種或三種以上的上述行為

<p>母親與小孩互動過程中表現出享受與喜悅</p>	<p>1—與孩子互動過程中，媽媽從沒表現出喜悅或享受；媽媽沒有投入互動的過程或只是單純地進行共讀活動</p> <p>2—</p> <p>3—大約 50%的親子互動過程中，媽媽偶爾表現在喜悅或享受；媽媽的表情沒甚麼太大變化</p> <p>4—</p> <p>5—與孩子互動過程中，媽媽幾乎一直表現出喜悅或享受的感覺，且這感覺是很明顯且持續的</p>
<p>控管孩子的品質</p>	<p>1—很少很少或幾乎沒有；媽媽無法控管孩子的失序行為；孩子忽略媽媽的規勸，繼續玩玩具或做自己的事完全不注意聽媽媽跟他(她)討論書中的內容</p> <p>2—</p> <p>3—大約 25%共讀進行的過程中，媽媽能控管孩子的失序行為</p> <p>4—</p> <p>5—在共讀進行過程中，媽媽幾乎都能有效控管孩子的失序</p>
<p>母親對孩子的接受度</p>	<p>1—不接受、拒絕或冷淡的態度；孩子對媽媽的認可與接受度非常低</p> <p>2—</p> <p>3—大約 50%的共讀進行過程中，孩子對媽媽有適當地認可與接受度</p> <p>4—</p> <p>5— 超過 75%的共讀進行過程中，孩子對媽媽有相當大的認可與接受度</p>
<p>與孩子互動時母親正向的言論與關心程度</p>	<p>1—非常少或幾乎沒有；媽媽幾乎沒有表現出正向的情緒或言論</p> <p>2—</p> <p>3— 大約 25%的母親言論和非語言行為中，母親表現出適當程度的正向情緒</p> <p>4—</p> <p>5— 超過 50%的母親言論和非語言行為中，母親時常表現出正向情緒</p>
<p>與孩子互動時母親負面的言論與關心程度</p>	<p>1—非常少或幾乎沒有；媽媽幾乎沒有表現出負面的情緒或言論</p> <p>2—</p> <p>3—不超過 10%的母親言論和非語言行為中，母親表現出負面情緒</p> <p>4—</p> <p>5—超過 25%的母親言論和非語言行為中，母親時常表現出負面情緒</p>

	Row Score (total subscore/30)	Adjustment
Mother's Verbal Reading Expression		
Contact with Child		
Child's Enjoyment and Involvement		
Mother's Sensitivity to Child's Engagement		
Mother's Enjoyment of Child		
Quality of Handling of/Controlling over Child		
Mother's Acceptance of the Child		
Amount of Mother's Positive Statements/Regard when interacting with Child		
Amount of Mother's Negative Statements/Regard when interacting with Child		Reverse Coded

SUM: _____

*Affective Quality Score: _____ (average the SUM= SUM/9)

時間(分) 20 秒間隔 類型	1	2	3	4	5	6	7	8	9	10
	1 21 41	1 21 41	1 21 41	1 21 41	1 21 41	1 21 41	1 21 41	1 21 41	1 21 41	1 21 41
控管小孩的品質										
孩子對母親的接受度										
與孩子互動時母親正向的言論與關心程度										
與孩子互動時母親負面的言論與關心程度										
信度: _____										

	原始分數 (各項積分/30)	調 整
母親閱讀時的語言表情聲調		
與孩子眼神接觸或碰觸		
孩子的享受與參與		
母親對小孩享受/樂在其中的敏感度		
母親與小孩互動過程中表現出享受與喜悅		
控管小孩的品質		
孩子對母親的接受度		
與孩子互動時母親正向的言論與關心程度		
與孩子互動時母親負面的言論與關心程度		逆編碼

總分: _____

*親子共讀時之情感互動品質分數: _____ (將總分平均 = 總分/9)

Appendix D

Instructions for a Child's Emergent Reading

Coding Criteria for the Child's Emergent Reading

Coding Sheet and Scoring for Child's Emergent Reading

Instructions for a Child's Emergent Reading

Hello, _____(Child's name). Please show me your favorite storybook. Wow! It looks like a really interesting storybook. Please try to tell me about this story or any word in this storybook that you can read.

孩子單獨閱讀一本自己最喜歡的故事書以測其萌發閱讀能力-進行前的口說指示

哈囉！_____小朋友，請你(妳)讓我看你(妳)最喜歡的故事書。哇！這本故事書看起來好有趣喔。你可以告訴我這本故事書在講甚麼嗎，或者是這本故事書中，你(妳)會讀哪些字呢。

Coding Criteria for the Child's Emergent Reading

Category	Utterances or behaviors being coded
Refuse to Read	The child refuses to read the storybook.
Browse or Turn Pages without Verbalizing	<ol style="list-style-type: none"> 1. Browse pages and have eyes engaging in the pages. 2. Just turn pages and not verbalize the storybook.
Name the Pictures but No Story Formed	<ol style="list-style-type: none"> 1. When the child points to a picture (gestures), he names the picture. 2. No story forms.
Describe the Pictures in Short Sentence but No Story Formed	<ol style="list-style-type: none"> 1. Describe the pictures only in short sentences, such as the shape, size, color, or characters' actions. 2. Only focus on pictures, and no story forms.
Tell a Story Based on the Pictures or to Read in a Monologue/Dialogue	<ol style="list-style-type: none"> 1. Tell a story based on the pictures. 2. A repeated theme is shown in child's storytelling, for example, "I am going to..", "what are you doing?". 3. Use "because..", "one day..", "then.." to connect a story-like format monologue or dialogue.
Notice Words by Pointing to Written Text but Do Not Know How to Read Word or Story	<ol style="list-style-type: none"> 1. Notice words by pointing or using his or her eyes to browse the written text. 2. The child knows the words and Chinese characters on the pages of storybook, but he or she does not know how to read words or the story by telling the researcher. For example, "I don't know how to read a story", "I can't read these words".
Try to Read or Spell Chinese Characters by Bopomofo but Still Make Mistakes in Wrong Pronunciation or Spelling	<ol style="list-style-type: none"> 1. Try to read or spell the written text using Bopomofo when pointing to the text. 2. Recognize simple Chinese characters in content of the storybook and can pronounce some correct sounds of words. 3. Make mistakes in wrong pronunciation of Chinese characters.
Read Most Words or a Complete Sentence on the Page from the Storybook Correctly and Independently	<ol style="list-style-type: none"> 1. Recognize words, read most words aloud, and read the words in correct pronunciation independently. 2. Read a complete sentence on the page of the storybook.

Duration (min)	1			2			3			4			5			6			
	20	40	60	20	40	60	20	40	60	20	40	60	20	40	60	20	40	60	
Notice Words by Pointing to Written Text but Do Not Know How to Read Word or Story																			
Try to Read or Spell Chinese Characters by Bopomofo but Still Make Mistakes in Wrong Pronunciation or Spelling																			
Read Most Words or a Complete Sentence on the Page from the Storybook Correctly and Independently																			

Reliability: _____

* Use the last four minutes of the child's emergent reading behaviors into further descriptive analysis.

	Frequency	Row Score
Refuse to Read		
Browse or Turn Pages without Verbalizing,		
Name the Pictures but No Story Formed		
Describe the Pictures in Short Sentence but No Story Formed		
Tell a Story Based on the Pictures or to Read in a Monologue/dialogue		
Notice Words by Pointing to Written Text but Do Not Know How to Read Word or Story		
Try to Read or Spell Chinese Characters by Bopomofo but Still Make Mistakes in Wrong Pronunciation or Spelling		
Read Most Words or a Complete Sentence on the Page from the Storybook Correctly and Independently		

SUM: _____

*Emergent Reading Score= _____

孩子單獨閱讀一本自己最喜歡的故事書之萌發閱讀編碼八大類型

類型	被編碼的話語或行為
拒絕閱讀	孩子拒絕讀這本故事書
指瀏覽每頁內容 但不說故事	1. 用眼睛瀏覽每頁的內容 2. 只翻頁看內容，沒說故事
將圖片命名 故事未形成	1- 孩子用手指著(或用手勢)某圖片，然後幫圖片命名 2- 故事未形成
用簡短句子描述圖片 故事依然未形成	1. 用簡短的句子來描述圖片，例如：形狀、大小、顏色、或故事書中主角人物的動作行為。 2. 只專注在講圖片，故事依然未形成
用圖片來說故事形成 一個好似在講故事的 對話	1. 用圖片來說故事 2. 孩子用重複的話語來講故事，例如：“我現在……”，“你在做甚麼？” 3. 用“因為……”，“有一天……”，“然後……”來連接好似在說故事的對話
用比的或用眼睛瀏覽 故事書中知道的文字 但不知如何念故事或 念那些字	1. 用比的或用眼睛瀏覽故事書中的文字 2. 孩子告訴研究者說他(她)知道故事書中的國字，但不知道如何念那些字或念故事，例如：“我不知道怎麼念故事書”，“我不會讀這個(些)字”
試著讀或用注音符號 拼音來唸書中的字但 仍舊會發生發音錯誤	1. 一邊指著故事書裡的文字，一邊試著念或用注音符號拼出來 2. 認出故事書中簡單的國字並且有些字都能發對音 3. 仍舊會發生發音錯誤
能自己正確地讀出故 事書中大多數的國字 或念出某頁上完整的 句子	1. 會認字且能自己正確念出故事書裡大部份的文字 2. 正確讀出故事書中某頁上完整的句子

時間(分) 20 秒間隔 類型	1			2			3			4			5			6		
	20	40	60	20	40	60	20	40	60	20	40	60	20	40	60	20	40	60
	用比的或用眼睛瀏覽 知道的文字但不知如何 念故事或念那些字																	
試著讀或用注音符號 拼音來唸書中的字但 仍舊會發生發音錯誤																		
能自己正確地讀出故 事書中大多數的國字 或念出某頁上完整的 句子																		

信度: _____

* 採用最後四分鐘孩子單獨閱讀自己最喜愛的故事書來作日後的描述統計。

	出現次數	原始分數
拒絕閱讀		
只瀏覽每頁內容 但不說故事		
將圖片命名 故事未形成		
用簡短句子描述圖片 故事依然未形成		
用圖片來說故事形成一個好似在講故事的對話		
用比的或用眼睛瀏覽知道的文字 但不知如何念故事或念那些字		
試著讀或用注音符號拼音來唸書中的字 但仍舊會發生發音錯誤		
能自己正確地讀出故事書中大多數的國字或念出某頁上完整的句子		

總分: _____

*幼兒萌發閱讀能力分數= _____

Appendix E

Chinese Language Version of Peabody Picture Vocabulary Test_Revised (PPVT_R)

修訂畢保德圖畫詞彙測驗-中文版；共有 125 個測驗詞彙題目。(原作者為 Llody M. Dunn and Leota M. Dunn，後經陸莉、劉鴻香修訂，2004 年出版中文版)

修訂畢保德圖畫詞彙測驗 (甲式)

姓名: _____

性別: 男 女

出生日期: _____年 _____月 _____日

測驗日期: _____年 _____月 _____日

實足年齡: _____年 _____月 _____日

測驗的詞彙題目

1. 公車	2. 輪胎	3. 床	4. 手	5. 船	6. 蛇	7. 燈	8. 鼓	9. 手肘	10. 意外事件
11. 膝蓋	12. 空的	13. 繃帶	14. 三輪車	15. 撕破	16. 衣櫃	17. 籠子	18. 直昇機	19. 籬笆	20. 測量
21. 正方形	22. 信封	23. 工具	24. 羽毛	25. 跳水	26. 鉤子	27. 有毛皮的	28. 伸懶腰	29. 鳥巢	30. 蔬菜
31. 爪子	32. 森林	33. 水龍頭	34. 膠囊	35. 黏住	36. 肩膀	37. 鈴鼓	38. 攪拌	39. 滴水	40. 樹皮
41. 航行	42. 一群	43. 花莖	44. 繫上	45. 剎車板	46. 輕拍	47. 框架	48. 線捲	49. 失望	50. 夾子
51. 工程師	52. 合作	53. 蒸鍋	54. 毀壞	55. 管狀的	56. 號誌	57. 受驚嚇	58. 溝通	59. 海岸	60. 透明的
61. 籐	62. 島嶼	63. 孤立	64. 燃燒	65. 安靜的	66. 易碎的	67. 升起	68. 黃鼠狼	69. 驚訝	70. 象牙
71. 拱門	72. 玉黍蜀葉	73. 摩擦的	74. 木匠	75. 爬蟲	76. 嫩枝	77. 平行四邊形	78. 疲勞	79. 球狀(形)	80. 瀑布
81. 親吻	82. 注射器	83. 白熱的	84. 幽靈	85. 弓術	86. 柵欄	87. 步行	88. 沉思	89. 激怒	90. 環鍊
91. 柑橘類	92. 角膜	93. 解剖	94. 垂直的	95. 膨脹	96. 屋外	97. 商業的	98. 腐屍	99. 登	100. 自大的
101. 擴散	102. 昆蟲學家	103. 乾燥的	104. 歸檔	105. 壓舌板	106. 星座	107. 調節的	108. 嚴肅	109. 彈道	110. 菱形
111. 疑惑	112. 四角錐	113. 滲透	114. 喜洋洋	115. 裝飾	116. 束縛	117. 侏儒	118. 花萼	119. 凸面	120. 易信賴的
121. 拘束	122. 發散	123. 圓頂閣	124. 半島	125. 方形碑					



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同 意 書

本社（心理出版社股份有限公司）同意研究者 Hui-Hua Wang, 王蕙樺有條件使用由陸莉、劉鴻香所修訂之「修訂畢保德圖畫詞彙測驗 (PPVT-R)」，以進行個人研究「Home Literacy Environment, the Quality of Mother-Child Book Reading Interactions, and Taiwanese Children's Early Literacy Development.(家庭語文環境暨親子共讀互動品質對台灣幼兒早期語文發展影響之研究)」，並要求遵守下列規範：

1、引用內容及限制：

- (1) 不得將題目及常模以任何形式置於論文中發表。
- (2) 可使用該測驗進行施測，並將結果運用在其研究中。
- (3) 可引用指導手冊部分內容於論文中。

2、引用期限及範圍：

- (1) 研究者可於研究計畫期間（2013/2~2014/3）於符合研究目的的情形下使用此量表，研究計畫結束後則不可再用。
- (2) 該測驗工具於使用期限到期後，保管單位為 Department of Child and Family Studies at Syracuse University in the United States，保管人為 Dr. Bruce Carter，研究者不得擅自帶離該單位。

3、報告結果提供：研究報告完成後，須主動提供乙份給本社作為存查。

4、「測驗研究用同意書」需一併附於論文之後作為證明。

5、若遇上述未規範之情形，請嚴守著作權法及測驗倫理，以維護其信、效度及受試者權益。

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代表人：洪有義

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西 元 二 〇 一 三 年 三 月 七 日

Appendix F
Concepts about Print Test

Marie Clay's (1982) Concepts about Print Test and Chinese version of "Stones" storybook will be adopted in this study. The original English version of "Stones" proposed by Clay (1979) to measure young children's concepts about print ability. Administration instructions and record and scoring sheet of 10 items will be presented below:

Administration instructions

Hello, _____(Child's name). I will read this storybook to you. This storybook is called Stones. When I read this story, I will also ask for your help. I am going to ask one or two questions on one page.

Record and Scoring Sheet

Questions	Score: 1 point (correct answer)	Score : 0 point (wrong answer)	Sub-score
1. Show me the front of this book	Correct answer	Wrong answer	
2. I'll read this story. You help me. Show me where to start reading. Where do I begin to read?	Pointing to the print	Pointing to the picture	
3. Tell me where to start	Pointing to the top left	Wrong pointing	
4. Which way do I go?	Moving from left to right	Wrong directional moving	
5. Where do I go after that?	Return to return sweep to the left or move down the page	Wrong directional moving	
6. Point to it while I read it	Exact matching	Wrong pointing	
7. Show me the first part of the story. Show me the last part	BOTH are correct	One wrong or two wrong answers	

8. Show me the bottom of the picture	Verbal explanation or pointing to the top of the page or turning the book around and pointing correctly	Wrong pointing to an inverted picture	
9. Where do I begin? Which way do I go? Where do I go now?	Beginning with the word "I", and moving right to left or turning the book around and moving left to right	Wrong pointing to an inverted print	
10. What's wrong with this? Where do I begin to read? And Then?	Immediately read the bottom line first, then top line	Wrong comment on line sequences	

Total Score: _____

*Children's Concepts of Print skills=total score=_____

瑪麗凱勒在一九八二年提出的印刷品概念測驗以及中譯版的”石頭”故事書皆被採用於本研究。用於測驗美國幼兒的印刷品概念工具，即是原英文版本”石頭”，其為瑪麗凱勒在一九七九年出版的。進行測驗前的對孩子說的指示用語和測驗記錄評分紙，皆呈現如下：

進行測驗前的指示用語

哈囉！ _____(孩子名字)，我現在要念一本故事書給你(妳)聽。這本故事書的名字叫做”石頭”。在我念故事書的同時，我會請你(妳)幫我忙喔！ 我會在每一頁裡；問你(妳)一到兩個問題。

測驗紀錄評分紙

問題	分數: 1 分 (正確答案)	分數: 0 分 (錯誤答案)	每題得分
1. 請告訴我這本書哪邊是正面	正確答案	錯誤答案	
2. 我要念故事書囉！請你(妳)幫我的忙，告訴我要從哪裡開始念	指書中的印刷文字	指著書中的圖片	
3. 請告訴我要從哪一個地方開始念	指向左上方	指錯方向	
4. 請告訴我從哪個方向來念這頁的字？	從左到右移動	錯誤的方向指示	
5. 請問再來我要念哪裡？	用手指向第二行再指到第三行，或是直接指第一行下面的那些印刷文字	錯誤的方向指示	
6. 請用手指出我念的地方	完全吻合	指錯地方	
7. 請告訴我，在這頁中，哪個是第一個字？哪個是最後一個字？	兩個都答對	一個答錯或兩個都錯	

8. 請告訴我圖片的下方底部在哪裡	用口語解釋或指著此頁的上方亦或是把故事書顛倒拿，然後指出正確的位置	在顛倒呈現的圖片中，指錯地方	
9. 我要從哪裡開始念？從哪個方向再繼續念下去？我現在要再念哪裡？	從”我”開始，然後手指從右方開始移動，往左方走；或把書本顛倒拿，手指頭再從左方移動到右方	在顛倒呈現的文字中，指錯地方	
10. 這頁有甚麼錯誤嗎？我要從哪裡開始念？然後呢？	立刻念最下面那一行，然後再念第一行	念錯順序	

總分: _____

*幼兒的印刷品概念能力=總分=_____

Appendix G

Home Observation for Measurement of the Environment Inventory-Short Form

Caldwell and Bradley's (1984) the EC-HOME: Short Form

14 items from these four subscales on EC-HOME are in a dichotomous fashion, yes (marked as 1) or no (marked as 0). If a behavior observed or the mother reported some events as examples of the specific behavior during the home visit, please mark this item as 1; if not, mark as 0.

Subscales and Items	Sub-score	Subtotal
Learning Materials		
The child has at least 10 children's books.		
The child has a record player/DVD player and at least 5 children's records/tapes/DVDs.		
The child has toys that teach colors, sizes, and shapes.		
Family subscribes at least one magazine.		
Language Stimulation		
The child is encouraged to learn Bopomofo or simple Chinese characters.		
The child has toys that help to teach names of animals.		
The parent converse with child at least twice during the home visit.		
The child is allowed to make choice to breakfast or lunch menu.		
The parent answers her child's questions verbally.		
Academic Stimulation		
The child is encouraged to learn shapes.		
The child is encouraged to learn colors.		
The child is encouraged to learn numbers.		
The child is encouraged to learn patterned speech or songs.		
Variety in Experience		
The child has been taken to library/bookstore by a family member at least every other week.		

Total Score: _____

* The quality of a child's home literacy environment= total score= _____

科威爾學齡前兒童家庭語文環境問卷：簡表

以下 14 種行為，若在家庭訪問中出現或是家長提供相關事件或例子，請在此特定行為的原始分數欄，填上 1；若沒有觀察到特定行為或家長無法提供相關例子，則此特定行為原始分數欄，填上 0。

類型與特定行為	原始分數	各類型 加總分數
學習題材		
這孩子有至少十本兒童書籍。		
這孩子有錄音機/光碟機和至少五片的兒童錄音帶/錄影帶/光碟片。		
這孩子有可以學習顏色、大小、形狀的玩具。		
家裡訂閱至少一本的雜誌。		
語言刺激		
鼓勵這孩子學注音符號和簡單的國字。		
這孩子有可以幫助學動物名字的玩具。		
在家庭訪問時，父母和孩子至少對話兩次。		
這孩子可以自己選擇想吃的早餐或午餐。		
父母用口語的方式回答這位小孩的問題。		
學業相關的學習刺激		
鼓勵這孩子學習形狀。		
鼓勵這孩子學習色彩的概念。		
鼓勵這孩子學習數字。		
鼓勵這孩子學習押韻的話語和歌曲。		
多種經驗		
每隔一個禮拜，這位孩子會由一位家庭成員陪同去圖書館/書局。		

總分：_____

* 孩子的家庭語文環境品質 = 總分 = _____

Appendix H

Cooperation Letter and Consent Form

Letter of Cooperation

Dear Director:

I am a doctoral candidate in the Department of Child and Family Studies at Syracuse University in the United States. I am working on my dissertation under the direction of Dr. Bruce Carter. I am writing this letter for research purposed to ask that you allow me to contact parents of 3-to-6 year old children enrolling in your school through your teachers to ask if they would participate in my dissertation study on the nature of home literacy environment, mother-child book reading interactions, and children's early literacy development.

In this dissertation study, mothers will be asked to provide demographic information as well as other information; mothers shared a storybook reading with their children will be videotaped at home for 10 minutes, each child read alone will be videotaped at home for 4 minutes; children will be invited to play fun games with me in order to assess children's receptive language and concepts of print which will take approximately 10 minutes; I will administrate the home literacy environment measurement; finally, mother and child will receive a storybook as a token to express my gratitude for their time and participation in this study. I am interested in whether Taiwanese parents' positive instruction and affect and children's supportive home literacy environment will influence children's early literacy development.

Participants are voluntary in this study, and subjects can choose to withdraw from this study any time. All responses and information from parents and their children will be kept completely confidential, and stored in a locked cabinet. Basic information from Parent Letter and Consent Form which parents will be asked to fill out will be used for contact and screening sample only. Data obtained through questionnaires and videotapes will be identified by research ID number rather than parent's or child's name. Therefore, names of parents and children will not be written/ typed in any publication or presentation. In addition, only Ms. Wang and the trained graduate students working under her direction will have access to the raw data. All information will be destroyed after the data analyses are completed. If child neglect/abuse is suspected during research procedure, such as through direct observation during home visit or self-report, it is mandatory by law for researcher to report it to 113 Children's Protection Service Hotline. I am attaching copies of the letters I plan to send to parents asking them to participate. I am not asking that you participate directly in the study, only that you allow me to distribute parent letters regarding my research project to parents of 3-6 year old children enrolled in your school through your teachers. Although this study will be of no direct benefit to you, I hope that it will provide information that may be valuable about Taiwan's parent child joint book reading activities and its relation to children's early literacy development.

I am deeply grateful for your cooperation and support for my dissertation study and very appreciate your time and effort. If you have any questions or concerns about this research, please feel free to contact me, Hui-Hua Wang, (hwang24@syr.edu or 01-315-420-0687; 0988-968-503) or my advisor Dr. Bruce Carter (dbcarter@syr.edu or 01-315-443-4827). Or, you can contact Institutional Review Board at Syracuse University (01-315-443-3013) if you cannot reach me or if you have any questions or complain wish to address to someone other than me. Please notify me directly by email and sign the consent slip or telephone about your decision to support this research and grant me your consent for parents to receive information about this study. Thank you in advance for your cooperation.

Sincerely,

Hui-Hua Wang
Ph.D. Candidate

Director Consent Form

I have read the above cooperation letter regarding Hui-Hua Wang's dissertation research project carefully.

I hereby agree to give my consent to Ms. Hui-Hua Wang's dissertation study, and allow my teachers to distribute parent letters regarding her research project in each child's schoolbag. I am also willing to provide information about numbers of 3-to-6 year old children in my school.

Number of 3-to-6 year old children in my school: _____

Name of your kindergarten: _____

Address: _____

Director Printed Name: _____ Researcher Printed Name: Hui-Hua Wang _

Director's Signature: _____ Researcher's Signature: _____

Date: _____ Date: _____

Please notify me directly by email and sign the consent slip or telephone about your decision to cooperate in this dissertation study. After receiving signed consent from director, I will visit you and bring parent letters explaining the research purposes and procedures in a package for teachers that will be distributed in each child's schoolbag under your assistance.

協助研究信

園長，_____ 幼稚園

地址：_____

親愛的_____園長：

我是美國雪城大學兒童家庭研究系的博士候選人。目前在 Dr. Bruce Carter 指導下，進行我的博士論文研究。這封信主要目的是想請您幫忙，允許我能透過園內老師將我的研究通知函暨家長同意書發送給班上滿三歲到六歲的學齡前兒童的家長們，以便詢問是否媽媽與孩子願意參與針對台灣的親子共讀以及幼兒早期語文發展之研究。

本研究的大致過程是：研究員到家裡採訪；首先，請母親填寫家庭問卷；我會將整個親子共讀和小朋友自己閱讀一本童書的過程錄影起來；測試小朋友的語文能力；評量家庭語文環境；最後，送上一本故事書以表達謝意。此論文的研究興趣在探討是否台灣母親共讀時的正向教學品質和情感互動以及豐富的家庭語文環境會影響孩子早期語文發展。

母親和小朋友的參與研究是絕對自願性的。研究中所蒐集到的資料都是用匿名而不是用受測者的名字，並且會將所有資料機密地保存於有鎖的鐵櫃裡；另外，附上研究通知函暨家長同意書的副本給您留檔參考。在此，我並非邀請您直接參與本研究，而是請求您的幫忙，允許我能透過園內老師將我的研究通知函暨家長同意書發送給班上滿三歲到六歲的學齡前兒童的家長們；雖然，本研究對您不會有直接的利益，但如果您願意支持台灣兒童閱讀研究，本研究結果將對台灣的親子共讀及其對台灣學齡前兒童語文發展的影響，提供可貴有用的資訊。

我非常感謝您支持台灣兒童閱讀的研究，以及感謝您寶貴的時間與合作。如果您對本研究的過程有任何疑問，請與我王王蕙樺聯絡(電子信箱是 hwang24@syr.edu 或是聯絡電話 01-315-420-0687; 0988-968-503)或可聯絡我的指導教授 Dr. Bruce Carter (dbcarter@syr.edu 或 01-315-443-4827)。或是，妳可聯絡雪城大學的 Institutional Review Board (01-315-443-3013)。請用電子郵件、寄回同意書或電話直接回覆我，您是否願意協助本研究，讓您的老師分發家長信暨同意書于其班上孩子的決定。感謝您對本博士論文研究的幫忙和支持。

敬祝 平安 愉快

王王蕙樺
雪城大學博士候選人

台灣學齡前兒童語文發展暨親子共讀之研究

園長同意書

我已詳細閱讀以上王王蕙樺的博士論文研究方案。

在此，我同意與王王蕙樺小姐合作她的博士論文研究，我願意輔助園內老師協助幫忙發送研究通知函暨家長同意書給本園的家長，並要求老師將研究通知函暨家長同意書放置三到六歲的兒童書包裡，並提供本園三到六歲的兒童的人數。

目前園內三到六歲的兒童有：_____人

貴幼稚園名稱：_____

地址：_____

園長姓名：_____ 研究者姓名：_____ 王 王蕙樺

園長簽名：_____ 研究者簽名：_____

日期：_____ 日期：_____

請用電子郵件或電話直接回覆我，您是否願意協助本研究的決定。如果，需要我前往說明本研究，我亦十分樂意。此外，我在收到您的同意書後，會依照您提供的兒童人數，寄上研究通知函暨家長同意書，再煩請園內老師發送給家長們。感謝您的協助！

Appendix I

Parent Letter and Consent Form

Letter to Parents and Consent Form

Dear Parents:

Thank you very much in advance for taking a minute to read this letter. I am a doctoral candidate in the Department of Child and Family Studies at Syracuse University in the United States. I am working on my dissertation under the direction of Dr. Bruce Carter. I am writing this letter for research purposes to ask if you would participate in my dissertation study on the relation of children's home literacy environment, the quality of mother-child book reading interactions, and Taiwanese children's early literacy development. My study is described in more detail below.

In this study, mothers will be asked to provide demographic information as well as other information; mothers shared a storybook reading with their children will be videotaped at home for 10 minutes, each child read alone will be videotaped at home for 4 minutes; children will be invited to play fun games with me in order to assess children's receptive language and concepts of print which will take approximately 10 minutes; I will administrate the home literacy environment measurement; finally, mother and child will receive a storybook as a token to express my gratitude for their time and participation in this study. I am interested in whether Taiwanese parents' positive instruction and affect and children's supportive home literacy environment will influence children's early literacy development.

Participation is voluntary. If you decide to participate you will not be required to answer any question that I ask and you may withdraw from participating in the study for any reason without any penalty for you or your child. All data about you and your child will be kept completely confidential, and stored in a locked cabinet. Basic information which you will be asked to fill out this page below will be used for contact and screening sample only. Data obtained through questionnaires and videotapes will be identified by research ID number rather than parent's or child's name. Therefore, names of parents and children will not be written/ typed in any publication or presentation. In addition, only Ms. Wang and the trained graduate students working under her direction will have access to the raw data. All information will be destroyed after the data analyses are completed. If child neglect/abuse is suspected during research procedure, such as through direct observation during home visit or self-report, it is mandatory by law for researcher to report it to 113 Children's Protection Service Hotline.

Although I do not expect that the results of my dissertation study will benefit you or child directly, I hope that your participation will help us to understand the relationships between children's home literacy environment, the quality of mother-child book reading interactions, and Taiwanese children's early literacy development. If you have any questions regarding your rights as a participant, concerns, or have questions about this research please feel free to contact me (hwang24@syr.edu or 0988-968-503), or my advisor Dr. Bruce Carter (dbcarter@syr.edu or 01-315-443-4827). Or, you can contact Institutional Review Board at Syracuse University (01-315-443-3013) if you cannot reach me or if you have any questions or complain wish to address to someone other than me. Please fill out contact information below if you are willing to support this study. As soon as I receive your contact information, I will contact you and schedule a home visit. Thank you in advance for your cooperation.

Sincerely,

Hui-Hua Wang
Ph.D. Candidate

Parent Consent Form

1. Contact Information:

I, _____, will participate in Hui-Hua Wang's dissertation study.
 (mother's name)

I also give permission for my child _____ (Date of Birth: ____/____/____)
 (child's name) month day year
 to participate in this study.

I am willing to provide home address: _____

and my telephone number: _____ in order to schedule a home meeting.

2. Permission to record for each medium you agreed to use during home visit:

- I agree to be video recorded
 I do not agree to be video recorded

3. Receiving a copy of the results of this study when the research has been completed:

- We are interested in receiving a copy of the results of this study when the research has been completed
 We are not interested in receiving a copy of the results of this study when the research has been completed

Parent's Printed Name: _____ Researcher Printed Name: Hui-Hua Wang

Parent's Signature: _____ Researcher's Signature: _____

Date: _____ Date: _____

研究通知函暨家長同意書

親愛的家長：

首先，十分感謝您撥空閱讀這封家長信。我是美國雪城大學兒童家庭研究系的博士候選人。目前在 Dr. Bruce Carter 指導下，進行我的博士論文研究。這封信主要目的是詢問母親您和您的孩子是否願意參與我的博士論文研究，本研究內容是探討台灣母親共讀時的正向教學品質和情感互動以及豐富的家庭語文環境是否會影響孩子早期語文發展。研究細節詳述於下：

本研究的大致過程是：研究員到家裡採訪；首先，請母親填寫家庭問卷；我會將整個親子共讀和小朋友自己閱讀一本童書的過程錄影起來；測試小朋友的語文能力；評量家庭語文環境；最後，送上一本故事書以表達謝意。此論文的研究興趣在探討台灣母親共讀時的教學品質、情感互動以及家庭語文環境是否會影響孩子早期語文發展。

母親和小朋友決定是否參與本研究是完全自願性的，您有權選擇參加與否，且您與小朋友可在本研究的任何階段選擇退出。本研究所蒐集到的資料都是用匿名而不是用受測者的名字，此份同意書所要求填寫的資訊用為將來連絡和篩選所用。母親與小朋友的名字不會出現在將來的論文發表或出版品上，並且會將所有資料機密地保存於有鎖的鐵櫃裡；但如果在研究過程中，如有任何兒童受虐棄顧之嫌，研究者必須遵守兒童保護法的規定，向內政部所設之兒童保護專線報案。在此，我誠摯地邀請母親和您的小朋友參與這個研究，您的參與完全是自願地如果您願意支持台灣兒童閱讀的研究，本研究結果將會幫助我們了解台灣的親子共讀及其對台灣學齡前兒童語文發展，提供可貴有用的資訊。如果您對本研究的過程有任何疑問，請與我王王蕙樺聯絡(電子信箱是 hwang24@syr.edu 或是聯絡電話 0988-968-503)或可聯絡我的指導教授 Dr. Bruce Carter (dbcarter@syr.edu 或 01-315-443-4827)。或是，妳可聯絡雪城大學的 Institutional Review Board (01-315-443-3013)。如果您與小朋友願意參加此研究，請於下方處簽名。非常感謝您對本博士論文研究的幫忙和支持。

敬祝 平安 愉快

王王蕙樺
雪城大學博士候選人

家長同意書

1. 聯絡資料：

我自願同意我本人_____參與王王蕙樺小姐的博士論文研究。
(母親姓名)

我也同意我的小孩_____ (出生日期:____/____/____) 參與這項研究。
(孩子姓名) 月 日 年

我願意提供家裡地址：_____

以及聯絡電話：_____ 以便王王蕙樺小姐約定家庭採訪時間。

2. 您同意本人王王蕙樺在您家裡進行研究資料收集的方式：

- 我同意被錄影
 我不同意被錄影

3. 當研究分析完成後，是否想要收到一份研究結果報告：

- 我們想要收到一份研究結果報告
 我們不想收到一份研究結果報告

母親姓名：_____ 研究者姓名：_____ 王王蕙樺

母親簽名：_____ 研究者簽名：_____

日期：_____ 日期：_____

Appendix J
Oral Assent (for Children)

Oral Assent (for Children)

Hi! My name is Hui-Hua Wang. Today, we will be playing a fun game after you and your mommy read a storybook together and you read a book alone. I may videotape you and watch the video later if this is okay with you. I will score your game but I will never let your mommy or daddy see your scores. And if you decide you want to stop playing the game just let me know. Before I leave, I will give you a new storybook to keep.

Child's Signature: _____ Parent's Signature: _____

Date: _____ Date: _____

Researcher's Printed Name: Hui-Hua Wang

Researcher's Signature: _____

Date: _____

口述同意聲明(小孩)

你好！我的名字叫做王蕙樺。今天王阿姨來家裡，要跟你玩一個好玩的遊戲喔。但在玩遊戲之前，阿姨想先請媽媽讀一本故事書給你聽，然後再請你自己讀一本故事書。阿姨待會想錄影，然後再把錄影帶帶回家自己看，如果你覺得沒關係可以的話，阿姨才會錄影。另外，今天的遊戲玩完後會有一個分數，但阿姨絕對不會讓爸爸媽媽看到你的分數。還有，如果你玩遊戲玩到一半不想玩了，可以隨時告訴阿姨。在阿姨離開之前，我會送你一本故事書當做禮物。

小朋友簽名： _____ 家長簽名： _____
 日期： _____ 日期： _____

研究者姓名： _____ 王王蕙樺 _____
 研究者簽名： _____
 日期： _____

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