2010

Parent report of home literacy experiences in children with and without speech and language impairments

Amanda Blair Grace
Louisiana State University and Agricultural and Mechanical College

PARENT REPORT OF HOME LITERACY EXPERIENCES IN CHILDREN WITH AND
WITHOUT SPEECH AND LANGUAGE IMPAIRMENTS

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

In

The Department of Communication Sciences and Disorders

by
Amanda Blair Grace
B.A., Louisiana State University, 2008
May 2010

ACKNOWLEDGMENTS

TABLE of CONTENTS

LIST of TABLES

ABSTRACT

The purpose of this study was to evaluate caregivers' perceptions of their children's literacy experiences and determine if their perceptions differed as a function of whether their children presented with speech and language impairment or with typical language development. Participants were caregivers of children, between the ages of 24 and 54 months. Eleven children presented with speech and language impairments (S/LI) and 14 children presented with typically developing (TD) language. Caregivers' perceptions about early home literacy experiences were collected through a questionnaire. Results showed that there were no statistically significant differences between the two groups of caregivers' responses to the questionnaire items as a function of their children's clinical status. These findings were inconsistent with findings from previous studies and warrant additional study to determine if the null results of the current study were related to specific attributes of the caregivers, specific attributes of the children, or the validity of the questionnaire that was used to evaluate the caregivers' perceptions of their children.

INTRODUCTION

Jacqueline Kennedy once said, "There are many little ways to enlarge your child's world. Love of books is the best of all." Caregivers, family members, educators, and counselors are all persons involved in encouraging the love of books within children. Also playing an important role in children's literacy is the speech-language pathologist (SLP). The American Speech-Language-Hearing Association (ASHA) released a position statement in 2001 outlining the roles and responsibilities of the speech-language pathologist in regards to the development of reading and writing in children and adolescents. Specific duties mentioned in this statement include offering support to other professionals, identifying at-risk children, assessing reading and writing skills, providing intervention, and preventing language-literacy difficulties (ASHA, 2001). This ASHA position also encourages speech-language pathologists to promote children's emergent literacy.

Teale and Sulzby (1989) coined the term "emergent literacy" in the 1980's and described the concept as "the reading and writing behaviors that precede and develop into conventional literacy." Skills of emergent literacy include progress in oral language competence, print awareness, concepts of book print, story sense, phonological awareness, matching of speech to print, and control of reading and writing (Lipson & Wixson, 1991). According to Justice and Ezell (2004), emergent literacy describes a time period from birth to about the end of preschool in which children will achieve their earliest literacy abilities. During this time period, children differentiate among an assortment of written language forms and functions (print concepts), display a growing sensitivity to words as units of a combination of print and sound (concept of word), and gain emerging knowledge of distinguishing features and names of each individual alphabet letter (alphabet knowledge).

Emergent literacy implies that literacy acquisition occurs on a developmental continuum, with its origin in the very early life of a child, rather than upon entering formal schooling (Whitehurst & Lonigan, 1998). This perspective is substantially different than the reading readiness approach to

literacy acquisition. Reading readiness suggests an "all-or-none" approach in which students must master skills such as number and shape recognition, letter identification, and oral language competence prior to the initiation of formal reading instruction (Mirenda & Erickson, 2000). By adapting the reading readiness approach, the following misconceptions about literacy acquisition can occur: early reading and writing behaviors are precursors rather than real events, learning to read does not begin until a child receives direct instruction, and children with special needs are often not "ready" to partake with print activities (Teale & Sulzby, 1986).

Research suggests that emergent literacy skills serve as predictors of later reading outcomes for children (Bird, Bishop, & Freeman, 1995; Catts, Fey, Zhang, & Tomblin, 2001; Justice & Ezell, 2002; Storch & Whitehurst, 2002). This is because successful acquisition of emergent and early literacy skills is significantly correlated with later reading acquisition (Chaney, 1998; Morris, Bloodgood, Lomax, & Perney, 2003; Walpole, Chow, & Justice, 2004). These findings suggest that children with well-developed emergent literacy skills will progress more readily and rapidly than children who do not possess these skills. Therefore, children demonstrating a lack of these skills may encounter long-term reading and writing difficulties (Bird et al., 1995; Boudreau & Hedberg, 1999; Catts et al., 2001; Gillam & Carlile, 1997).

Children with speech and language impairments demonstrate deficits in early literacy skills including phonological awareness, narratives, and print-related abilities (Bishop & Adams, 1990; Catts, 1997; Gillam & Carlile, 1997; Scarborough, 2000). These children are at risk for not developing adequate emergent literacy skills necessary for successful later reading acquisition (Catts, 1993; Catts & Kamhi, 1999; Stothard, Snowling, Bishop, Chipchase, & Kaplan, 1998). These children, because of their speech and language deficits, may also be exposed to less print and less early literacy opportunities than their typically developing peers. If this is the case, the home environment may

exacerbate the language-literacy deficits of these children (Boudreau & Hedberg, 1999; Justice & Ezell, 2000; McGinty & Justice, 2009; Roberts, Jurgens, & Burchinal, 2005).

The general goal of the current study is to learn more about the home literacy environments and emergent literacy skills of children with and without speech and language impairments. The literature review is divided into three sections. The first section reviews research that highlights the home environment as important for children's emergent literacy skills. The second section focuses on shared storybook reading as an important activity for facilitating children's emergent literacy abilities. The final section presents findings about the nature of home literacy environments for children with and without speech and language impairments.

REVIEW OF LITERATURE

Home Literacy Environments

The home environment typically provides the setting for emerging literacy knowledge by exposing children to various print forms and objects such as computer games, toys, television, board games, recipes, grocery lists, and reading materials which include newspapers, magazines, mail, and story books (McGinty & Justice, 2009). The amount of stimulation and exposure to various literacy experiences in the home environment is an important variable for later child language development (Whitehurst & Lonigan, 1998). In addition to having access to literary tools, family attitudes about literacy, adult modeling of reading and writing activities, and experiences with print materials contribute to the home literacy environment of children (Senechal, LeFevre, Thomas, & Daley, 1998; Lawhon & Cobb, 2002; Roberts et al., 2005). Also important for promoting early reading skills in the home setting are activities including songs, nursery rhymes, and fingerplays; all of these activities help children become aware of rhythm, rhyme, and prosody (Capone & McGregor, 2004; McFadden, 1998).

One scale frequently used to measure aspects of the home environment is the *Home Observation for Measurement of the Environment* (HOME; Caldwell & Bradley, 1984). The HOME is designed to measure the quality of stimulation and support available to children in their natural home setting. Three versions of the HOME exist: Infant/Toddler (birth – 3 years), Early Childhood (3 years – 6 years), and Middle Childhood (6-10). All these versions are administered by having a trained examiner conduct a semi-structured observation/interview in the family's home.

Wallace, Roberts, and Lodder (1998) utilized the HOME scale to examine the relationship between the home environment and the interactions of 92 one-year-old African American infants and their mothers. Using a federal definition of poverty, 28 of the dyads were middle income and 64 of the dyads were low-income. One of three trained examiners administered the HOME scale during a home

visit. The following assessments were also administered to each child: *Communication and Symbolic Behavior Scale* (CSBS; Wetherby & Prizant, 1993), the *Sequenced Inventory of Communication Development-Revised* (SICD-R; Hedrick, Prather, & Tobin, 1984), the *Nursing Child Assessment Teaching Scale* (NCATS; Barnard, 1978) and the *Bayley Scales of Infant Development* (Bayley, 1969).

Multiple regressions were performed to examine the joint and independent association between the mother measures, the total HOME score, and the children's language outcomes. Results showed that the total HOME scores were independently associated with the children's receptive language scores and CSBS scores. Specifically, the total HOME scores independently accounted for 22% of the variance in the children's receptive language scores and 10% of the variance in the children's CSBS scores.

Roberts, Jurgens, and Burchinal (2005) conducted a longitudinal study to examine the relationship between home literacy practices and children's emergent literacy skills. The study used parent report to describe literacy experiences of 72 African American children. Four measures of home literacy practices were examined to see if they could predict children's early language and literacy skills between the ages of 3 years and kindergarten entry. These measures were: parents' perceptions of frequency of shared book reading, how much children enjoy being read to, maternal book reading strategies, and maternal sensitivity during shared book reading. Two trained nurse practitioners and two speech-language pathologists conducted the HOME scale during home visits at 18, 30, 42, and 54 months (kindergarten entry). The following assessments were also administered to each child: the *Peabody Picture Vocabulary Test-Revised* (PPVT-R; Dunn & Dunn, 1981), the *Clinical Evaluation of Language Fundamentals-Preschool* (CELF-P; Wiig, Secord, & Semel, 1992), and the *Test of Early Reading Ability* (TERA; Reid, Hresko, & Hammil, 1981). The PPVT-R was administered at 36 months and kindergarten entry, and the CELF-P and TERA were administered at 48 months and kindergarten entry.

Correlation analysis revealed that the HOME was the most consistent predictor of children's language and literacy skills. The HOME showed a positive association for all outcome measures in receptive and expressive language at four years of age and kindergarten entry, receptive vocabulary at three years of age and kindergarten entry, and early literacy skills at four years of age and kindergarten entry. These results remained even after accounting for child and family background factors.

Shared Storybook Reading

Parent-child interactions during play, conversation, and storybook reading in everyday home activities usually serve as the first experiences for pre-reading and print exposure. Of these everyday activities, storybook reading is considered ideal for developing children's literacy because it exposes them to print and print concepts as well as picture and symbol representation (Kaderavek & Sulzby, 1998; McGinty & Justice, 2009; Rabidoux & MacDonald, 2000). Shared storybook reading allows children to be actively engaged in a familiar context and this facilitates vocabulary development and conversational participation (Kaderavek & Sulzby, 1998; Kadaverak & Justice, 2002; McGinty & Justice, 2009). Current research has shown that, through shared storybook reading, parents demonstrate a range of approaches (e.g., commenting, asking questions, talking about pictures, pointing to objects, and responding, repeating, or expanding child utterances) to encourage children to acknowledge language and apply this awareness to literacy experiences (Lovelace & Stewart, 2007; Roberts, Jurgens, & Burchinal, 2005; van Kleeck, Gillam, Hamilton, & McGrath, 1997).

Bus and van Ijzendoorn (1995) studied home literacy environments in which shared book reading was not encouraged. The parents in these homes were observed to give more discipline during book reading rather than provide print referencing strategies. Also, children of these parents were less likely to initiate book reading and showed less interest during book reading. Perhaps not surprisingly, compared to children who actively took part in shared book reading, these children scored lower on measures of security and attachment.

Several studies exist that examine the use of storybooks to increase caregivers' use of print and referencing behaviors. For example, a series of studies have demonstrated that adults can be trained to use print referencing strategies when reading rhyming and/or picture books to preschool children (Justice & Ezell, 2000, 2002; Justice, Weber, Ezell, & Bakeman, 2002). Verbal strategies include commenting, making requests, and asking questions while non-verbal strategies include pointing to words or objects and tracking printed words in a left-to-right direction. As will be detailed below, these studies have resulted in successful adult print-referencing behaviors with preschool children during shared picture book reading as well as an increased production of verbal comments about print from the children.

Justice and Ezell (2000) conducted a home-based program with 28 parents and their four-year-old children. The dyads were randomly assigned to either an experimental group that received verbal and non-verbal print referencing training or a control group. During a four-week time period, each dyad read two books each week. While children in both groups demonstrated improvement in connecting printed words to their meanings, children in the experimental group made significantly greater gains in understanding print concepts, recognizing words in print, and segmenting words. Parents in the experimental group, but not those in the control group, also demonstrated use of more print-referencing behaviors at post-test.

Justice and Ezell (2002) examined school-based shared storybook readings of low-income preschoolers. Participants in the study included 30 children ranging from three to five years of age, all enrolled in Head Start. The children were matched according to chronological age and randomly assigned to either an experimental group that involved a print focus during shared readings or a control group that involved a picture focus during shared readings. Over the course of eight weeks, each group took part in 24 small-group reading sessions at the Head Start locations. A certified speech-language pathologist administered all of the small-group reading sessions. Results indicated that both

groups made gains from pre-assessment to post-assessment in the domain of alphabet knowledge. Both groups also made gains in words in print and print recognition; however, the gains were greater for the print focus group.

Finally, Justice et al. (2002) studied parent-child interactions during shared rhyming book reading. In this study, the researchers looked at the types of responses produced by four-year-old children following the comments, questions, and requests made by their parents concerning print in the rhyming book. Prior to collecting the data, the fifteen parents were trained to provide prompts and comments during the book reading. Results showed that children responded contingently to 60% of their parents' verbal print references, and greater responses occurred for prompts than for comments. These findings suggest that children as young as four years of age with typically developing language have the requisite skills needed to participate in shared book reading activities even though these children have not begun to read.

Home Literacy Experiences of Children with Speech and Language Impairments

Based on the above literature review, the home environment, in general, and shared storybook reading, in particular, are critical for fostering a healthy and language-rich literacy atmosphere for children. Unfortunately, limited research has been conducted to examine the nature of home literacy practices of children with speech and language impairments. Marvin and Wright (1997) utilized a questionnaire to obtain parent report data for 119 preschool children with specific language impairment (SLI) and 50 preschool children who served as peer controls. Results showed that families of children in the SLI group were less likely to recite rhymes, engage in finger plays and songs, or tell oral stories. Results also indicated that children in the SLI group were less likely to write or practice letters or words, listen to a book on tape, pretend to read, or ask and answer questions to adults reading out loud in comparison to peer controls. Additionally, peer models were more likely to spend time

alone pretending to read, extend guesses about what will happen next in a story, and ask and answer questions of the adults reading aloud to them.

Boudreau (2005) also utilized a parent questionnaire to compare home literacy practices of preschool children with language impairments (LI) and their typically developing (TD) peers. Responses from 17 caregivers of children with LI and 20 caregivers of children with typical language development were analyzed according to five early literacy domains. Results indicated that responses from caregivers of children with LI were significantly lower for each of the five early literacy domains: phonological awareness, response to print, alphabet knowledge, interaction around books, and orientation to literacy. Also, analyses of open-ended questions on the questionnaire revealed that only 18% of caregivers in the LI group reported that their child knew all letters or 20 or more letter-sound relationships and only 24% reported that their child knew how to produce rhymes. In contrast, 65% of caregivers in the TD group reported that their child knew all letters, 50% reported that their child knew 20 or more letter-sound relationships, and 95% reported their child knowing how to produce rhymes.

In critique of these two studies, the questionnaires used by the researchers focused on both the early literacy abilities of the children and the behaviors of the caregivers during home literacy experiences. Moreover, many of the group differences that were documented were tied to the children's abilities rather than to the literacy practices of the caregivers. Thus, it is unknown how much of the differences are related to children's abilities as opposed to the caregivers' behaviors. There is a need to separate these two types of questions to learn more about the literacy practices of the caregivers.

Purpose of the Current Study

The purpose of the current study was to learn more about the home literacy experiences of children with and without speech and language impairments. Although there is a plethora of current literature regarding early literacy opportunities for children with typical language development, little

investigation has taken place regarding these same opportunities for young children with speech and language impairments. The following question guided the research:

1.   Are there differences between the home literacy experiences of caregivers as a function of their children's clinical status?

To answer this question, caregivers of preschool children with and without speech and language impairments completed questionnaires addressing their home literacy experiences. Results of each questionnaire were analyzed and compared descriptively. Based on existing literature, it was proposed that caregivers of children with speech and language impairments would report fewer home literacy opportunities related to promoting their children's emergent literacy skills as compared to caregivers of children without speech and language impairments.

METHODS

Participants

Eleven caregivers of children with speech and language impairments and 14 caregivers of children without speech and language impairments served as participants. Caregivers of children without speech and language impairments were recruited from two local preschools in Baton Rouge, Louisiana. Caregivers of children with speech and language impairment were recruited from either the same local preschools or a private practice speech and language clinic in the Baton Rouge area. Permission to solicit participants from each setting was obtained from the director or manager of these schools and/or clinic. Individual meetings were held with each director to review the purpose of the study and answer any questions. Informational packets were sent home to the families of 70 children enrolled in the preschool or private facility. Those caregivers who completed the documents and returned them to their children's preschools or private clinics were eligible for participation. Overall, 29 surveys were returned, for a response rate of 41.4%. Four surveys were not considered for the present study because they were from caregivers whose children were older than the preschool age range.

The eleven children with speech and language impairments were between the ages of 24 and 50 months and identified per parent report as being enrolled in speech and/or language services at the time of the study. The fourteen children without speech and language impairments were between the ages of 24 and 54 months and identified per parent report as having no history of receiving speech and/or language services. These children's language abilities were also viewed as age-appropriate per parent report. All caregivers were native monolingual speakers of English. All children presented a negative history of significant medical, behavioral, physical, or psychological disorders and hearing loss.

Demographic profiles of the caregivers revealed that 48% of the caregivers were between the ages of 30-35 years ($n = 12$) with the youngest age group being 20-25 years and the oldest age group

being 41 years or older. All caregivers were Caucasian, and 96% (n = 24) were married. The average

level of educational achievement for the caregivers was a Bachelor's degree, with educational

achievement spanning from some college training to a doctoral degree. See Table 1 for individual

profiles regarding age and education of the caregivers according to the clinical status of their children.

Table 1. Caregiver profiles.

	S/LI (n = 11)		TD (n = 14)		Total (N = 25)	
	n	%	n	%	n	%
Caregiver's Age						
20-25	2	18%	0	0%	2	8%
25-30	2	18%	5	36%	7	28%
30-35	6	55%	6	43%	12	48%
35-40	1	9%	2	14%	3	12%
41+	0	0%	1	7%	1	4%
Caregiver's Education						
Some College	2	18%	1	7%	3	12%
Bachelor's Degree	3	27%	8	57%	11	44%
Master's Degree	3	27%	5	36%	8	32%
Doctoral Degree	3	27%	0	0%	3	12%

The children, 12 male and 13 female, ranged in age from 24 months to 54 months. Sixty

percent (*n* = 15) of the children were between the ages of 37 and 48 months while 24% (*n* = 6) were

between the ages of 24 and 36 months and 16% (*n* = 4) were between 49 and 54 months of age.

Demographic profiles of the children revealed that 68% of the children were first-born (*n* = 17), while

the remaining eight children were middle children or last-born of no more than three children in the

family. Demographics of each child's diagnosis indicated that children had developmental apraxia of

speech (*n* = 1), speech delay (*n* = 1), autism (*n* = 3), or a combination of oral motor impairments and

articulation errors (*n* = 6). See Table 2 for individual profiles of the children according to their clinical

status. In addition, Table 3 presents mean ages of both groups of participants according to the clinical

status of the children. Independent *t*-tests indicated that the groups did not differ on either of these

measures, *p* > .05.

Table 2. Child profiles.

	S/LI (n = 11)		TD (n = 14)		Total (N = 25)	
	n	%	n	%	n	%
Child's Age						
24-36 months	3	27%	3	21%	6	24%
37-48 months	7	64%	8	57%	15	60%
49-54 months	1	9%	3	21%	4	16%
Child's Sex						
Male	7	64%	5	36%	12	48%
Female	4	36%	9	64%	13	52%
Child's Birth Order						
First	7	64%	10	71%	17	68%
Middle	1	9%	1	7%	2	8%
Last	3	27%	3	21%	6	24%

Table 3. Caregiver and child age by clinical status.

	S/LI (n = 11)	TD (n = 14)	Total (N = 25)
Caregiver Age in Years[a]	3.55[b]	3.93	3.74
	(.934)	(.917)	(.926)
Child Age in Months	40.91	43.79	42.35
	(8.916)	(8.201)	(8.559)

[a] Means were calculated based on responses from 0-5 representing each age range. Score of 3 represents 30-35 years of age.
[b] The first row presents the mean, the second row presents the standard deviation (seen in parentheses).

Materials

The materials required for the study were a consent form, a demographic survey, and the questionnaire. If a caregiver agreed to participate, (s)he was asked to read and sign the consent form (Appendix A). The caregiver then completed a demographic survey detailing parental education level, family structure, and the child's birth, medical, and developmental history (Appendix B).

The questionnaire was loosely based on one used by Boudreau (1997) and was used to obtain the caregivers' report of their home literacy experiences (see Appendix C). Boudreau's questionnaire was rewritten to meet the needs of the current study. For example, one item on Boudreau's questionnaire asks, "Does your child ask questions about characters or events during story reading?" whereas the newly created questionnaire asks, "How often do you make comments about actions or characters when reading?" Noticeably, the focus of the questionnaire shifted from the current early literacy abilities of the children to the current practices of the caregiver during home literacy experiences. In the end, 11 of the items from Boudreau were included verbatim on the current questionnaire. Nevertheless, items on the questionnaire represent the same five early literacy knowledge domains illustrated in Boudreau's questionnaire: (a) interactions around books, (b) response to print in the environment, (c) alphabet knowledge, (d) phonological awareness skills, and (e) writing.

The questionnaire contained 27 items in which the caregivers were provided a six-point Likert scale to identify the frequency of occurrence for a specific behavior. Some of these items also asked caregivers to list specific items or examples of particular behaviors. An additional eight questions asked for caregivers to describe other activities in the home related to language and literacy (e.g., computer access, library visits, television shows). Three foils, asking questions about pretend play objects, favorite foods, and discipline, were also embedded in the questionnaire in an effort to decrease embellished responses about home literacy practices.

Procedures

Caregivers were asked to complete and return the questionnaire in provided envelopes within a one-week period. If the questionnaire was not returned within the one-week time period, a follow-up letter was provided. Instructions asked that the caregiver who spends more time with the child

complete the questionnaire. In order to protect the confidentiality of the information disclosed by the participant, the materials of each packet were assigned a random identification number.

Data Analysis

Once completed questionnaires were received, responses for each item were entered into a database. A point score of 0-5 was provided for each item based on the caregivers' responses. Summary scores were then computed to reflect the five early literacy knowledge domains.

Reliability

A second student in the Department of Communication Disorders at Louisiana State University independently coded twenty percent ($n = 4$) of the questionnaire responses and entered them into a database to examine the reliability of the data coding and data entry. The total percent of agreement was calculated by dividing the total number of agreements by the total number of opportunities for agreement and multiplying by 100. There were 172 opportunities for agreement. Agreement between the researcher and the second student was 99% (171/172 responses).

RESULTS

The results of the current study are presented in three sections. The first section examines the caregivers' responses to the items that reflected the five domains of early literacy. The second section presents findings of items that addressed related areas of interest within the home environments. Finally, the third section discusses responses for items containing open-ended questions.

Early Literacy Domains

Table 4 presents the means, standard deviations, and ranges of caregivers' scores as a function of their children's group membership for each of the five early literacy domains addressed in the questionnaire. The means were calculated by obtaining an average score of each domain for each caregiver. Thus, scores for each domain could vary from 0-5. (See Appendix D for item means).

Table 4. Caregiver responses for each domain according to group.

	S/LI (n = 11)	TD (n = 14)	Total (N = 25)
Book Interaction (Eight items)	3.27[a] (.49) 0-5.00	3.11 (.58) 0-5.00	3.18 (.54) 0-5.00
Environmental Print (Four items)	2.09 (1.48) 0-5.00	2.60 (1.19) 0-5.00	2.38 (1.32) 0-5.00
Alphabet Knowledge (Four items)	2.90 (1.43) 0-5.00	3.34 (.82) 0-5.00	3.16 (1.11) 0-5.00
Phonological Awareness (Five items)	2.36 (1.01) 0-5.00	2.98 (.90) 0-5.00	2.71 (.98) 0-5.00
Writing (Four items)	2.91 (1.31) 0-5.00	2.93 (.93) 0-5.00	2.92 (1.15) 0-5.00

[a] The first row presents the mean, the second row presents the standard deviation (seen in parentheses), and the third row presents the range.

The data were analyzed to determine if differences in home literacy experiences occurred between caregivers of children with and without speech and language impairments. A *t*-test for independent samples revealed that caregivers' responses did not differ as a function of their children's clinical status: book interaction, $t(23) = .666$, $p = .467$; environmental print, $t(23) = -.97$, $p = .344$; alphabet knowledge, $t(22) = -.961$, $p = .347$; phonological awareness, $t(23) = -1.62$, $p = .120$; and writing, $t(23) = -.044$, $p = .966$. These results suggest that there is no difference between home literacy experiences of caregivers as a function of their children's clinical status.

Further analyses were completed on the individual questionnaire items to find out if trends emerged for specific concepts within each of the early literacy domains. The information below discusses the presence or absence of these trends; however, none of the trends resulted in significant differences between the two groups. Results of caregiver responses for the book interaction domain revealed highly similar results for each of the eight items; more specifically, 93% of caregivers in the TD group indicated that they read to their child several times a week or more, 71% reported that they made comments about the story while reading, and 50% revealed that they frequently asked questions throughout the story requiring a response from their child. These results compare to 100% of caregivers in the S/LI group reading to their child at least several times per week, 73% making comments about the story, and 45% asking questions frequently during the story.

Results of caregiver responses for the environmental print domain yielded a higher observation of behaviors for participants in the TD group as compared to the S/LI group for two of the four items. For the TD group, 50% of caregivers reported pointing out signs at least once per day and 29% reported seeing their child reading familiar words by sight at least once per day. In contrast, only 27% of caregivers in the S/LI group reported pointing out signs and 9% indicating that their child read familiar words each day.

Results for items in the alphabet knowledge domain also revealed a slightly higher observation of early literacy behaviors for caregivers in the TD group: 86% attempt to teach letters of the alphabet, ask their children to identify letters of the alphabet, and observe their children playing with alphabet toys at least several times per week. This compares with responses of caregivers in the S/LI group: 55% attempt to teach letters of the alphabet, 73% ask their children to identify alphabet letters, and 64% observe their children engaging with alphabet toys at least several times per week. Also, a greater percentage (57%) of caregivers in the TD group reported teaching letter-sound relationships at least once per day while 27% of caregivers in the S/LI group reported teaching this skill.

Results for items in the phonological awareness domain suggested similarities and differences between the two groups. At least 90% of caregivers in both groups reported singing simple songs with their child at least several times per week. Differences emerged when comparing responses for the multiple weekly occurrences of caregivers playing rhyming games with their children (50% for TD group vs. 36% for S/LI group), children producing rhyming words (36% for TD group vs. 18% for S/LI group), and children attempting to tell nursery rhymes (57% for TD group vs. 45% for S/LI group), which suggested a slightly higher occurrence of these behaviors for the TD group.

Results for responses in the writing domain yielded similar rates for two of the four questions. Specifically, 36% of caregivers in each group indicated their child's current writing abilities were characteristic of letter-like scribbles, random letters, or strings of letters. Also, 86% of caregivers in the TD group observed their child drawing with various writing materials at least once per day. Similarly, 91% of caregivers in the S/LI group reported this same observation. Slightly higher rates were found in the TD group related to the frequency with which children write alphabet letters in the correct manner throughout each week (57% for TD group vs. 36% for S/LI group) and the frequency with which caregivers write or draw letters and objects for their child to imitate or identify throughout each week (57% for TD group vs. 45% for S/LI group).

18

Finally, the caregivers' responses were examined by comparing the number of items in which each group of caregivers provided a rating of three or higher. Generally, a score of three or higher suggested that a particular behavior or event frequently occurred in the home environment. As shown in Table 5, participants in the TD group provided high scores for 15 items whereas participants in the S/LI group provided high scores for 11 items, indicating slightly higher observations of early literacy behaviors within the TD home environments.

Table 5. Items with average score of greater than or equal to three.

	S/LI (n = 11)	TD (n = 14)
Book Interaction	Frequency of reading to child Pages of print when reading Child pretending to read Asking questions when reading Making comments when reading Child's interest in books	Frequency of reading to child Pages of print when reading Child pretending to read Asking questions when reading Making comments when reading Child's interest in books
Environmental Print		Pointing out signs and words Asking child to bring item by recognition of label
Alphabet Knowledge	Teaching names of alphabet letters Asking child to identify letters Observing child playing with alphabet toys	Teaching names of alphabet letters Asking child to identify letters Child attempting to spell name Teaching letter-sound relationships Observing child playing with alphabet toys
Phonological Awareness	Singing simple songs with child	Singing simple songs with child
Writing	Frequency of child drawing with various writing utensils	Frequency of child drawing with various writing utensils

Additional Interests and Activities

Seven items on the questionnaire addressed additional interests and activities within the home environment. These items were analyzed individually and revealed similarities and differences between the two groups (see Appendix E for item means). Similar percentages were found for the

amount of time children spend watching television shows appropriate for preschool children, with 71% of caregivers in the TD group allowing their children to watch these shows at least once per day and 64% of caregivers in the S/LI group allowing their children to watch these shows once per day. Caregivers in both groups indicated that they began reading to their children at relatively the same age, with at least 50% in each group beginning at birth. Other similar findings between groups were found for questions regarding the number of books each child owns, the frequency of visits to the library or bookstore, and the acquisition of published reading materials in the home. Nevertheless, 50% of caregivers indicated that their children spend time on the computer once per week as compared to only 27% of caregivers in the S/LI group, and half of the caregivers in the TD group indicated that their children were enrolled in a weekly computer class at school. In comparison, none of the caregivers in the S/LI group reported that their children were enrolled in a weekly computer class at school. Also, 45% of caregivers in the S/LI group reported having to explain something hard for their child to understand while watching television, as compared to only 29% of caregivers in the TD group having to do this same task.

Open-Ended Questions

Participants' responses to open-ended questions in the questionnaire were analyzed individually (see Appendix F for summary of caregivers' responses). Three of these questions were embedded in items of the alphabet knowledge domain. For each of these questions, results yielded a higher observation of behaviors for caregivers in the TD group than for those in the S/LI group. When asked how many letters of the alphabet their child knows, 57% of caregivers in the TD group indicated that their child knew all 26 letters as compared to 45% of caregivers in the S/LI group reporting this ability for their children. When asked how many letter-sound relationships their child knows, 57% of caregivers in the TD group reported that their child knew most or all of these relationships while only 27% of caregivers in the S/LI group reported that their child recognized these relationships. Lastly,

71% of caregivers in the TD group indicated that their child knew all of the letters in his or her name, while only 36% of caregivers in the S/LI group indicated this same skill for their child.

The remaining six open-ended questions inquired about the child's favorite books, names of known nursery rhymes, names of known songs, names of television shows watched most frequently, names of computer programs the child enjoys, and names of the most recent book the child has received. For each of these questions, caregivers in each group reported comparable responses for both the quantity and the specific titles. Caregivers in the S/LI group provided the names of 22 books as their children's favorite, and caregivers in the TD group provided the names of 17 books as their children's favorite, with books written by Dr. Seuss as the most popular titles. Both groups of caregivers provided the names of eight nursery rhymes known by their children, with *Itsy Bitsy Spider* being the most common. Caregivers in both groups provided the names of 14 simple songs known by their children, with "Twinkle Twinkle Little Star" and "Wheels on the Bus" as common titles. The names of twelve television shows were reported by caregivers in both groups, with *Mickey Mouse* being the most commonly watched by both groups of children. Caregivers in the S/LI group identified five computer programs and websites that their children enjoy, and caregivers in the TD group identified eight computer programs that their children enjoy; however, both listed *Disney* and *Starfall* as two popular websites for their children. Lastly, caregivers in the S/LI group provided the names of ten books most recently received by their children, and caregivers provided the names of eleven different books most recently received by their children; yet, none of the titles were repeated by caregivers in both groups.

DISCUSSION

The purpose of this study was to describe the home literacy experiences of children with and without speech and language impairments per parent report. This chapter is divided into four sections. The first section includes a discussion of the results of the current study as they relate to the research question presented in the introduction. The second section compares the results of this study to previous research. The third section presents clinical implications of the findings. Lastly, the fourth section provides a discussion of the limitations of the study and suggestions for future research.

Interpretation of Results as they Relate to the Research Question

The research question that guided this study asked if parent report of home literacy environments differs between caregivers of children with speech and language impairments and caregivers of children without speech and language impairments. While analyses of individual items revealed small variation in a handful of home literacy experiences, statistical analyses indicated that there was no significant difference between the caregivers' responses to the questionnaire items for five early literacy domains as a function of their children's clinical status. Furthermore, analyses of individual items regarding additional interests within the home, as well as open-ended questions regarding examples of particular behaviors or specific titles, revealed that there was no significant difference between the two groups of caregivers as a function of their children's clinical status.

Comparison to Previous Literature

Results of the present study indicated that there were no significant differences between the responses of caregivers of children with and without speech and language impairments. These results are inconsistent with previous findings of Boudreau (2005) and Marvin and Wright (1997). As previously stated, Boudreau's and Marvin and Wright's questionnaires focused on both the early literacy abilities of children and the behaviors and observations of caregivers within the home literacy environment, whereas the questionnaire in the present study focused only on the behaviors of

22

caregivers and their ability to observe current practices within the home literacy environment. Perhaps, Boudreau and Marvin and Wright found differences between the groups because some of their items focused on the literacy abilities of the children than on behaviors of the caregivers. Indeed, Marvin and Wright found that families of children in the SLI group were significantly less likely than their peer models to recite rhymes, engage in finger plays and songs, tell oral stories, write or practice letters or words, listen to a book on tape, pretend to read, or ask and answer questions to adults reading out loud. Nevertheless, Marvin and Wright's study did not find differences between the frequency of shared storybook reading and the frequency with which print materials were used in the home.

Limitations of this Study

As with all research, confounds and limitations were evident in the present study that warrant further research in the area of home literacy experiences and early literacy skills of children with and without speech and language impairments. The most significant confound affecting the present study is that the questionnaire was based on a questionnaire that had been used in one previous study. The questionnaire utilized in the present study directed much of its focus toward behaviors of the caregivers and their ability to observe particular events within the home literacy environment. Alternatively, the original Boudreau questionnaire and that of Marvin and Wright focused on both the early literacy abilities of the children and the behaviors of the caregivers. The questionnaire has not been normed or standardized, nor has it been used in multiple studies; therefore, no extensive research exists documenting its internal consistency, reliability, or validity measures. Also, the questionnaire utilized in this study presupposes knowledge of cultural practices for a given family. Future research involving caregiver report should consider consultation with a multicultural team of developers (e.g., ASHA's Multicultural Issues Board) in order to evaluate cultural appropriateness of the selected questionnaire items and prevent caregivers' responses from being misinterpreted or other relevant information from being overlooked.

A common external threat in all survey research is the social desirability of responses. Caregivers may have been influenced by a perceived "correct" response lending to skewed representation of parent practices and home experiences. Taking into account that the caregivers were allowed a reasonable amount of time to complete and return the questionnaire in the comfort of their home environment, accuracy of responses and clear perceptions of existing behaviors was presumed in the current study.

Caregivers were recruited for the survey for having a child between 24 and 54 months of age. Internal validity may have been affected by history of the caregivers. Recall that 32% of the children being discussed were not the first born in the family; therefore, the caregivers may have considered behaviors of previous children in some of the responses. Also, families with more than one child may have broader home literacy environments that have developed over the years than for families with only one child. Responses may represent perceptions that result from an evolving home environment.

Thirdly, participation was voluntary and only three sites in the surrounding Baton Rouge area were solicited for study. Recall, all caregivers were Caucasian and received a minimum of some college training, 96% were married, and nearly half were between the ages of 30 and 35 years. Results cannot be generalized to the overall population, which includes numerous ethnic groups and socio-economic classes.

Fourthly, homogeneity of the children as participants was also a limitation of this study. Demographics of each child's diagnosis indicated that children had developmental apraxia of speech, speech delay, autism, or a combination of oral motor impairments and articulation errors. The children included in the present study did not represent the broad range of speech and language impairments that may affect children's orientation to early literacy experiences. Direct testing of children's speech, language, and literacy abilities also was not completed so the extent to which the speech and language skills of the children with and without speech and language impairments is unknown.

Clinical Implications of the Findings

Parent report has become a valuable tool for speech-language pathologists during the assessment process for a variety of reasons including cost effectiveness, positive testing environment, documentation of behaviors not observed in formal assessment, and extensive representation of children's experiences and abilities (Dale, 1991; Diamond & Squires, 1993). Validity of parent reports as successful measures of information exists for various development domains, including speech and language, and developmental levels (Hammer, Miccio, & Wagstaff, 2003; Miller, Sedey, & Miolo, 1995; Thal, O'Hanlon, Clemmons, & Fralin, 1999); however, limited research exists in the application of parent report in children's early literacy skills and home literacy practices of caregivers.

While parent report should be a key element in the assessment of children's early literacy skills, findings suggest that the early literacy questionnaire utilized in the present study may not be the most appropriate tool to obtain this information if group differences do exist within the homes of children with and without speech and language impairments. A few trends were evident according to individual item analyses indicating higher ratings of home literacy experiences in the alphabet knowledge domain for families of children with typically developing children as compared to families of children with speech and language impairments. Additionally, these trends were seen for half of the items in the environmental print and writing domains and for three out of four items in the phonological awareness domain. Nevertheless, these trends did not lead to statistically significant differences between the groups studied. Also, responses from both groups were highly similar for the book interaction domain, an area in which the most differences might have been expected.

On one hand, perhaps the concept of caregivers providing information along a Likert scale is not a sufficient means for learning about the nature of home literacy experiences for children with and without speech and language impairments. Caregivers may be able to provide more accurate information for speech-language pathologists about these events in response to scenario-based

questions rather than stating the presence of absence of a behavior along a continuum. Recognizing and choosing between scenarios may be more intuitive than estimating the occurrence of a particular event. The following scenario may be a possible questionnaire item related to book interaction: When reading a storybook with your child, are you more likely to a) point and label pictures in the book or b) point to words of text in the book? Also, diaries, home observations, and direct testing may provide insight regarding current home literacy practices of caregivers and early literacy skills of the children.

On the other hand, even though group differences were not detected, the caregivers' responses on the questionnaires did provide me with information about the children's home literacy environments. As a speech-language pathologist, I believe I could use this information to better customize my interventions for children. This information would also improve my abilities to incorporate literacy goals and activities into my interventions. In other words, the questionnaire used in the current study served as an uncomplicated means to obtain information from caregivers about their current home literacy practices. With consideration of caregivers' responses, speech-language pathologists may be able to build upon domains in which caregivers provide high scores and frequently occurring behaviors. Likewise, speech-language pathologists may be able to use domains in which caregivers do not suggest frequently occurring behaviors as preliminary information for concepts to address during intervention.

Suggestions for Future Research

Considering the findings of the present study, further research is warranted so that speech-language pathologists may gain a more comprehensive knowledge base of home literacy experiences as they relate to the early literacy skills of children. Perhaps, other types of tools should be explored as a possible option for assessing children's speech, language, and literacy abilities and caregivers' home literacy practices. Some of those tools could include: scenario-based questionnaires, diaries and/or journal entries, home observations, and direct testing. Also, future research is needed to investigate the

use of a parent questionnaire for planning interventions to promote further development of these skills in children. Finally, future research is needed to examine the role of a parent questionnaire pre-intervention and post-intervention.

REFERENCES

American Speech-Language-Hearing Association. (2001). Roles and responsibilities of speech-language pathologists with respect to reading and writing in children and adolescents. *Asha, 21*(Suppl.), 17–27. Rockville, MD: Author.

Barnard, K. E. (1978). *Manual for Nursing Child Assessment Teaching Scales*. Seattle, WA: University of Washington.

Bayley, N. (1969). *Manual of Bayley Scales of Infant Development*. New York: Psychological Corps.

Bird, J., Bishop, D. V. M., & Freeman, N. H. (1995). Phonological awareness and literacy development in children with expressive phonological impairments. *Journal of Speech and Hearing Research, 38*, 446–462.

Bishop, D.V.M., & Adams, C. (1992). Comprehension problems in children with specific language impairment: literal and inferential meaning. *Journal of Speech, Language, and Hearing Research, 35,* 119-129.

Boudreau, D.M. (1997). *Early literacy questionnaire.* Unpublished document.

Boudreau, D.M. (2005). Use of a parent questionnaire in emergent and early literacy assessment of preschool children. *Language, Speech, and Hearing Services in Schools, 36*, 33-47.

Boudreau, D. M., & Hedberg, N. L. (1999). A comparison of early literacy skills in children with specific language impairment and their typically developing peers. *American Journal of Speech-Language Pathology*, *8*, 249–260.

Bus, A.G. & van Ijzendoorn, M.H. (1995). Mothers reading to their 3-year-olds: The role of mother-child attachment security in becoming literate. *Reading Research Quarterly*, *30*, 998-1015.

Caldwell, B. M., and Bradley, R. H. (1984). *Manual for the Home Observation for Measurement of Environment (Rev.ed.).* Little Rock, AR: University of Arkansas at Little Rock.

Capone, N.C., & McGregor K.K. (2004). Gesture development: a review for clinical and research practices. *Journal of Speech, Language, and Hearing Research, 47*, 173-186.

Catts, H.W. (1993). The relationship between speech-language impairments and reading disabilities. *Journal of Speech, Language, and Hearing Research, 36,* 948-958.

Catts, H.W. (1997). The early identification of language-based reading disabilities. *Language, Speech, and Hearing Services in Schools, 28,* 86-69.

Catts, H.W., & Kamhi, A.G. (Eds.). (1999). *Language and reading disabilities.* Needham Heights, MA: Allyn & Bacon.

Catts, H. W., Fey, M. E., Zhang, X., & Tomblin, J. B. (2001). Estimating the risk of future reading difficulties in kindergarten children: A research-based model and its clinical instrumentation. *Language, Speech, and Hearing Services in Schools, 32*, 38–50.

Chaney, C. (1998). Preschool language and metalinguistic skills are links to reading success. *Applied Psycholinguistics, 19*, 433–446.

Dale, P. S. (1991). The validity of a parent report measure on vocabulary and syntax at 24 months. *Journal of Speech and Hearing Research*, *34*, 565–571.

Diamond, K., & Squires, J. (1993). The role of parental report in the screening and assessment of young children. *Journal of Early Intervention*, *17*, 107–115.

Dunn, L., and Dunn, L. (1981). *Peabody Picture Vocabulary Test – Revised*. Circle Pines, MN: American Guidance Service.

Gillam, R. B., & Carlile, R. M. (1997). Oral reading and story retelling of students with specific language impairment. *Language, Speech, and Hearing Services in Schools*, *28*, 30–41.

Hammer, C. S., Miccio, A. W., & Wagstaff, D. A. (2003). Home literacy experiences and their relationship to bilingual preschoolers' developing English literacy abilities: An initial investigation. *Language, Speech, and Hearing Services in Schools*, *34*, 20–30.

Hedrick, D. L., Prather, E. M., and Tobin, A.r.. (1984). *Sequenced Inventory of Communication Development-Revised Edition: Instructional Manual*. Seatttle, WA: University of Washington Press.

Justice, L. M., & Ezell, H. K. (2000). Enhancing children's print and word awareness through home-based parent intervention. *American Journal of Speech-Language Pathology, 9*, 257-269.

Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. *American Journal of Speech-Language Pathology, 11*, 17-29.

Justice, L. M., & Ezell, H. L. (2004). Print referencing: An emergent literacy enhancement strategy and its clinical applications. *Language, Speech, and Hearing Services in Schools, 35,* 185-193.

Justice, L.M., Weber, S.E., Ezell, H.L., & Bakeman, R. (2002). A sequential analysis of children's responsiveness to parental print references during shared story-book reading interactions. *American Journal of Speech-Language Pathology, 11*, 30-40.

Kaderavek, J.N., & Sulzby, E. (1998). Parent-child joint book reading: An observational protocol for young children. *American Journal of Speech-Language Pathology, 7,* 33-47.

Lawhon, T., & Cobb, J.B. (2002). Routines that build emergent literacy skills in infants, toddlers, and preschoolers. *Early Childhood Education Journal*, 30, 113-118.

Lipson, M. Y., & Wixson, K. K. (1991). *Assessment and instruction of reading disability: An interactive approach.* New York: HarperCollins.

Lovelace, S., & Stewart, S.R. (2007). Increasing print awareness in preschoolers with language impairment using non-evocative print referencing. *Language, Speech, and Hearing Services in Schools, 38,* 16-30.

Marvin, C.A., & Wright, D. (1997). Literacy socialization in the homes of preschool children. *Language, Speech, and Hearing Services in Schools, 28,* 154-163.

McFadden, T.U. (1998). Sounds and stories: Teaching phonemic awareness in interactions around text. *American Journal of Speech Language Pathology, 7,* 5-13.

McGinty, A.S., & Justice, L.M. (2009). Predictors of print knowledge in children with specific language impairment: Experimental and developmental factors. *Journal of Speech, Language, and Hearing Research, 52,* 81-97.

Miller, J. F., Sedey, A. L., & Miolo, G. (1995). Validity of parent report measures of vocabulary development for children with Down syndrome. *Journal of Speech, Language, and Hearing Research*, *38*, 1037-1044.

Mirenda, P., & Erickson, K. (2000). Augmentative communication and literacy. In A. Wetherby & B. Prizant (Eds.), *Autism spectrum disorders: A transactional developmental perspective* (pp. 363-367). Baltimore: Paul H. Brookes.

Morris, D., Bloodgood, J., Lomax, R. G., & Perney, J. (2003). Developmental steps in learning to read: A longitudinal study in kindergarten and first grade. *Reading Research Quarterly, 38*, 302–328.

Rabidoux, P.C., & MacDonald, J.D. (2000). An interactive taxonomy of mothers and children during storybook interactions. *American Journal of Speech-Language Pathology, 9*, 331-344.

Roberts, J., Jurgens, J., & Burchinal, M. (2005). The role of home literacy practices in preschool children's language and emergent literacy skills. *Journal of Speech, Language, and Hearing Research, 48*, 345-359.

Senechal, M., LeFevre, J., Thomas, E. M., & Daley, K. D. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly, 33,* 96-116.

Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology, 38*, 934–947.

Stothard, S., Snowling, M., Bishop, D.V.M., Chipchase, B., & Kaplan, C. (1998). Language-impaired preschoolers: A follow-up into adolescence. *Journal of Speech, Language, and Hearing Research, 41,* 407-418.

Teale, W.H., & Sulzby, E. (Eds.) (1986). *Emergent literacy : Writing and reading*. Norwood, NJ: Ablex Publishing.

Teale, W. H., & Sulzby, E. (1989). Emergent literacy: New perspectives. In D. Strickland & L. Morrow (Eds.), *Emerging literacy: Young children learn to read and write.* Newark, DE: International Reading Association.

Thal, D., O'Hanlon, L., Clemmons, M., & Fralin, L. (1999). Validity of a parent report measure of vocabulary and syntax for preschool children with language impairment. *Journal of Speech, Language, and Hearing Research, 42*, 482–496.

van Kleeck, A., Gillam, R. B., Hamilton, L., & McGrath, C. (1997). The relationship between middle-class parents' book-sharing discussion and their preschoolers' abstract language. *Journal of Speech, Language, and Hearing Research, 40*, 1261–1271.

Wallace, I.F., Roberts, J.E., & Lodder, D.E. (1998). Interactions of African American infants and their mothers: Relations with development at 1 year of age. *Journal of Speech, Language, and Hearing Research, 41*, 900-912.

Walpole, S., Chow, S. M., & Justice, L. M. (2004). Literacy achievements during kindergarten: Examining key contributors in an at-risk sample. *Early Education and Development, 15*, 245–264.

Wetherby, A. M., and Prizant, B. M. (1993). *Manual of Communication and Symbolic Behavior Scales*. Chicago: Riverside Press

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69,* 848-872.

APPENDIX A: CONSENT FORM

Study Title: Parent Report of Home Literacy Experiences and Child Literacy Skills

Performance Sites: Preschools and speech/language facilities in Baton Rouge, LA

Contact: Janna B. Oetting, Ph.D.   Amanda Grace, B.A.
                      225-578-3932   LSU Graduate Student
                      cdjanna@lsu.edu   225-572-0055
                                                       agrace2@lsu.edu

Purpose of the Study: This study is intended to help us learn more about the nature of home
                      environments as related to promoting early literacy development and
                      skills for young children.

Inclusion Criteria: Caregivers of children between the ages of 24 and 54 months. Mothers
                      who are pregnant will not be included in this study. Based on caregiver
                      report, children either currently receive services from a speech/language
                      clinician or have typical language development. Caregivers should be
                      monolingual English speakers.

Exclusion Criteria: Children who have a hearing loss, physical abnormalities, or significant
                      medical, behavioral, or psychological disorders.

Number of Subjects: Maximum of 50.

Description of Study: You will be asked to complete a 35-item questionnaire addressing the
                      following areas: reading books, response to print, language awareness,
                      interest in letters, writing, and additional areas of interest (e.g.,
                      computers, television). Your responses will be compared to the
                      responses of other parents/caregivers.

Benefits: This research is not intended to benefit you or your child directly. By
                      consenting to your participation in this study, you will help the
                      researchers understand more about how young children learn in the home
                      environment.

Risks/Discomforts: There are no known risks associated with participation in this study.

Right to Refuse: Participation in this study is voluntary. You have the right to withdraw
                      from the study at any time without penalty.

Privacy: This study is confidential. All materials will be coded and children's
                      names and personal information will be kept secure. Results of this
                      study may be published, but no names or identifying information will be
                      included for publication. Participant identity will remain confidential
                      unless release is legally required.

Financial Information: There is no cost for participation in this study.

Withdrawal: You may choose not to participate or to withdraw from the study at any time with no jeopardy to services provided by your child's preschool or speech/language facility or other penalty at the present time or in the future.

Removal: We reserve the right to discontinue your participation in the study if you share with us information that indicates that you or your child does not meet the inclusive/exclusive criteria for research participation listed above.

Signatures: The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, LSU Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb. I agree to participate in the study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

_____   _____
Caregiver's Signature   Date

The parent/caregiver has indicated to me that he/she is unable to read. I certify that I have read this consent from to the parent/caregiver and explained that by completing the signature line above he/she has given permission to participate in the study.

_____   _____
Signature of Reader   Date

APPENDIX B: DEMOGRAPHIC SURVEY

Name of preschool or facility: _____

1. Parent's age
     Under 20   20-25   25-30   30-35   35-40   40+

2. Parent's race
     Caucasian   African American   Hispanic   Asian   Other

3. Marital status
     Married   Single   Divorced   Widowed

4. Parent's education level
     High School   Some College   Bachelor's Degree   Master's Degree   Doctoral Degree

5. Child's age/birthday
     In months: _____   Date of Birth: _____

6. Child's sex
     Male   Female

7. Child's birth order
     First born   Middle   Last   Other _____   # of Children in home _____

8. With whom does this child live?
     Single parent   Two biological parents   Step parents   Adopted parents
     Other _____

9. Has your child's hearing been tested? Yes_____   No _____
     Results? _____

10. Does your child have any other existing medical conditions?
     _____
     _____

11. If your child is currently receiving speech/language services, what is the primary diagnosis?
     _____
     _____

Please answer the following questions by circling your response on the scale provided and filling in information. Please have the parent that spends more time with the child complete this questionnaire.

Reading Books

1. How often do you read to your child?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

2. How many pages with print do you typically read at one sitting?
   Only picture books   Few pages   Half of one book   One book   Two books   Three or more books

3. On average, how long do you spend during each reading session?
   Not currently   Few minutes   10-15 minutes   30 minutes   One hour   More than one hour

4. How often does your child use familiar objects during pretend play?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day
       a. What types of objects does your children play with the most? _____

5. How often do you notice your child pretending to read? (turning pages in a book and "reading" the words)
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day
       a. What are a few of your child's favorite books?_____

6. How often do you ask questions to your child requiring him or her to give a response when reading? (as in
    "What do you think will happen next?" or "Where do you see the letter A?")
   Not currently   Have but rarely   Occasionally   A few times   Frequently throughout   At least once per page

7. How often do you make comments about actions or characters when reading?
   Not currently   Have but rarely   Occasionally   A few times   Frequently throughout   At least once per page

8. How often do you have to redirect your child to pay attention to the story?
   Not currently   Have but rarely   Occasionally   A few times   Frequently throughout   At least once per page

9. In comparison to other activities, how would you rate your child's interest in books?

0	1	2	3	4	5
Activity liked least					Favorite activity

Response to Print

10. How often do you point out signs and words such as restaurant names or street signs to your child (i.e.
     McDonald's arches, Coke logo, etc.?)
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

11. How often do you notice your child asking for help in reading words such as street signs or food packages?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

12. How often do you ask your child to bring you an item where he/she would have to recognize the label in
     order to grab the correct item? (such as a particular box of cereal)
     Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

13. How often do you see your child reading words by sight (or common words they have memorized and can identify, such as mom, cat, etc.)?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

Language Awareness

14. How often do you play rhyming games with your child?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

15. How often do you hear your child produce rhyming words? (such as *hat* rhymes with *cat*)
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

16. How often do you hear your child attempt to tell nursery rhymes? (such as Jack and Jill or Itsy Bitsy Spider)
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

   a. Which ones does she/he know?_____

17. How often do you have to discipline your child?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

   a. Where type of discipline was most recently used? _____

18. How often do you sing simple songs with your child?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

   a. Which ones does she/he know?_____

Interest in Letters

19. How often do you attempt to teach the names of the letters of the alphabet?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

   a. How many does she/he know?_____

20. How often does your child attempt to spell the letters in his/her name?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

   a. How many letters does she/he know correctly in his/her name? _____

21. How often do you attempt to teach corresponding sounds for alphabet letters?
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

   a. How many does she/he know?_____

22. How often do you ask your child to identify some letters of the alphabet? (such as pointing to the letter "A" or "Show me where the B is.")
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

23. How often do you see your child play with alphabet toys at home? (such as letter blocks, alphabet puzzles, or magnetic letters)
   Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

Writing

24. How often does your child draw or color with crayons, markers, or pencils?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

25. How often do you see your child write letters of the alphabet in the correct manner?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

26. How often do you write letters or draw objects for your child to imitate or identify?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

27. How would you describe your child's drawing/writing abilities?
Not currently   Picture drawing   Wavy scribbles   Letter-like scribbles   Random letters   Strings of letters

Additional Interests

28. How often does your child ask for his/her favorite food?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

       a. What is this favorite food? _____

29. How often does your child watch television shows made for preschool children?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

       a. What is the show watched most frequently? _____

30. When watching TV or a video story, how often do you have to explain something that is hard for your child to understand?
Not currently   Have but rarely   Occasionally   A few times   Frequently throughout   At least once per scene

31. How much time do you allow your child to spend on the computer?
    Never/Rarely   Once a month   Weekly   Several times per week   Daily   Several times per day

       a. What programs does she/he enjoy?_____

Additional Questions

32. At what age did you begin reading to your child? _____

33. How many books does your child own? _____

34. How often do you go to the library or bookstore with your child to select books?
    Never/Rarely   Every few months   Once a month   Bimonthly   Weekly   Daily

       a. What is the title of the most recent book your child received? _____

35. Do you receive any published reading materials at home, such as newspapers or magazines?   Yes   No

APPENDIX D: ITEM MEANS FOR EARLY LITERACY DOMAINS BY GROUP

	S/LI (n = 11)	TD (n = 14)
Book Interaction		
Item 1	4.36	3.79
Item 2	3.81	3.64
Item 3	2.18	2.21
Item 4	3.27	3.14
Item 5	3.36	3.14
Item 6	3.45	3.50
Item 7	1.64	1.57
Item 8	4.00	3.89
Environmental Print		
Item 1	2.82	3.14
Item 2	1.82	2.21
Item 3	2.64	3.07
Item 4	1.09	2.00
Alphabet Knowledge		
Item 1	3.00	3.36
Item 2	2.73	3.07
Item 3	2.73	3.43
Item 4	3.18	3.57
Item 5	3.45	3.29
Phonological Awareness		
Item 1	2.27	2.64
Item 2	1.36	2.29
Item 3	1.82	2.71
Item 4	4.00	4.29
Writing		
Item 1	4.36	4.28
Item 2	1.90	2.21
Item 3	2.82	2.93
Item 4	2.55	2.21

APPENDIX E: ITEM MEANS FOR ADDITIONAL INTERESTS AND QUESTIONS BY GROUP

	S/LI (n = 11)	TD (n = 14)
Additional Interests		
Item 1	3.45	3.50
Item 2	2.36	1.79
Item 3	1.00	1.00
Additional Questions[a]		
Item 1 (age at which caregiver began reading to child)	3.82 months	1.85 months
Item 2 (number of books child owns)	85 books	100 books
Item 3	2.00	1.79
Item 4 (receive published reading materials in the home)	100%	86%

[a] Unless specified, mean scores were obtained on a scale of 0-5.

APPENDIX F: RESPONSES TO OPEN-ENDED QUESTIONS

	S/LI (n = 11)	TD (n = 14)
How many (names of letters of the alphabet) does she/he know?	All (5) 13 one-three Few None	All (8) Most (2) 20 eight-ten
How many letters does she/he know correctly in his/her name?	All (4) All by sound Three of four Three (2) One None	All (10) One
How many (sounds for alphabet letters) does she/he know?	All (2) Approximately 20 Few Two One None (3)	All (3) Most (2) Half (3) Few (2) A, B, C, D, M
What are a few of your child's favorite books?	Dr. Seuss (2) Fox in Sox There Was an Old Cajun Hop on Pop Brown Bear Brown Bear (2) Blue Hat Green Hat Going to Bed How Kids Grow Children's Bible Princess (3) Mickey Mouse My Little Pony Good Night Moon Pinkalicious Thomas the Train Animals I Stink Snip Snap Backyardigans Zen Shorts Too Many Toys Elmo	Missing Dinosaur Bones Biscuit Dr. Seuss (3) Trucks Sleeping Beauty Clifford, Green Eggs and Ham (2) Good Night Moon (3) Snow White (2) Don't Let the Pigeon Drive the Bus Winnie the Pooh Cat in the Hat Ferdinand Thomas the Train I Stink Seven Silly Eaters Pinkalicious Nursery Rhymes

	picture books of animals and cars, counting books, alphabet books	
Which ones (nursery rhymes) does she/he know?	Itsy Bitsy Spider (7) Twinkle Twinkle Little Star Jack and Jill (2) Hickory Dickory Dock Mary Had a Little Lamb (2) Humpty Dumpty Little Miss Muffett Jack Be Nimble	Humpty Dumpty (4) Itsy Bitsy Spider (9) Row, Row, Row Your Boat Hickory Dickory Dock (2) Mary Had a Little Lamb (2) Twinkle Twinkle Little Star It's Raining, It's Pouring Three Little Kittens
Which ones (simple songs) does she/he know?	Mr. Sunshine Old McDonald Had a Farm Wheels on the Bus I'm a Little Teapot Twinkle Twinkle Little Star Itsy Bitsy Spider Ants Go Marching (2) Apples and Bananas 1, 2 Buckle My Shoe Backyardigans Jesus Loves Me *Wheels on the Bus (2) *If You're Happy *Little Ducks *Row, Row, Row Your Boat *Indicated child only knew by recognition or listening; no words sung by the child	If You're Happy and You Know It ABC's (5) Itsy Bitsy Spider London Bridge Patty Cake Wheels on the Bus (2) Baby Bumblebee Twinkle Twinkle Little Star (6) Jesus Loves Me (3) Happy Birthday (2) Old McDonald Had a Farm (3) Mary Had a Little Lamb Imagination Disney Country songs
What is the television show watched most frequently (by your child)?	Max and Ruby (2) Blue's Clues Yo Gabba Gabba Mickey Mouse (3) Little Einstein Dora the Explorer (2) Olivia Wonder Pets Sid the Science Kid Backyardigans Chuggington Word Girl	Handy Manny (2) Mickey Mouse (3) Sesame Street (2) Singing Alphabet Caillou Sprout (2) Discovery Kids Phinneas and Ferb Wonder Pets (2) Dora the Explorer Chuggington Max and Ruby

What (computer) programs does she/he enjoy?	Disney.com Starfall.com Reader Rabbit Thomas the Train videos My Little Pony random typing of letters and numbers looking at pictures	Noggin.com Reader Rabbit Leap Frog LPB Starfall.com Nickjr.com Playhouse Disney (2) Jump Start
What is the title of the most recent book your child received?	Brown Bear Brown Bear Elmo Goes to the Zoo How Do Dinosaurs Say Goodnight? Princess Stories (1 and 2) My Little Pony Children's Bible Fancy Nance One Hungry Monster Dogs Cat in the Hat	Spiderman Disney Princess Easter Eggs Discovery Kids- Dinosaurs Berenstain Bears Valentine's Party Pigeon Wants a Hot Dog Little Engine that Could Thomas and Friends Spaghetti Eddie Pinkalicious Emily's Dance

VITA

Amanda Grace was born and raised in Baton Rouge, Louisiana. She graduated from Parkview Baptist High School in 2004. Amanda received her Bachelor of Arts degree in communication disorders from Louisiana State University in May of 2008. Upon completion of her undergraduate studies, Amanda entered the graduate program at Louisiana State University to pursue a Master of Arts degree in speech-language pathology. After completing her first year of coursework and clinical assignments, Amanda was intrigued by the research opportunities related to children with speech and language impairments. She decided to complete a master's thesis under the direction of Dr. Janna Oetting in partial fulfillment of the requirements for a Master of Arts degree, to be awarded in May of 2010. Upon graduation, Amanda plans to reside in Baton Rouge and complete the necessary clinical fellowship requirements at Abilities to become a licensed speech-language pathologist.