Picture Books and Literacy Development for Children who are Deaf or Hard of Hearing

Lichelle Slater
Utah State University

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Picture Books and Literacy Development for
Children who are Deaf or Hard of Hearing

by
Lichelle Slater

A project submitted in partial fulfillment of the requirements for the degree
of

MASTER OF EDUCATION

in

Communicative Disorders and Deaf Education

Approved:

Lauri Nelson, Ph.D.
Major Professor

Elizabeth Parker
Committee Member

Sonia Manuel-Dupont, Ph.D.
Committee Member

Christine Cooper-Rompato, Ph.D.
Invited Committee Member

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Introduction

In the past decade, research has focused on children’s literature and how it can facilitate literacy development (LaCour, McDonald, Tissington, Thomason, 2013; Lee, 2010). Although current research has identified the importance of age-appropriate literacy development for children who are deaf or hard of hearing (DHH), few studies have explored the character representations depicted in current picture books, and their cultural and individual impact on children who are DHH. To gain a better understanding of the availability of books in which deafness or hearing loss is addressed, or books in which children who are DHH are featured characters, a search of the literature was completed.

The Gap in Current Literature

The purpose of this literature search was to address the gap in available picture books for children birth to five years of age. The search explored how children’s books depict children who are DHH in everyday situations, whether hearing loss is portrayed solely as a disability, and the number of books easily identified for parent use. This search was initiated due to the hypothesis that very few picture books are available that depict children with hearing technology engaged in typical family activities. When children can identify with characters in a book, this connection has the potential to influence emergent literacy skills. Although this search was not indicative of the complete number of books available to the public, it likely represented what a parent of a child who is DHH may find when seeking books with positive portrayals of hearing loss and hearing technology for their DHH child.

An initial search using the terms “picture books children with disabilities” yielded a total of 136 books. Of these books, only 21 portrayed children with hearing loss (depicted in the pictures with hearing technology) or deafness (depicted in the pictures as using sign language).
Another search was completed using search terms “hearing loss picture books,” which yielded another 42 books. Therefore, a total of 63 picture books (32 target deafness, 31 target hearing loss) were identified. Of these books, only 19 were written for children from ages three to five, and none of the books were focused specifically for infants or toddlers from birth to age three. The focus of this project is for children birth to age five.

Upon further exploring the 19 books focused on children with hearing loss between birth and five years of age, 5 books described a child who was getting a hearing aid (HA) or a cochlear implant (CI), 11 books addressed hearing loss as a disability, with the remaining 3 books describing what children who have hearing loss can do in spite of wearing hearing technology. None of these books have characters with CIs or HAs without discussing the hearing loss itself. Three of the books for children with hearing loss were funded and published by hearing aid and cochlear implant companies (Oticon and Phonak), and two books were published by the Alexander Graham Bell Association for the Deaf. This is significant, because these five books weren’t written by independent authors. Since 1976, the publication of books about hearing loss only slightly increased in publication, with the largest number of publications occurring between 2000 and 2005, revealing a need for updated books.

Golos and Moses (2011), and Golos, Moses, and Wolbers (2012) found that most current children’s picture books highlight hearing loss as being a medical condition or disability instead of focusing on the child’s abilities. This suggests a gap in children’s picture books as a positive representation of children who are DHH, and as a positive exemplar to typically developing peers. Picture books should provide cultural role models for children, but for emergent and beginning readers who are DHH, this is largely unavailable (Golos & Moses, 2011). The
proposed project was founded upon the philosophy that there should be books available for children who are DHH with characters in situations to which they can relate.

**Auditory Access and Reading Development in Children who are Deaf or Hard of Hearing**

Language develops through exposure to sound, beginning at birth. An infant’s first exposure to conversation is when their parents make eye-contact and smile, talk in “parentese” or “motherese” (also called “baby talk”), make faces, stick out their tongue, and point to new things. Infants will begin attempting to imitate their parents. Simple words, such as “mama” or “papa” have repetitive sounds which occur in babbling, and parents can use other sounds such as “baba,” “lala,” and so forth. Different types of language exposure include: exposing infants to a language-rich environment, reading to them, and singing to them. When parents provide an auditory model for children, they begin to learn to imitate, which lays the groundwork for communication by teaching turn-taking, thus defining the role of who listens and who speaks (Perigoe, 2001). Reading books assists in this language development from a very early age.

One way to ensure children have auditory access to these sounds across the frequency range is by teaching parents to use the “LING Six Sound Test.” These auditory sounds include: “ah” /a/, “oo” /u/, “ee” /i/, “sh” /ʃ/, “s” /s/, and “m” /m/. These sounds should be used daily to check hearing devices and to determine the child’s ability to detect speech because each of these sounds is produced at a different frequency (pitch/loudness) (Perigoe, 2001). If the child is able to imitate the sound provided (at close range and a distance), it is a strong indication that their hearing device is working properly and that the child has audibility across the speech frequency range. The book “*My Ears Hear Differently*” utilizes the Ling Sounds within the story. Each page shows a child doing something (such as dancing) with an associated sound (Oooo).
Early access to language influences the reading skills of children who are DHH, because reading is a language-based skill (Pakulski & Kaderavek, 2004; Friedman Narr, 2006; Johnson & Goswami, 2010; Kyle & Harris, 2006). Several studies have found that children’s ability to hear influences their speech development, and children who are identified with a hearing loss early have an advantage to learning language (Geers, 2004; Johnson & Goswami, 2010; Moeller, 2000; Perigoe, 2001; Mayne, Yoshinaga-Itano, Sedey, 1999, and Mayne, Yoshinaga-Itano, Sedey, Carey, 1999). For example, Geers (2004) evaluated 181 children and found that children who are identified with hearing loss early and receive appropriate early intervention services have better speech and language skills than those who are later identified. They further reported that children who receive a cochlear implant (CI) or hearing aid (HA) before the age of six gain critical auditory and speech development skills. Several studies have similarly reported that children with CIs or HAs have increased skills in expressive and comprehensive speech skills, speech intelligibility, language development, and overall communication skills due to their ability to access sound (Armbruster, Lehr, Osborn, 2001; Johnson & Goswami, 2010; Trezek & Wang, 2006; Wang, Trezek, Luckner, Paul, 2008).

Phonological awareness is the ability to listen to the sounds of words and both distinguish and manipulate those sounds. Several studies indicate the importance of phonological awareness in children who are DHH and their ability to learn to read (Friedman Narr, 2006; Johnson & Goswami, 2010; Kyle & Harris, 2006; Ladd, Martin-Chang, Levesque, 2011). Friedman Narr (2006) explains that phonological and phonemic awareness skills are important because they are the link between sounds and a word’s meaning. Johnson & Goswami (2010) found that speech perception aids in phonological development, and improved speech perception helps children generalize language skills, consequently benefitting literacy development. Luetke-Stahlman &
Nielsen (2003) found that DHH children develop reading skills similar to children with normal hearing. Their study also found that the ability of a DHH child to identify and comprehend words, and substitute one phoneme for another, strongly correlates with their ability to read. They further support their claims that a DHH child’s ability to learn to read assists in that child’s ability to learn word comprehension, word identification, and phonological awareness.

Each of the four books proposed has a page at the very beginning of the book with tips on how parents should read a book to their child with hearing loss. This included ideas for children of different ages. Phonological awareness is taught to a one year old differently than an older child. The parent would point to a picture and say, “D-D-D-Dance! Can you dance? Dance, dance. He is d-d-dancing!” This puts a phonological emphasis on the “d” sound and the word “dance.”

**Emergent Literacy Skills Development**

The term “emergent literacy” is used when describing the ways in which young children learn literacy skills. Children don’t just suddenly know how to read, but are taught through use of evidence-based practices in literacy development. Vocabulary (semantics), grammar/word structure (syntax), and phonology (the base of word sounds) (Perigoe, 2001) are areas in which children develop reading skills, and these early literacy skills break down into seven separate “domains,” including: listening comprehension, oral language, phonological awareness, alphabet knowledge, print awareness, written language, and text comprehension (Center for Early Literacy Learning [CELL] 2012-2013). Each of these domains develops during infancy, toddlerhood, and preschool-age; each also emphasizes the importance of reading to children, playing listening games (such as “Simon Says”), and talking to them in a sing-song voice (also known as “motherese” or “parentese”).
CELL describes each of the seven domains as follows: During the development of listening comprehension, receptive language (the ability to understand spoken speech) development takes place. By preschool age, a typically developing child has a 1,200-2,000 word receptive vocabulary, understands two-step directions and contrasting concepts, and understands “wh” questions. Oral language is the ability for a child to use expressive language in their communication with others. A typically developing infant might have an expressive vocabulary of approximately 50 words (by approximately 15 months of age), and skyrocket through toddlerhood until by the end of preschool age when their vocabulary contains up to 14,000 words. The development of phonological awareness begins in infancy with learning how to babble or coo through exposure to “motherese,” rhymes, and songs. During the first six months, infants begin to recognize with familiar sound patterns, which builds through conversations between parent and child or child and siblings. Nursery rhymes, playing rhyming and word games, and reading also build phonological awareness. Toddlers also begin to recognize that sounds—words—have a meaningful purpose. Alphabet knowledge (or the ability for a child to recognize and name alphabet letters) begins when infants play with alphabet toys or blocks, have alphabet books read to them, and the alphabet song sung to them. Print awareness is the ability for a child to see printed words and recognize them as such. Children gain this skill by looking at books, being exposed to reading, practicing writing, and constant exposure to words at home and in the preschool classroom. Written language is developed similar to print awareness. Text comprehension begins by teaching infants how to hold books, and point while reading (left to right, top to bottom). Text comprehension continues through preschool age where children actually begin to attempt to read books independently and/or with an adult. Emergent literacy
skills and literary devices were all taken into careful consideration while the books were being developed.

Most children are interested in the pictures of a book before they become interested in the text. Because of this, illustrations in a book play an important role in a child’s development, particularly when they can understand and personally identify with what they see in the picture. For a DHH child, that may simply be that the child in the picture has hearing aids or a cochlear implant—just like they wear. Because of the importance of illustrations, a lot of time was put in to developing the pictures of each book to ensure they were bright, creative, and fun.

**Importance of Reading in the Home**

Parents play a crucial role in their child’s development, and parental involvement is a very common topic when concerned with improvements in education (Epstein, 2001). Parent involvement creates a way for educators and family members to provide the best intervention for their child. Changes made to the Individuals with Disabilities Education Act (IDEA) 1997 reauthorization encourages parents to become more involved in their child’s education and decision-making process. Furthermore, early intervention programs, and school-based programs encourage parental involvement (Calderon, 2000).

Home is the most ideal and natural place for a child to learn the important things they need in order to succeed in life. Parent-child reading is critical because it enhances language-learning with preschool children who are DHH (Pakulski & Kaderavek, 2004). Some researchers recommend that parents of children who are DHH should place their children on their lap while reading. This natural position allows the parents to speak closely to their child’s CI or HA microphone and allows the child to look at the pictures and words in the book while their parent is reading to them. This seating position, with a child touching their parents while
reading, is important because touch plays a powerful role in the development of infants (Diamond & Amso, 2008). While the child is getting auditory input, they are still able to look over their shoulder for visual input, if needed (Pakulski & Kaderavek, 2004). A parent can point to pictures and guide their child’s hand to point at pictures while explaining new concepts. This is also called “joint attention.” Joint attention occurs when a parent notices their baby look at something and acknowledges what their infant is looking at by explaining what it is. For example, if the child sees the family dog, the mother or father says, “Dog,” “Doggy,” or “Puppy.”

When parents read to children, it is important that parents modify the language in order to accommodate the child’s comprehension level. Even children’s picture books targeted for a five year old can be read to a two year old, with simplifications made to the story. This will assist in the child’s ability to pay attention to the book and expose them to simplified language skills. It is also important to note that the book can begin to grow more complicated as the child develops language skills. When a child is read to, they see and hear the words printed in the book, which are described through pictures. These are known as symbols, and the use of symbolic language requires children to make connections between an abstract symbol (a word) and a concrete object (the picture) (Pakulski & Kaderavek, 2004).

**Extension Activities**

Extension activities include any hands-on activity that occurs as a result of reading a book, or provides a correlation between the activity and the information contained in the book. These activities assist in elaborating new vocabulary and concepts in which the child may not have been previously exposed (Pakulski & Kaderavek, 2004). For example, if a parent reads the book “Five Little Pumpkins” (Yaccarino, 1998), that parent can follow-up the story by showing
their child pictures of real pumpkins and talk about how pumpkins grow and how they are harvested in the fall. The parents can also take their child to a pumpkin patch, or purchase a pumpkin for the child to paint/carve. Furthermore, this book is often sung to a tune, so the parents can teach their child this song in addition to reading the book.

Another example, taken from The National Institute for Literacy’s *Shining Stars* *Preschoolers, Get Ready to Read* pamphlet, takes place with a father’s interaction when his child is creating an alphabet book. The child chose a picture of a boat for the letter “B,” and the father said, “That’s a canoe.” The child disagreed, because he knew the general form of a boat. The father was able to expand upon his child’s knowledge by saying, “That’s right, it’s a boat. And this kind of boat is a canoe.” He didn’t leave it at that, though. He found more pictures of different types of boats, they went to the library and found toy boats, they made a wooden boat, and talked about the different parts of the boat (sail, mast, etc.). Each step expanded on his child’s current knowledge (or schema) of a boat and provided physical ways for his child to learn more about boats. This is important because, “There’s more to reading together than just saying the words” (National Institute for Literacy).

The extension activity for *Alphabet Bugs* is in three parts. The first included real pictures of the bugs in the book. The parents were asked to compare the pictures of real bugs to the pictures in the book. The parents were also provided with plastic, toy bugs with the idea they could hide the bugs and the children could find them. The final part of the activity was to compare the picture of the real bug, the toy but, and the picture in the book to help solidify the concept that they are all the same bug, even though they may look a little different in a picture or in a toy form.
“Max is Afraid of the Dark” is a story about a little boy who thinks he hears things in the night, but realizes that the sounds he hears are only a tree, his bed, and his cat. Because the book focuses on sounds we hear in our homes, the activity was identifying things in the home which make noise. There were pictures of typical items in a home which make noises (microwave, door, toilet, etc.). On the back of this sheet were instructions for parents on how to do the activity, and other possible items in the home which the children may identify that are not on the page (such as a door squeaking).

The extension activity for “My Ears Hear Differently” is a song that was developed by Whitney Wright for her graduate thesis project. The song is sung to the tune “We’re Going on a Bear Hunt” and contains each of the Ling-6 sounds, just like the book. A copy of the song was provided, as well as two copies of the pictures (a set for the parent and a set for the child).

The final extension activity for “Who Likes to Lick Lilly’s Lollipop?” was developed with the purpose of assisting in story recall. A picture of Lilly holding her lollipop was printed and laminated, and a part of Velcro was placed on her lollipop. A copy of each anima from the book was also provided, so the children could stick the animal to the lollipop as they read the story.

**Importance of Reading in the Preschool Classroom**

Deaf educators play a crucial role in the literacy development process by exposing children to a literacy-rich environment. Furthermore, literacy development should occur throughout the school day through hands-on experience, because experience plays a critical role in the development of the brain (Diamond & Amso, 2008). In addition to a child who is DHH being exposed to language and literacy, children’s books have the potential to expose peers to information about other children in the class with a disability. When picture books are put in a preschool classroom with characters who wear cochlear implants or hearing aids and one (or
more) of those children also wear those devices, other children in the classroom get the opportunity to see—in a book—that maybe it’s not so unusual that some people wear devices to help them hear.

**Extension Activities**

An example of an extension activity in a preschool classroom might include using “The Very Hungry Caterpillar,” (Carle, 1994) and then incorporate the fruits depicted in the book during snack time. Art activities can include making a picture book of the days of the week (thus incorporating the book and sequencing of days of the week), or to have the “dress ups” or “pretend play” center include different bug wings for the children to pretend to be bugs or butterflies.

An advantage of extension activities in preschool classrooms is they can overflow to home activities. In an ideal situation, a deaf educator should send home daily home notes to parents informing them of the activities, and monthly newsletters describing the monthly/weekly theme. An activity that can be taken from the classroom and applied at home would be to explain to the parents that we are working on counting from 1-10 and explain we’ve been reading the “Very Hungry Caterpillar” book. Suggest to the parents ways they can work on counting at home, such as by counting leaves (since caterpillars eat leaves), counting grapes that they eat at home, or counting dishes as they help set the table.

Four copies of each “parent packet” will remain with the Sound Beginnings preschool. To incorporate extension activities in the classroom, the teachers will be allowed to check out these packets. The packets will remain intact with all items used for the project (save the feedback). The packets can then be sent home with parents in the same way they were sent home for this project.
Children’s picture books are important to the development of emergent literacy skills and language skills in preschool-aged children. Parents play a very important and active role in the development of their children, and teachers can provide support to parents of children who are DHH while expanding on the knowledge children may currently have. When parents read to their children, they are able to point to things in the pictures and ask their child questions. Their child will be comfortable and willing to answer those questions and ask questions themselves. When teachers read to children, they can tie new concepts or vocabulary words together with an activity in the classroom. The availability of additional picture books with positive depictions of children who are DHH using hearing technology and participating in typical daily activities might foster language and literacy development within natural contexts and would be an important contribution to literacy options for teachers, parents, and children.

**Project Outcomes**

To contribute to the gap with children’s picture books and their portrayal of children who are DHH, I wrote four children’s books appropriate for children between birth and 5 years of age. The characters in each book have hearing loss and use assistive hearing technology (such as a hearing aid, cochlear implant, or baha). Each of the books utilized aspects of literary components (such as rhyming and letter knowledge) while at the same time depicting children who are DHH participating in typical daily activities. “My Ears Hear Differently” is a little rhyming story where the children are portrayed doing typical daily activities (taking a nap, swinging, dancing, and cooking). The other three books do not mention hearing loss at all, but have characters with hearing loss portrayed in the pictures.
When I conceptualized these books, several literary components were considered in the developmental process to be elements of the book. The “Guide to Literacy Terms” book describes which emergent literacy skills and literary devices were used for the books. This guide not only contains a definition of each term, it includes an example of how a parent can target the skill while reading to their child. Each parent packet contained this guide. Each book had a preface page which: describes possible new vocabulary terms in that book, gives tips on how parents can read the book to their child, and a brief description of the activity provided with the book. The book preface explains the targeted literary components and skills, providing parents with suggested strategies for using the books to their full potential.

**Alphabet Bugs** (see Appendix A)

a. This book was written and illustrated by Lichelle Slater.
b. Age target: three to five years old
a. The “Parent Packet” included:
   i. *Alphabet Bugs*
   ii. “Guide to Educational Terms” book
      1. Contains terms of literary devices (such as motif and theme) and literacy skills (such as print awareness and book knowledge).
      2. Suggestions to parents on how to use these terms while reading to their children.
   iii. Extension activity
      1. Pictures of real bugs which are in the book.
      2. Toy bugs for a “bug hunt”—the parents were given instructions to hide the bugs (difficulty depending on the age of the children) around the home for the children to find.
      3. Instructions to show the real pictures, toy bugs, and pictures in the book and compare them to help the child make the connection
   iv. “Parent Feedback” form
      1. Included questions to help the primary author better develop the books.

**Max is Afraid of the Dark** (see Appendix B)

b. This book was written by Lichelle Slater and illustrated by Carrie Ellen Sorenson.
c. Written for Children: three to five years old
d. The “Parent Packet” included:
   i. *Max is Afraid of the Dark*
   ii. “Guide to Educational Terms” book
1. Contains terms of literary devices (such as dialogue, personification) and literacy skills (such as print awareness and book knowledge).
2. Suggestions to parents on how to use these terms while reading to their children.

iii. Extension activity
1. Because the book focuses on sounds we hear in our homes, the activity included a sheet of paper. There were pictures of typical items in a home which make noises (microwave, door, toilet, etc.). On the back of this sheet were instructions for parents on how to do the activity, and other possible items in the home which the children may identify that are not on the page (such as a door squeaking).

iv. “Parent Feedback” form
1. Included questions to help the primary author better develop the books.

My Ears Hear Differently (see Appendix C)
a. This book was written and illustrated by Lichelle Slater.
b. Contains the LING-6 sounds
c. Written for Children: birth to three years old
d. The “Parent Packet” included:
   i. “My Ears Hear Differently”
   ii. “Guide to Educational Terms” book
      1. Contains terms of literary devices (such as theme, and rhyme) and literacy skills (such as print awareness and book knowledge).
      2. Suggestions to parents on how to use these terms while reading to their children.

iii. Extension activity (The song “We’re Going to Use Our Listening Ears” was developed by Whitney Wright as part of her thesis. It is sung to the tune of “We’re Going on a Bear Hunt,” and uses the Ling-6 sounds.)
   1. A copy of the song.
   2. Two pictures of an airplane, witch, ice cream cone, ghost, sleeping baby, and a mouse (a copy for the child and a copy for the parent).

iv. “Parent Feedback” form
1. Included questions to help the primary author better develop the books.

Who Likes Lilly’s Lollipop? (see Appendix D)
a. This book was written by Lichelle Slater and illustrated by Katrina Rowley.
b. Written for Children: three to five years old
c. The “Parent Packet” included:
   i. “Who Likes to Lick Lilly’s Lollipop?”
   ii. “Guide to Educational Terms” book
      1. Contains terms of literary devices (such as alliteration and dialogue) and literacy skills (such as print awareness and book knowledge).
2. Suggestions to parents on how to use these terms while reading to their children.

iii. Extension activity
   1. A picture of Lilly holding her lollipop
   2. A copy of each of the animals from the book
   3. Instructions for parents to use this to help their children re-tell the story

iv. “Parent Feedback” form
   1. Included questions to help the primary author better develop the books.

A copy of each book was placed in the classrooms. After the books had circulated through the students in the classroom, the teachers were given a feedback form similar to that of the parent’s.

**Dissemination**

In November, 2013, four preschool teachers of children DHH were given all four copies of the books to put in their classrooms. At the same time, 18 parents of children with hearing loss received their first book packets. Included with the packets was a small book with literary skills and devices with suggestions of how parents could use them while interacting with their child. Also provided were the book, an extension activity, and a questionnaire for the parents to fill out. A letter was sent home to parents in the Sound Beginnings to announce that the books were being sent, and explained how to use them. In the Mainstream class, a letter was sent home with parents asking if they would like to receive the books to read with their child, and then provide their impressions of the books.

**Parent Feedback**

In order to measure the value of the books to children who are DHH and children with typical hearing, parent feedback forms were included in each of the packets. Although not all parents provided feedback on every book, of the parents who participated a total of 62 parent
feedback forms were returned: 40 responses were from parents of children who are DHH and 22 were from parents of typically hearing children. The following describes the questions asked and the responses that were given.

**My child seemed to like this book: Less than/the same as/more than other books**

Overall, 32 (54%) of the parents felt their children enjoyed these books the same as other books, 20 (32%) more than other books, and 10 (16%) less than other books. Although the books were generally liked the same as other books, the two books which were liked “more than other books” were *Alphabet Bugs* and *Who Likes to Lick Lilly’s Lollipop?* (see Figure 1).

**Describe your child’s reaction to the book**

Overall, 51 (84%) parents felt their children enjoyed the books while only 4 (6%) parents gave neutral reactions (such as “didn’t show much reaction, but commented that the kids had hearing aids and implants”) and 6 (10%) parents felt their children didn’t enjoy the books. Feedback from parents mentioned the activities, how much the children enjoyed the illustrations, and that the children were interested in the hearing technology in the books. One parent of a DHH child described that their child “…was interested in the different hearing aids and implants in the pictures and told me which of her friends had which” (*Alphabet Bugs*) (see Figure 2).

**Did your child enjoy reading a book where characters had hearing technology? Why or why not?**

Overall, 31 (51%) of parents felt their children did notice the hearing technology, while 20 (33%) did not, 7 (11%) gave no response, and 3 (5%) didn’t understand the question. Twelve of the parents of DHH children felt their children enjoyed the books because they could personally relate to the characters. The children with hearing loss were also described as being interested in the different types of technology in the pictures. Although there were 40 (66%)
responses from DHH parents and only 21 (34%) from parents of hearing children, only 4 (7%) of the parents of typically hearing children said their child noticed the hearing technology while 27 (44%) of the parents of DHH children said their child enjoyed reading a book with characters who had hearing technology (see Figure 3).

The provided activity did/did not impact your child because…

Forty-six (75%) parents felt the activity provided with each book did impact their children, and only 9 (15%) did not feel it impacted their children, while 4 (7%) gave no response and 2 (3%) parents stated they didn’t participate in the activity (see Figure 4). Those parents who felt the books did not impact their children expressed it was because their children didn’t like bugs, or that the activity provided was too low/too high for the age of their child. Most parents felt that their child was able to associate the activity with their environment, liked the hands-on exploring, and made a connection between the activity and book. Parents also expressed that they felt the activity developed/strengthened language foundations (see Figure 5).

What (if any) skills do you feel your child gained by reading this book? By participating in the activity?

The answers to this question have been broken down into two categories: Emergent Literacy Skills and Language Development. The category of “Emergent Literacy Skills” included: critical thinking skills, reading, matching, rhyming, story recall, sequencing, etc. The category of “Language Development” included skills such as: practicing sounds, listening, language foundations, etc. Because this is an open-ended question, parents were able to answer multiple answers and under both categories. Parents of DHH children gave a total of 38 responses, and 37 responses came from parents of typically hearing children. Under the category
“Emergent Literacy Skills,” 54 responses were given, and under the category “Language Development,” a total of 21 responses were given (see Table 1).

A breakdown of the books shows that 31 (84%, n=37) responses from typically hearing parents felt their children learned more Emergent Literacy Skills and only 6 (16%, n=37) Language Development Skills were reported. In contrast, 23 (61%, n=38) Emergent Literacy Skills were listed by parents of DHH children and 15 (39%, n=38) described Language Development Skills (see Figure 6). These responses are based on parent perceptions of their child’s development and cannot be empirically validated under the format of this project. However, given that the purpose of this project was to obtain parent feedback, their perceptions of child language and literacy benefit was valuable anecdotal information.

**Suggestions for changes or improvements for this book?**

Of the total 61 responses given from parents, 31 (51%) gave feedback, 12 (20%) said no changes needed to be made, and 18 (29%) gave no response (see Figure 7). Changes the parents suggested for *My Ears Hear Differently* were to improve the pictures (in order for the hearing technology to be more visible). Some parents felt *Alphabet Bugs* was too advanced for their younger children and some of the bug names were too complex, but the most common suggestion was to change the font. The most suggestions for changes were to *Max is Afraid of the Dark* and included making the story last longer and changing the ending so the children didn’t feel like they should be afraid of the dark.

**Teacher Feedback**

Unfortunately, only two teachers responded to feedback forms similar to those of the parents. However, the feedback they provided is still valuable. Teacher 1 felt that their children
enjoyed all four books “the same as other books,” while Teacher 2 felt her children enjoyed *Max is Afraid of the Dark* and *Alphabet Bugs* “more than other books.”

Teacher 1 described that the children chose to read these books during free choice time, and that they “liked pointing at the technology and naming who in the class wears what type of technology” in *My Ears Hear Differently*. She also explained that during the reading of *Who Likes to Lick Lilly’s Lollipop*, she pointed out the technology, but “they weren’t very interested. I’m not sure they liked the books more because of it.” In the same book, she also stressed that the children “enjoyed the alliteration!” There were no suggestions for changes or improvements to any of the books.

Teacher 2 described that during the reading of *Alphabet Bugs*, the children enjoyed the story, but had a difficult time attempting to read the book because of the font. They enjoyed reading the books with characters who have hearing technology because they “felt they had a connection with the characters.” During *Max is Afraid of the Dark*, she explains that they loved the story and enjoyed talking about things they are afraid of. Her children also “really enjoyed” reading *My Ears Hear Differently* and that “they loved the aided children [because] they felt a connection with them.” Finally, *Who Likes to Lick Lilly’s Lollipop* was a book they enjoyed and the children “interacted by predicting what would happen next in the story.” The teacher also explained the children “enjoyed the children having HA, BAHAH, etc. because they thought it was “cool” that they looked the same.”

**Summary**

This project identified the gap in current children’s literature and their depiction of children with hearing loss, and helped strive to fill that gap a little more by adding four books
with characters who have hearing technology. Different areas of development were taken into consideration while developing these books. As results show, each book fulfilled various categories under Emergent Literacy Skills as well as Language Development Skills.

As described in the proposal of this project, reading at home is not only important for a child’s ability to learn how to read, but is also crucial for children to learn language. Parents play the most important role in the development of their children. As described in the proposal, a book written at an older age level can be read to a younger child, if the parent knows how to make those adjustments of knowing how to point to the pictures and not necessarily read the story word-for-word. A parent of a child with hearing loss described how she was able to adjust *Alphabet Bugs* for her son, who “is still quite behind with language.” She described she had been taught “how to talk about the book on their level.” She explained that, because she learned these skills from the Speech Language Pathologist, her son was still able to receive “an introduction to the ABCs/bugs as well as be a great tool/book to grow with [him].” Furthermore, two parents of typically hearing children described the following: “The household sounds activity did impact him, mostly because he liked spending the time with his mom and he liked that I walked around with him to find things,” and “I think the most impact [the activity] had on him was because he got to spend quality time one-on-one with my full attention.” Both parents emphasized the importance of spending valuable time with their child, which contributes to their development and growth.

Carefully planned extension activities were provided for each of the books which were developed to target different areas of speech and language. For example, *My Ears Hear Differently* had an extension activity which was a song, while the extension activity for *Alphabet Bugs* was making a connection between a physical item and a picture.
As planned, a copy of each book was provided to the teachers of children with hearing loss and the teachers of children with typical hearing. Shortly after the books being placed in the classroom, the director of the school of children with typical hearing sent an email stating, “Our senior Preschoolers loved the books and have decided to make a book for their Sound Beginnings friends too! Thanks again and please thank the grad student!” About a month later, a speech language pathologist excitedly described an encounter she had with a parent during parent teacher conferences, explaining the parent gushed about “the greatest book” that her son was sent home with. She told how her son and two year old loved the book and wanted to keep it and hoped that there would be more books sent home (this book was *Alphabet Bugs*).

Although only of the six teachers given copies of the books responded to the feedback forms, it is still evident that children with hearing loss enjoyed reading the books both at home and in the classroom. Children with typical hearing (who have been exposed to children with hearing loss) also enjoyed the books, because they were able to make that connection with their friends.

Ideally, all parents (both of children who are DHH or children with typical hearing) are reading many different types of books in the home. Children must develop early literacy skills in order to gain both educational skills and language skills. In addition to these skills, children gain self-identity which can grow as they read books with characters they can personally relate to. When asked to describe their child’s reaction to the characters in books and whether or not their child noticed the hearing technology, 12 of the 40 parents of DHH children stated that their child could personally relate to the characters. One mother described how her son was “surprised and excited to see that all the kids in the book had hearing aids” while another parent explained that her daughter was intrigued and the hearing technology “really pulled her in.” Another parent
stated, “He liked that Max had hearing aids like him.” Finally, one mother was thrilled and wrote, “Yes! This character has HA that look like his soccer ball CI covers. He thought that was cool!” One parent of a typically hearing child stated that her child noticed the hearing technology and immediately associated those with his friends who have hearing loss. When children can develop a sense of self and a sense of identity by reading books, they are more likely to want to read those books, which will only further their ability to learn both reading and language skills.

**Future Directions**

All of the parent feedback given was helpful in knowing what about the books was good, and what things need to be changed. For the parents who suggested changing the font in *Alphabet Bugs*, this will be very easy to fix. Unfortunately, some of the bug names were a little complicated and this was due to the book emphasizing the beginning sounds of the bugs and the words on each page. Because of the emphasis on beginning sounds, some of the letters were difficult to find bugs with the beginning sound (particularly the letter X). There was another suggestion concerning the representation of races in this book (mostly with the Native Americans), and this feedback was very valuable. The feedback for the biggest changes were to *Max is Afraid of the Dark*. The suggestions were to make the story longer in order to allow Max to explore more things at home that make noise. This is such great feedback, and this book can definitely be extended. Furthermore, there were suggestions to also change the ending to the story, which is something that can be explored. There were a couple of suggestions to adjust the illustrations for *My Ears Hear Differently*, particularly to make the hearing technology more visible. This is something which can be easily altered. Finally, there were suggestions to adjust the illustrations for *Who Likes to Lick Lilly’s Lollipop?* because her cochlear implant gets lost.
against her red hair. A couple of parents suggested changing “Labrador” to a more exotic animal as well. One parent suggested making a change to the story and not having animals try and eat human food. Although animals shouldn’t eat human food, this part of the story will not be altered.

Going forward, there will be changes made to each book based on the feedback received. For *Alphabet Bugs*, I will adjust the illustrations for the Native American children, putting them in typical clothes but with a piece of jewelry or beaded handbag which are representative of different tribes. By doing this, the illustrations are moved beyond the stereotypical view of a Native American while still ensuring the diverseness in races is still explored throughout the book. The font will also be adjusted to a very basic font, which should help children be able to identify the alphabet letters more easily. I will also make adjustments to *Max is Afraid of the Dark* by adding more to the story (Max will find more things that might make noises), and I will also adjust the ending of the story. The illustrations for *My Ears Hear Differently* will be improved to help make the hearing devices more visible, and Lilly in *Who Likes to Lick Lilly’s Lollipop?* will have some of the illustrations altered to make her cochlear implant more visible, and to have a different animal than a Labrador. Furthermore, this book is part of many. Eventually, there will be a book written focusing on the beginning sounds, and hopefully eventually a book written for all ending sounds, and a book written for each of the medial sounds.

Because of this project, I have come to have an even more solid understanding of why it’s so important for deaf educators to communicate frequently with parents. As a service provider, I have grown to appreciate the feedback of parents, and come to realize more and more that parents are the ultimate teachers of their children. I hope to be able to develop professional
relationships between myself and parents, and I particularly hope that these books will be a means in which more professionals can reach out to parents (both through the classroom and therapy, or whatever the case may be), and that all parents can buy these books and that their children will continue to make personal connections with the characters in the stories. Hopefully, these books will also be a means to expand awareness of hearing loss in children.
References


LaCour, Misty M.; McDonald, Connie; Tissington, Laura D.; Thomason, Gina (2013). Improving Pre-Kindergarten Children’s Attitude and Interest in Reading Through a Parent Workshop on the Use of Dialogic Reading Techniques. *Reading Improvement, 50*(1), 1-11.


Table 1: What (if any) skills do you feel your child gained by reading this book? By participating in the activity?

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples of Parent Responses</th>
<th>DHH Children n=38</th>
<th>Hearing Children n=37</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergent Literacy Skills</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Language Foundations (Alphabet Knowledge &amp; Print Awareness)</td>
<td>Expansion of rhyming and rhythm with the book and activity. He found the letters in the text and recognized capitals and small letters. I think he maybe learned to recognize similarities in the toys and the photos.</td>
<td>11 (29%)</td>
<td>19 (51%)</td>
</tr>
<tr>
<td>Prediction &amp; Sequencing/Story Recall &amp; Critical Thinking</td>
<td>I think he learned a few new names and he learned to guess (and think about ) why some bugs/things are called certain names. He learned some &quot;retelling&quot; skills. He was able to retell the story in his own words and still tell the main points of the story.</td>
<td>6 (16%)</td>
<td>5 (14%)</td>
</tr>
<tr>
<td>New Vocabulary (bug names)</td>
<td>Learning the names of unfamiliar bugs and what they look like. He learned some new words</td>
<td>3 (8%)</td>
<td>6 (16%)</td>
</tr>
<tr>
<td>Social Skills Development &amp; Self Confidence</td>
<td>Liked making the sounds and hearing her brother guess which card she was looking at. Builds confidence and strengthens language foundations</td>
<td>3 (8%)</td>
<td>1 (3%)</td>
</tr>
<tr>
<td><strong>Language Development Skills</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonemic &amp; Phonological Awareness (hear, identify, and manipulate sounds)</td>
<td>New words, phonics, reading out loud. Worked on &quot;L&quot; sound.</td>
<td>15 (39%)</td>
<td>6 (16%)</td>
</tr>
</tbody>
</table>
Figure 1. How parents felt their children liked the books overall.
Figure 2. Overall, parents described their child’s reactions to the books.
Parents describe their children’s reactions to characters with hearing technology in the books.

Figure 3. Parents describe their children’s reactions to characters with hearing technology in the books.
Figure 4. Parents describe their child’s reactions to the activity provided with each of the books.
Figure 5. Parents describe their child’s reactions to the activity provided with each of the books.
Figure 6. Parents describe what types of skills their children possibly gained by reading the books and participating in the activities.
Figure 7. Parents stated whether or not they have any suggestions for changes/improvements for the books and described what types of changes should be made.
Appendix

Appendix A: Alphabet Bugs

Alphabet Bugs

Written and Illustrated by: Lichelle Slater
Rory rolled a ROLY POLY over rocks.
Appendix B: Max is Afraid of the Dark

Written By: Lichelle Slater

Illustrated By: Carrie Ellen Sorenson
He thought he heard fingernails *scratching* on his window!
Appendix C: My Ears Hear Differently

Written & Illustrated By: Lichelle Slater
My ears hear differently...

...and I like to cook from a book!
Appendix D: Who Likes to Lick Lilly’s Lollipop?

Who Likes to Lick Lilly’s Lollipop?

Written By: Lichelle Slater
Illustrated By: Katrina Rowley
Lilly puts the lizard on a log.

Goodbye, lizard!