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Effects of Interactive Books on Phonological Awareness Skills in Pre-Kindergarten Children from Low-Income Environments

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EFFECTS OF INTERACTIVE BOOKS ON PHONOLOGICAL AWARENESS SKILLS IN
PRE-KINDERGARTEN CHILDREN FROM LOW-INCOME ENVIRONMENTS

By

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# TABLE OF CONTENTS

List of Tables...........................................................................................................v
List of Figures..........................................................................................................vi
Abstract...................................................................................................................vii

**CHAPTER 1**

Review of the Literature.........................................................................................1

**CHAPTER 2**

Method

- Participants...........................................................................................................4
- Setting...................................................................................................................5
- Stimuli..................................................................................................................5
- Experimental Design............................................................................................6
- Procedures.............................................................................................................6
- Data Collection & Measures................................................................................7
- Reliability..............................................................................................................8

**CHAPTER 3**

Results....................................................................................................................9

**CHAPTER 4**

Discussion..............................................................................................................14

**APPENDIX**

- Books Used in the Study......................................................................................18
- REFERENCES.......................................................................................................19
- BIOGRAPHICAL SKETCH...................................................................................21
LIST OF TABLES

Table 1. Demographic Characteristics & Pretest Scores of Participants…………………………4

Table 2. Pre and Post Test scores for GRTR Screening Tool, IGDI (Alliteration & Rhyming), and Blending/Segmenting Tasks…………………………………………………………………………………………………………………………13
LIST OF FIGURES

Figure 1. The weekly test performance of participants on IGDI Alliteration and Rhyming measures……………………………………………………………………………18

Figure 2. The weekly test performance of participants on researcher-made blending and segmenting measures…………………………………………………………………19
ABSTRACT

The purpose of this study was to determine whether preschool children from low-income environments learn phonological awareness skills when presented with interactive activities while listening to stories in an independent listening center. Four preschool children participated in a multiple baseline across participants. Participants were given interactive books with opportunities for rhyming, alliteration, blending, and segmenting. The children listened to stories under headphones for 15 weeks. Results showed that participants quickly improved their performance on the rhyming and alliteration measures. Their performance steadily improved on the blending and segmenting measures. Use of interactive books in a listening center format during the preschool years could help preschool children learn the phonological awareness skills needed to become successful readers in the future.
CHAPTER 1

Review of the Literature

The acquisition of emergent literacy skills is considered to be a foundation for reading success in young children. It consists of the knowledge, skills, and attitudes believed to be precursors to reading (Teale & Sulzby, 1986). The preschool years should focus on the development of both outside-in processes and inside-out processes of emergent literacy (Whitehurst & Lonigan, 1998). Outside-in processes represent the child’s understanding of the written context and how it occurs in text (e.g., print knowledge). These components include: language (semantics/syntax), narratives, and print knowledge. Inside-out processes represent the child’s knowledge of certain rules for translating written words into sounds. These components include: letter-name knowledge, phonological awareness, and letter-sound knowledge.

Children from low-socioeconomic environments generally have little experience with books that provide opportunities for them to learn emergent literacy skills incidentally, or without direct instruction (Hart & Risley, 1995). Children who do not enter school with these skills are considered at-risk for reading failure. Moreover, these disparities between children are likely to broaden, as the “Matthew Effect” states that “the rich continue to get richer while the poor continue to get poorer” (Stanovich, 1986). If children do not enter school with the skills necessary to learn to read, they are less likely to develop reading skills. In turn, they will be less likely to enjoy reading books and are less likely to read. Children who do not practice reading will struggle with reading comprehension (Stahl & Murray, 1994).

Phonological Awareness

A particularly important aspect of emergent literacy is phonological awareness. Phonological awareness is the sensitivity to the sounds in spoken language and how the sounds can be manipulated. Phonological awareness skills are said to lie on a continuum of complexity, with rhyming and sentence segmentation being less complex skills (Adams, 1990; Chard & Dickson, 1999). Tasks such as segmenting words into syllables and blending syllables into words are more difficult. More complex tasks involve phonemic awareness, the understanding that words are made up into individual phonemes. At this level, children are able to change the sounds within words to create new words, blend sounds together to make words, and segment
words into sounds (Chard & Dickson, 1999). Children need to acquire these skills to develop the ability to read written language.

Bradley and Bryant (1985) and O’Connor, Jenkins, Leicester, and Slocum (1993) state that children from low socio-economic families are at-risk for not developing these critical phonological awareness skills before they enter kindergarten. Raz and Bryant (1990) found that children from low-income homes demonstrate less knowledge of alliteration and rhyme than their peers from middle SES homes. Bowey (1995) found that children from low SES had poorer reading achievement partly because of early differences in phonological awareness. Consequently, early intervention is needed to enhance emergent literacy skills.

Researchers have shown that phonological awareness can be developed through carefully planned instruction (Ball & Blachman, 1991; Byrne & Fielding-Barnsley, 1991). Longitudinal studies have indicated that successful training in phonological awareness skills results in significant improvement in reading acquisition (Stahl & Murray, 2004). The combination of phonological awareness and letter-sound knowledge are the most crucial skills for success in early reading (Haskell, Foorman, & Swank, 1992). However, most studies of phonological awareness interventions have been conducted with kindergarteners and first graders (Ball & Blachman, 1991; Blachman, Ball, Black, & Tangel, 1994).

Byrne and Fielding-Barnsley (1991) found that preschool children who were given a 12 week intervention demonstrated robust improvements in phonological awareness skills and these skills were maintained through the second grade. The training program (i.e., Sounds Foundations; Bryne & Fielding-Barnsley, 1989) focused on these explicit teaching methods: (1) using posters to show the sound in words (i.e., initial and final positions), (2) discussing how sounds are in made in the mouth, (3) reciting jingles or poems with the target phoneme, (4) having the children look for objects that include the phoneme, (5) completing worksheets for the beginning and end of sounds, and (6) playing card games that required the children to join cards sharing beginning and ending sounds. Likewise, other studies such as the Justice and Ezell (2000) showed that caregivers can be taught to teach their 4 year-old children phonological awareness skills at home. For training programs to be successful, they must include explicit teaching of phonological awareness skills (Lundberg, Frost, & Petersen, 1998).

Phonological awareness interventions have been embedded successfully within shared-storybook reading contexts. Ziolkowski (2004) taught phonological awareness to language
impaired children in low-income environments through a naturalistic approach, in which rhyming and initial sound awareness were embedded within the context of shared storybook reading. The results indicated that all 23 children with and without language impairments made improvements in initial sound awareness and rhyming knowledge. Likewise, Pullen and Justice (2003) found that shared storybook reading can be an efficient way to teach children print knowledge skills.

Given success in using storybook contexts to teach phonological awareness skills, more research is needed to identify effective ways to teach phonological awareness skills. It would be especially advantageous if investigators could create activities that children can do by themselves in the preschool classroom with minimal adult instruction. Therefore, the purpose of this study was to determine whether phonological awareness skills could be taught to children explicitly during an independent listening center activity. Specifically, the following research question was addressed: To what extent do children from low-income environments learn phonological awareness skills (i.e., rhyming, alliteration, blending, and segmenting) when presented in interactive activities while listening to stories in an independent listening center?
CHAPTER 2

Method

Participants

Four children were recruited from a pre-kindergarten program in an elementary school that serves low-income families. Children met the following criteria: (1) between the ages of 3:5 and 5:5 years, (2) native speakers of English, (3) a standard score that fell within 1.25 standard deviations of the mean on the Clinical Evaluation of Language Fundamentals- Preschool 2 (CELF-P2; Wiig, Secord, & Semel 2004), (4) normal hearing sensitivity based on a hearing screening, (5) no evidence of uncorrected visual impairment or other disabilities according to teacher report, (6) and failed a screening of phonological awareness based on the Get Ready to Read! Screening Tool (Whitehurst & Lonigan, 2001). See Table 1 for demographic characteristics and pretest scores of the participants.

Table 1

Demographic Characteristics & Pretest Scores of Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Gender</th>
<th>Reduced or Free Lunch?</th>
<th>CELF-P2 Standard Score</th>
<th>GRTR Screening Tool-Pretest</th>
<th>GRTR Screening Tool-Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 yrs; 11 mo</td>
<td>Female</td>
<td>Yes</td>
<td>96</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>4 yrs; 2 mo</td>
<td>Male</td>
<td>Yes</td>
<td>108</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>4 yrs; 7 mo</td>
<td>Female</td>
<td>Yes</td>
<td>100</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>4 yrs; 3 mo</td>
<td>Male</td>
<td>Yes</td>
<td>112</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: CELF-P2 ; GRTR: Get Ready to Read, maximum score 20.

Scores of all participants fell within the average range (96-112) on the CELF-P2. The scores for the Alliteration and Rhyming Individual Growth and Development Indicators (Alliteration & Rhyming IGDI; ECRE-MGD, 2000) were analyzed using the norms on the “Get it-Got-it-Go” website (http://ggg.umn.edu/). All scores for the alliteration and rhyming subtests were below average for the participants’ ages.
The *Get Ready to Read! Screening Tool* determines a child’s knowledge of skills considered important for children to learn how to read. The screener includes 20 questions that focus on pre-literacy skills (e.g. book knowledge, letter recognition, letter-sound correspondence, blending, and segmenting). Initially, each participant failed the screening. The scores on the *Get Ready to Read! Screening Tool* ranged between 2 and 7. Given the participants’ ages, scores were below what is expected.

**Setting**

The daily intervention took place in the reading area in the classroom where the children normally read. It was a quiet area, isolated from the other classroom activities. Participants listened to stories through headphones. The researcher narrated the stories on an Olympus digital recorder. The researcher/research assistant began each session by finding the correct file MP3 file and corresponding file folder for the assigned story (e.g. A5) and played it for the participants. Either an undergraduate research assistant or the researcher monitored the students during the listening center. Notes were taken if a student appeared off-task, uninterested, or tired.

**Stimuli**

Seventeen storybooks were used for the study. The books were commercially available books purchased in a local bookstore (see Appendix A). They were (1) between 10-25 pages long, (2) had bright, engaging colors and illustrations, and (3) and opportunities for rhyming, blending, alliteration, and segmenting. The pictures of the books were scanned into a computer and printed in color. A half-inch three-ring binder was used as the book. The text was typed in 36 point font and printed in black ink. The pages were then put into sheet protectors and placed inside the binder. The binder was modeled after a traditional book with the pictures placed on the left and the text on the right. The target words used in the scripts were written on foam stickers and placed on the sheet protector and under the text. The words were split into syllables on 2 stickers. For the blending tasks, stickers were placed apart from each other on the page. The children would manipulate them by putting the syllables together to make a word. For the segmenting tasks, the stickers would be placed together (showing the word). The children would move them apart to show segmenting. The scripts provided the instructions for each task.

**Experimental Design**
A multiple baseline design across participants was employed. The first phase of the study (baseline) consisted of the participants listening to the story under headphones with indicators of when to turn the page. The foam stickers were not placed on the pages during baseline. After three weeks of listening to stories, Participants 1 and 2 began the treatment phase of the study (Week 4 of the study). When intervention began, the participants continued to listen to the weekly stories, but five phonological awareness activities were added to the story. Participants 3 and 4 continued in baseline phase and began the treatment phase on Week 7 of the study. The order of introduction of books was counterbalanced among participants based on a random ordering of the 17 books.

**Procedures**

The treatment was comprised of interactive books and recorded scripts for the participants to follow. Activities embedded within the recorded script taught phonological awareness skills. Rhyming and alliteration activities required verbal responses. For instance, “Hug and bug rhyme. Words that rhyme sound the same. Tell me another word that rhymes with hug and bug.” An example of the alliteration activity would be: “Man and made start with sound /m/. Tell me another word that starts with the /m/ sound.” After each instruction, encouragement was provided within the script. For example, Great! I heard you tell me a word that starts with the sound /m/. Let’s keep reading.”

For the blending task, two words were placed at the bottom of the page. The script said “You should see two words under the picture. Do you see the two words? Good. Now pick up the words. One word is ‘bay.’ The other word is ‘be.’ Now, take the two words and put them together.” A two second pause was inserted so that the children had time to manipulate the stickers. Then, the script would go on to say “bay and be, when you put bay and be together, you get baby.” The segmenting task incorporated the same idea, except the participants were asked to break the word apart. Each book incorporated rhyming and alliteration tasks as well as either blending or segmenting tasks. Scripts provided one opportunity for rhyming, two opportunities for alliteration, and two opportunities for either blending or segmenting. Half of the books focused on blending and the other half focused on segmenting tasks.

At the beginning of each session, the children were told they would listen to the story for that particular day. A welcome and introduction was done through the headphones. The children
were reminded to “turn the pages when they hear the gong sound.” They listened to the same scripts/stories for three days and were tested on the fourth day.

Data Collection & Measures

The effect of interactive books on rhyming, alliteration, blending, and segmenting was assessed using weekly probes. The four probes were given in a different order to each participant every week. To control for learning the task, new set of words was used each week for all four measures.

Alliteration. The Alliteration Individual Growth and Development Indicator (Alliteration IGDI; ECRE-MGD, 2000) was administered at the end of each week to assess the children’s ability to identify the same initial sound in words. The children were presented with a flashcard with four pictures. At the top, there was one picture (the stimulus word). Below the stimulus picture, there were three additional pictures. One of those three pictures started with the same sound as the stimulus picture. The tester said: “This is house (while pointing to the picture of the house). Which one starts with the same sound as house: hat, table, or mouse?” In this case, a picture of a house would be the top picture and the pictures of the hat, table, and mouse would be the three pictures below the stimulus. The participant chose the answer they believed was correct. After demonstration (2 flashcards) and practice (4 additional flashcards), cards were randomly selected and presented to the child. The child would identify as many words as they could in two minutes.

Blending. Assessments used to assess blending skills were modeled after the blending and segmenting tasks from the Test of Preschool Emergent Literacy (TOPEL; Lonigan, Wagner, & Torgesen, 2007). The students were given two minutes to answer as many blending questions as they could. Each flashcard contained 4 pictures beside one another. The child was instructed to choose the picture/word that showed the word the sounds presented would make. For example, the tester would say: “This is bay, baker, bee, and baby. What word do these sounds make: bay bee?” The child then pointed to the answer. The child was given two demonstrations and three practice trials.

Rhyming. The Rhyming Individual Growth and Development Indicator (Rhyming IGDI; ECRE-MGD, 2000) was administered at the end of each week to assess the children’s ability to identify the words that rhyme. This tool is designed similar to the Alliteration IGDI. The children were assessed using flashcards with four pictures on them. The picture at the top of the card was
the stimulus picture/word. Three pictures were printed under the stimulus picture. The children were instructed to point to the picture that rhymed with the stimulus picture. For example, if the stimulus picture was “cake,” then the child would be instructed to find the word that rhymes “cake: tack, coat, or lake.” Similar to the alliteration task, the child was given 2 demonstrations and 4 practice rounds. The child was given 2 minutes to identify as many rhyming words as he or she could.

**Segmenting.** The segmenting tool was the second researcher-made probe. As with the blending task, it was modeled after the TOPEL. The flashcard had 4 pictures printed side-by-side. For the task, the children were asked to segment words into smaller words. For example, the tester would say: “This plan, planet, payment, and net. What do you get when you say planet without plan?” The student then pointed to answer. The children were given 2 minutes to answer as many questions as they could.

**Reliability**

Inter-observer agreement was calculated for the scoring of the Alliteration and Rhyming Individual Growth and Development Indicators (IGDI), and the blending and segmenting tasks for 25% of the weekly assessment sessions. The agreement percentage was calculated by dividing the number of agreements by the number of disagreements plus agreements multiplied by 100. Agreement percentages ranged from 88 to 93%, with a mean of 90.5%. Independent scoring was completed during the sessions by a trained graduate student. The graduate student also second scored the protocol for the Clinical Evaluation of Language Fundamentals-Preschool 2 (CELF-P2). No disagreements were found during second scoring.
CHAPTER 3

Results

Figures 1 represents the weekly scores of the Alliteration and Rhyming IGDI tests. Figure 2 represents the weekly score for the researcher-made blending and segmenting tasks. The horizontal axis represents the sessions (weeks) of the study. The vertical axis represents the number of correct verbal responses in two minutes. On Figure 1, the closed circle symbolizes the rhyming scores and the open triangle symbolizes the alliteration scores. On Figure 2, the closed circle represents the blending scores and the open square represents the segmenting scores. Since half of the books contained blending tasks and half contained segmenting tasks, the “S” stands for a segmenting book and “B” stands for a blending book. A vertical line separates the baseline and treatment conditions.

For each participant, there was an upward trend in alliteration, rhyming, blending, and segmenting skills after introduction of the interactive book phase of the study. Results show that participants did slightly better on rhyming than alliteration overall. Results also show that participants did better on blending than segmenting; however, significant gains were made for both. After intervention started, Participant 1 and 2’s scores on rhyming and alliteration steadily increased. By Week 11, both participants’ scores were within the average range for their ages. A dip on Session 9 is most likely attributed to the winter break the students received. For Participants 3 and 4, the performance on the alliteration and rhyming measures increased more steeply than Participants 1 and 2. At the beginning of the study, all participants were below normal for their ages on alliteration and rhyming tasks. Following the intervention, their scores were brought up to the normal range.

At the beginning of the study, participants performed poorly on blending sounds together to make words and segmenting words into sounds. During the intervention, the participants steadily increased their knowledge of these two phonological awareness skills. Overall, the participants performed better on the blending tasks. Segmenting proved to be the hardest task for the participants, but progress was evident on the weeks that targeted that task. Compared to baseline, all participants made significant gains on both blending and segmenting. A careful inspection of Figure 2 reveals a correlation between producing more number of correct responses and the specific task (i.e., blending or segmenting) targeted during that particular week.
For example, Participant 1 received instruction on segmenting for five weeks in a row. During direct instruction, the participant’s segmenting scores steadily increased from session to session. During that time, the blending scored remained high, but by Session 14, the number of correct responses for segmenting and blending was the same. Similarly, Participant 2 received blending instruction for four weeks in a row. The participant seemed to make gains in both blending and segmenting during this time. Although the blending score was higher than segmenting, both seemed to steadily increase.

Participant 3 also received segmenting instruction for five weeks in a row. This participant’s scores on segmenting and blending during this time consistently increased. By Session 12, her segmenting score was higher than blending. However, at the end of the study, she received three weeks of blending instruction in a row. Her blending scores increased steadily while her segmenting scores remained the same. By the end of the study, Participant 3 was doing better with the blending task. Participant 4 received equal instruction on blending and segmenting throughout the intervention phase. When the participant received instruction on blending, the blending score tended to increase; when he received segmenting instruction, the segmenting score was tended to increase. Even if he received instruction on segmenting, the blending score also improved slightly.

Table 2 presents the pre- and post- test scores for the *Get Ready to Read! Screening Tool* along with the pre- and post- measures for the *Alliteration and Rhyming Individual Growth Development Indicator* and the blending/segmenting tasks.

The *Get Ready to Read! Screening Tool* determines a child’s knowledge of skills considered important for children to learn how to read. The screener includes 20 questions that focus on pre-literacy skills (e.g. book knowledge, letter recognition, letter-sound correspondence, blending, and segmenting). Initially, each participant failed the screening. At the end of the 15 weeks, each participant improved to a better than passing score.

Initially, all scores were below average for the alliteration and rhyming tasks. At the end of the 15 week intervention, the participants progressed to scores at or above average for their ages. The participants initially showed little or no awareness on how to blend sounds together to make words or how to segment words into sounds. At the end of the intervention, the scores were consistently higher.
Table 2.

*Pre and Post Test scores for GRTR Screening Tool, IGDI (Alliteration & Rhyming), and Blending/Segmenting Tasks*

<table>
<thead>
<tr>
<th>Participant</th>
<th>GRTR Pre</th>
<th>GRTR Post</th>
<th>IGDI Alliteration Pre (#/2min)</th>
<th>IGDI Alliteration Post (#/2min)</th>
<th>IGDI Rhyming Pre (#/2min)</th>
<th>IGDI Rhyming Post (#/2min)</th>
<th>Blending Task Pre (#/2min)</th>
<th>Blending Task Post (#/2min)</th>
<th>Segmenting Task Pre (#/2min)</th>
<th>Segmenting Task Post (#/2min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.35</td>
<td>.90</td>
<td>1</td>
<td>30</td>
<td>2</td>
<td>33</td>
<td>0</td>
<td>19</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>.10</td>
<td>.90</td>
<td>2</td>
<td>28</td>
<td>2</td>
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<td>35</td>
<td>3</td>
<td>20</td>
<td>3</td>
<td>18</td>
</tr>
</tbody>
</table>
CHAPTER 4

Discussion

The purpose of this study was to determine whether phonological awareness skills could be taught to children explicitly through an independent listening center activity. Results indicated that preschoolers from low-income environments quickly improved their performance on the phonological awareness skills taught through the interactive book listening centers. At the beginning of the study, all participants were below normal for their ages on alliteration and rhyming tasks. Following the intervention, their scores were brought up to the normal range. Initially, all scores were below average for the alliteration and rhyming tasks. At the end of the 15 week intervention, the participants progressed to scores at or above average for their ages. The participants initially showed little or no awareness on how to blend sounds together to make words or how to segment words into sounds. At the end of the intervention, the scores were consistently higher.

As expected, rhyming and alliteration proved to be the easier skills for the participants to learn. Segmenting proved to be a slightly more difficult skill to acquire when compared to the other skills (i.e. alliteration, rhyming, and blending). A steady, upward trend in all four skills was demonstrated consistently following initiation of the listening center activities.

Research has shown that phonological awareness (PA) skills are precursors to reading, especially the abilities to blend sounds to make words and segment words into sounds. This study examined the participants’ abilities to acquire these important phonological awareness skills, along with other early PA skills (rhyming and alliteration) in a largely independent learning activity. Through the listening centers, the children were provided a foundation for phonological awareness skills that could potentially help them learn to read.

Some participants appeared to learn more quickly than others. This could be attributed to home experiences with caregivers, or other school experiences. Some participants may have been exposed to more books and by extension given more opportunities to learn. However, by the end of intervention, Participants 3 and 4 had scores similar to Participants 1 and 2. Participants 3 and 4 received 9 weeks of intervention; whereas Participants 1 and 2 received 12 weeks of intervention. For example, Participant 4 seemed to learn how to segment words into sounds more
quickly than the other participants, but his treatment order began with more initial exposure to segmenting books.

Based on past research (Chard & Dickson, 1999), it was expected that children would quickly acquire rhyming and alliteration skills. Also, it was expected that children would learn the blending and segmenting skills, but the extent to which they would learn was unknown. Results of the current study showed that participants tended to score better on the skill being taught in each particular book. If the participant received direct instruction on blending, the blending scores would increase more than segmenting. Although the opposite was true of segmenting, the upward trend of segmenting was slower than blending. This could be attributed to the understanding that children tend to learn how to blend sounds together before they learn to segment words into sounds (Adams, 1990; Chard & Dickson, 1999; Stuart, 2004; Vandervelden & Siegel, 1997). This finding also could be due to the difficulty level of the tasks presented during the listening centers. The blending task had the children put the sounds together and say the word, whereas the segmenting task instructed the children to think about which sound they segmented. The researcher found that the children had more difficulties determining which syllable was the correct answer (e.g., “Now say baby, but take away bay). These findings are consistent with past research that has shown that preschool children learn by performing explicit tasks and direct teaching (Stahl & Murray 1994).

The introduction of the interactive books was shown repeatedly to be associated with improved performance on the measures given each week. Because the students received the intervention three times, they had several opportunities for learning throughout the week. Each book only included 1 or 2 rhyming tasks depending on the length of the books, 2 alliteration tasks, and either 2 blending or 2 segmenting opportunities. Despite relatively few trials, it is interesting how quickly the children learned these skills. Instructing the children to physically manipulate the sounds through the interactive component allowed for further development of blending and segmenting skills. Also, it was interesting how the children responded to the interactive component. They were constantly asked to turn the pages, answer questions, think about sounds, and manipulate those sounds by moving stickers together and apart. Because the activities were embedded within the story, their interest was maintained throughout the books. The children were provided the knowledge they needed to maintain their skills through repeated exposure to the books with embedded tasks.
There are some limitations of the study. Although weekly data along with pre- and post-data were taken from the researcher-made tools, there is no normative data for the blending and segmenting skills of the participants. The blending and segmenting skills were assessed using an adaptation based on the blending and segmenting subtests of the *Test of Preschool Emergent Literacy* (TOPEL). This adaptation could potentially serve as a model for development of a future IGDI.

Another limitation of the study is the lack of “on-task” behavior data. Notes were made on a daily basis to keep track of student absences and other observations. For example, if the participant showed especially good “on-task” behavior, it was noted in the communication notebook. Also, if the student was struggling, or “off-task” overall, a note was made. In the future, data could be gathered to relate “on-task” behavior to learning rates. The trained undergraduate researcher was with the participants at all times. However, the adult was not interacting with the participants during the time of intervention. Because the trained researcher was just observing, scaffolding by a teacher may not be necessary for students to learn these PA skills.

This study extends the literature by showing that preschoolers can be taught emergent-literacy skills through headphones in an independent listening center format. The results of the study seem to show that PA skills can be taught without direct teacher involvement if instruction is embedded within an engaging task, while listening to stories. In preschool classes, teachers often set up centers for the children to rotate through each day. Many times, a listening center in which students read stories is an available activity. Teachers are likely to be favorably disposed to taking advantage of such a storybook reading approach. Students would benefit from the exposure to books as well as the opportunity to learn PA skills.

Future research should replicate this study with more children and additional emergent literacy tasks embedded within the context of stories. Research also should determine if listening centers are an efficient way to teach children with language disorders or other children at-risk for reading difficulties. Randomized control studies could be employed to compare this treatment to story reading without explicit instruction during listening centers.

Preschool children who are at-risk for reading difficulties could benefit from participating in interactive book listening centers with embedded PA tasks to perform. This will help guide their learning of these important skills in a way that is both fun and beneficial. If results of the
study are replicated with more students, teachers could be encouraged to implement an interactive book listening center in their classrooms. This would be helpful because the listening centers require minimal adult involvement. Also, the books may be used by caregivers at home to supplement what the children are learning in school.
APPENDIX

Books Used in the Study

1. *Bounce* written by Doreen Cronin and Scott Menchin
3. *Friends for Lion* written by Alex Lee
4. *How are you Peeling? Foods with Moods* written by Saxton Freymann and Joost Elffers
5. *I Like Myself* written by Karen Beaumont
6. *In the Small, Small Pond* written by Denise Fleming
7. *Is Your Mama a Llama?* Written by Deborah Guarino
8. *It’s Your Cloud* written by Joe Troiano
9. *Little Miss Spider* written David Kirk
10. *Parts* written by Ted Arnold
11. *Sometimes I Like to Curl up in a Ball* written by Vicki Churchill and Charles Fuge
12. *Snowmen at Night* written by Caralyn Buehner
13. *Ten in the Den* written by John Butler
15. *The Way I Feel* written by Janan Cain
16. *The Icky Sticky Anteater* written by Dawn Bentley
17. *When Sophie Gets Angry—Really, Really Angry*…written by Molly Bang
REFERENCES


BIOGRAPHICAL SKETCH

I was born on January 13, 1984. I was born and raised in Lakeland, Florida. I graduated from George Jenkins High School in May of 2002. I enrolled in Florida State University in August of that year. I graduated with honors from Florida State in April of 2006 with a bachelor’s degree in Communication Disorders. I was accepted and decided to attend Florida State to earn my master’s degree in Speech-Language Pathology. Since my junior year in college, I have had the privilege to work on a Language and Literacy research project. I was funded and continued that work throughout my graduate career. I will graduate with my Master of Science in August of 2008.