How Does Incorporating Multi-Sensory Approaches Into Literacy Instruction Influence the Literacy Development of Preschoolers?

Jennifer Stonier
The College at Brockport, pjchildcare55@yahoo.com

Follow this and additional works at: http://digitalcommons.brockport.edu/ehd_theses

Part of the Pre-Elementary, Early Childhood, Kindergarten Teacher Education Commons

To learn more about our programs visit: http://www.brockport.edu/ehd/

Repository Citation

This Thesis is brought to you for free and open access by the Education and Human Development at Digital Commons @Brockport. It has been accepted for inclusion in Education and Human Development Master's Theses by an authorized administrator of Digital Commons @Brockport. For more information, please contact kmyers@brockport.edu.
How Does Incorporating Multi-Sensory Approaches Into Literacy Instruction Influence The Literacy Development Of Preschoolers?

By

Jennifer Stonier

January 2012

A thesis submitted to the Department of Education and Human Development of the State University of New York College at Brockport in partial fulfillment of the requirements for the degree of Master of Science in Education
How Does Incorporating Multi-Sensory Approaches Into Literacy Instruction Influence The Literacy Development Of Preschoolers?

By

Jennifer Stonier

APPROVED BY:

Advisor Date

Director, Graduate Programs Date
# Table of Contents

**Chapter One:**

Introduction.............................................................................................................1

Significance of Problem.........................................................................................4

Purpose of Study......................................................................................................5

Study Approach......................................................................................................6

Rationale..................................................................................................................7

Summary..................................................................................................................8

**Chapter Two: Literature**

Review...................................................................................................................10

Emergent Literacy.................................................................................................10

Multisensory Approaches to Literacy.................................................................17

Social Skills and Literacy.....................................................................................21

Summary.................................................................................................................24

**Chapter Three: Methods**..................................................................................25

Research Questions..............................................................................................25

Participants .............................................................................................................26

Context of Study....................................................................................................26

My Positionality as A Researcher......................................................................27

Data Collection.....................................................................................................28

Data Analysis .........................................................................................................29

Time Schedule.......................................................................................................30

Procedure of Study...............................................................................................30

Criteria Of Trustworthiness..................................................................................31
Limitations.........................................................................................31
Chapter 4: Findings...............................................................................32
Student/Teacher Interviews and Observations Week 1..................32
Oral Language.....................................................................................33
Observations and Conversations Week 2...........................................41
Multisensory Activities Week 3..........................................................44
Multisensory Activities Week 4..........................................................49
Multisensory Activities Week 5..........................................................52
Final Conversations/Observations Week 6.........................................56
Chapter 5: Conclusions and Recommendations...............................58
  Conclusion.......................................................................................59
  Implications for Student Learning.................................................61
  Implications for My Future Teaching............................................63
  Recommendations for Future Researchers.................................65
  Recommendations for Teachers....................................................66
  Final Thoughts.................................................................................68
References..........................................................................................69
Appendix A: Observation Note Sheet.................................................71
Appendix B: Student Interview Questions.......................................72
Appendix C: Teacher Interview Questions.......................................73
Appendix D: Alphabet Song...............................................................74
Appendix E: Alphabet Linking Chart................................................75
Abstract

According to Marie Clay (2005), preschoolers know something about the world of print because of their environments. Viewing or experiencing environmental print, the print, symbols, and logos, which surrounds young children on a daily basis, is just one of the ways through which they start to understand that there is meaning behind a symbol or that print carries meaning. During this developmental stage, children are beginning to understand sound-symbol relationship (Pullen & Justice, 2003) and to associate sounds and letters with their name or with environmental print around them. They begin to manipulate those sounds to form sentences and express their ideas orally and in writing.

I believe that preschoolers should have multiple opportunities to use their senses to manipulate, see, hear and say a variety of letters and sounds as a way to explore and refine their understanding of the alphabetic principle. Exposing preschoolers to these literacy concepts should be through multisensory activities such as songs, print around the room, read alouds, interactive writing (teacher and student share the pen when writing), and tracing letters with shaving cream or sandpaper may promote literacy development.)
Using multisensory approaches during literacy activities and instruction encourages preschoolers to work through new literacy concepts and social situations on their own. Multisensory approaches may support the literacy development of young children because they can use more than one of their five senses to help them with the learning process and retain information. Language and vocabulary development are crucial in emergent literacy development (Wasik, 2010).

There are several purposes of this study. Perhaps most significant was for me to learn what happens when I integrated multisensory approaches into literacy instruction for preschoolers. I was curious to learn more about how the choices I make in terms of my instruction may influence the preschoolers' literacy learning and their development.
Chapter One: Introduction

Preschool is meant to expose children to a classroom environment in which they can start their academic career, as well as learn about how to handle social situations (Clay, 2005). In this setting, preschoolers begin interacting with other students and adults and learn how to communicate their feelings and desires as well as develop a range of social skills, such as sharing. Preschoolers are also introduced to how a classroom is structured and the daily routines unfold. They are immersed in a variety of content areas: numbers are learned for math, books are shared, the alphabet is learned and they begin experimenting with print through dramatic play and structured activities.

I have taught in a preschool classroom and have seen how active they can be. They need to move around, touch things in the classroom, look at everything, and talk about it. I am interested in multisensory approaches to literacy instruction because based on what I have seen in my own preschool classroom, preschoolers need the ability to explore on their own and be really engaged in what is going on around them. They are constantly in new situations and need to physically work through them.

Some of these new concepts are explored before they even enter the classroom. Preschool students begin to develop emergent literacy behaviors when listening to a parent, reading a book, or experimenting with writing. When teachers or
parents speak to a child, the child gains awareness of oral language and starts to understand various sounds, intonations and inflections and that there is meaning to what is being said. Phonological awareness is the knowledge of the sound units (phonemes) used in a language, including the ability to hear and produce separate phonemes (Mayer, 2008). This awareness will lead children to develop decoding skills in reading. Conversations with children can greatly impact a child’s phonological awareness.

Viewing or experiencing environmental print—print, symbols, and logos, which are all around children on a daily basis—is just one of the ways in which young children, start to understand that there is meaning behind a symbol or that print carries meaning. Some young children may know the “golden arches” for McDonalds, or can recognize the Oreo box. This is an important step in how a child emerges in his or her literacy development. Preschoolers are beginning to understand literary concepts with a sound-symbol relationship (Pullen & Justice, 2003). Teachers can use environmental print in the classroom to help children explore print and other literary concepts.

Through dramatic play and other social play situations, preschoolers begin to use their literacy skills with speaking and listening to work through social problems. They start to reason with each other as to why or how they want to play a certain game or they explain why they felt hurt if other preschoolers took their toy. They also learn how to share their feelings with others and learn how to listen to others.
when they are feeling sad or angry about a situation. Teachers of preschoolers can encourage them to talk through problems with their peers and learn how to handle a variety of social situations using their words.

Multisensory approaches to literacy instruction are more effective than other more traditional ways of teaching because these activities can really engage the student with their learning (Piaget, 1973). The traditional way of teaching, in all types of instruction including literacy, really just focuses on students listening and watching the teacher. Students, who are engaged in hand-on activities, using more than one of their senses, are more likely to retain information and are able to build upon that knowledge because they have physically learned it (Piaget, 1973).

I was excited to see that if I use hands-on, multisensory activities having children listen, write, speak and read will it help them develop their knowledge of literacy? I wanted to see how multisensory approaches, or using more than one of the senses while learning, promote the literacy development of preschoolers.

Hands on activities and multisensory activities are two very similar terms. Being “hands on” is being physically involved in the activities in some way. Multisensory activities are using more than one or two of the senses to explore a new concept. Multisensory approaches may be helpful in supporting the literacy development of young children because they can use their five senses to help them with the learning process and retain information.
Significance of the Problem

In the state of New York, there are no set standards or required preschool curriculum used in this district at the time of the study; however, some preschool administrators and directors from across the state have adopted programs for their own preschool curriculum (PreK Now, 2010). These programs are planned around goals that integrate learning across all aspects of a preschooler’s development (cognitive, physical, social, and emotional). Many preschools may use kindergarten standards to help guide their program and help shape their curriculum (PreKNow, 2010). And as a result, not every preschool is focusing on the same curriculum or content and preschool teachers are left to plan their classroom lessons however they see fit.

Additionally, students in preschool begin to learn how to handle social difficulties and different social situations. They are learning to share and corporate with other children and need to have physical examples as to how to take care of those new social situations. When problems arise during free play, the teacher should use that time to provide insight as to how one should resolve the problem. How can one use his/her words to describe what they are feeling? Instead of pushing or hitting, teachers need to use those times to show how to talk about problems and listen to others. Social-emotional development tasks are another large part of preschool and I observed how social situations may help promote the development of literacy skills.
Using hands-on, multisensory approaches to all literacy encourage preschoolers to work through new concepts, literacy, and social situations. If a student is shown the letter and told the sound, he/she may not be able to hold onto that information because he/she really did not do anything with it. However, if a student can trace the letter “A” on sandpaper, say the name and the sound while tracing the letter they are then, listening to the sound of the letter, visually looking at the letter, and physically touching the letter, they will be using more than one of their senses to manipulate the letter “A” and hopefully understanding more about the letter. This can be one way that using multisensory approaches to literacy can help enhance instruction and may also enhance learning.

**Purposes of the Study**

There are several purposes of this study. Perhaps most significant was for me to learn what happens when I integrate multisensory approaches into literacy instruction for preschoolers. I was curious to learn more about how the choices I make in terms of my instruction influenced the preschoolers’ learning and their development. With this study, I was looking to see how teachers can develop literacy curriculum for preschool and find effective approaches using multisensory activities.

I hoped to become a more effective and efficient researcher, as well as a more effective teacher from conducting this study. I also hoped to improve my own knowledge of how incorporate literacy instructions and engaging activities into the preschool curriculum. I wanted to improve how I incorporated all aspects of literacy
and how I observed the preschoolers’ reactions and use of the aspects of literacy on their own. Over the course of the six weeks, I had multiple opportunities to observe the children and see how they use different aspects of literacy throughout their day. I learned from the children, who helped guide my own activities and enhanced my instruction of future children. Gretchen Owocki and Yetta Goodman (2002) state that “effective teachers consciously consider what they believe about language, learning, children, and their worlds” (p. 3). I took my own beliefs about the positive effects of multisensory learning and saw how that influenced the classroom I did my research in.

To examine how preschoolers use listening, speaking, writing, and reading, I posed the following question: How does incorporating multisensory approaches into literacy instruction influence the literacy development of preschoolers?

**Study Approach**

I conducted this qualitative study over a six week period with seven students, ages ranging from four to five years of girls and boys. These students attended a local universal pre-kindergarten (UPK) classroom. UPK is a state funded program to provide quality preschool for four year olds in a suburban area (PreK Now, 2010). The program was two and a half hours a day. I collected data through observations of children in small and large group activities, conversations with students, interviews with their teacher, anecdotal notes, and short observational
assessments after our multisensory literacy activities together. I created multisensory literacy activities around the theme of “springtime” to correlate with the teacher’s themes of weather, bugs, and gardening. I presented activities in which the children used dirt to draw letters while listening and saying the sounds, using seeds to create letters, singing songs about springtime, discussed springtime activities, drawing pictures and writing stories about spring and listening to read alouds focused on a spring. Movement was incorporated during songs and physical activities to help aid in their understanding of springtime using all areas of literacy.

**Rationale**

I chose this particular UPK classroom because I was very familiar with it. I was a UPK teacher previously in this school district. I had background knowledge of the program because I had taught UPK and was able to use that information to help shape this study.

During the data collection process, I used authentic assessment to gauge where to go next in terms of my instruction and integration of the multisensory activities. Observation was the main way of collecting data because I thought it was crucial to watch how the children interacted with the various aspects of literacy—reading, writing, listening, speaking and viewing—and incorporated it into their daily activities. This information helped shape my activities that I implemented in the study and also I looked at how the information collected fit into my own beliefs about literacy in the classroom.
I also engaged the children in conversations in hopes of finding out their thoughts about the different literacy experiences. Barbara Wasik (2010) states “opportunities to scaffold children’s language are often natural, unplanned events” (p. 624). Talking with children helped promote their language skills and give them opportunities to use descriptive language as well as learn new words (Dickinson & Tabors, 2001).

Interviewing the classroom teacher helped me understand how she uses reading, writing, listening and speaking in the classroom and her own thoughts about how to promote the literacy growth of her preschoolers. More importantly, I used this study to find out how teachers can use multisensory approaches to literacy instruction in preschool classrooms and how to engage young children in reading, writing, speaking, viewing and listening activities.

**Summary**

Literacy activities in many ways create the foundation of learning. Throughout his or her day, a preschooler is continually being introduced to new concepts, and benefits from appealing ways to explore those new concepts. There are many different ways that preschoolers can be engaged in their learning. Through this six week study, I used activities that activated the children’s senses to engage them in learning. I explored literary methods using multisensory approaches to literacy instruction and looked at how the children respond and develop their literacy skills.
and abilities. Students’ behaviors and social skills also provided information as to how all areas of literacy are represented in the classroom and everyday life.
Chapter Two: Literature Review

Preschoolers are expanding upon their knowledge of literacy and social skills every day. However, literacy is not always taught in a traditional way. Multisensory activities can help enhance literacy learning and development and be supplemental to other activities. Social situations can also help preschooler learn how to solve social problems using their literacy skills. In this chapter, I examine the categories of research within the area of using multisensory activities to enhance young children’s emergent literacy and social skills.

Emergent Literacy

Paige C. Pullen and Laura M. Justice (2003) discussed the importance of emergent literacy for academic success and smooth transitioning into reading. Research suggests that schools are lacking in a set curriculum and universal standards to make sure all preschoolers are given a high-quality preschool education. Pullen and Justice’s study focused on research that states emergent literacy has three factors associated with the success of reading in older grade levels. Those factors include phonological awareness, print awareness and oral language.

Marie Clay (2005) also suggests that preschoolers already know something about print and literacy because of their environments. Preschoolers have been
exposed to logos and words from cereal boxes, fast food restaurants and television that may aid in their learning of print.

**Phonological Awareness**

Phonological awareness develops in preschoolers as they understand small and large units of oral language. Preschoolers understand smaller units such as morphemes (smallest unit of language) and phonemes (sound units), and also larger units such as words and syllables. Preschoolers also start to recognize and understand the letters of the alphabet and connect that to phonological awareness. Preschoolers use their understanding of the alphabet and phonological awareness to start decoding and recognizing words in their environments.

**Print Awareness**

When preschoolers start to explore symbols and print around them, they start to develop an awareness of print. Preschoolers begin to understand that print carries meaning. Interacting with Environmental print is one way in which preschoolers begin to make meaning. The “Golden Arches” of McDonalds is a symbol that many preschoolers recognize and know as a place where they can get a Happy Meal. These associations of logos and symbols can be a start to print to speech mapping and understanding print contains meaning.

Preschoolers may also start to “read” books. Although they may not yet know what all the words mean, they begin to understand that the print on the page contains
some sort of meaning to the picture. Preschoolers may also write symbols or random letters to go along with a picture they have drawn showing that they know print contains meaning.

Virginia Cronin, Denise Farrell, and Mary Delaney (1999) conducted a study to see how environmental print and print awareness affected word reading in preschoolers. The study took place in a local daycare center that had mostly a middle class population. Each preschooler was screened given four words to identify; if they were able to read one of the screening words they were eliminated. After screening, 18 non reading children took part in the studies (14 males, 4 females) that were between the ages of four and five. The 18 preschoolers were then given the Peabody Picture Vocabulary Test (PPVT) which assessed receptive vocabulary. An Environmental Signs and Logo Test was also given. This test had accurate reproductions of 10 drawings or environmental print with its name. For example, the logo of McDonald’s was use with a picture of the golden arches and the word McDonald’s printed at the bottom of the arches. Each environmental print logo also had a matching control word printed on a separate card. McDonald’s had a control word of “monster”. The control words were matches as closely as possible to the logo word. Each preschooler was tested individually. Each card was shown to the preschooler and they were asked what it said, the exact word had to be said in order for it to be correct.
Many of the preschoolers were able to identify the environmental logos, all students identified McDonalds and 17 were able to identify the environmental logo “stop”. However, according to the PPVT scores, there was no correlation between the environmental print logos and the controlled word. After analyzing the data, the researchers found that general verbal knowledge may not be responsible for word learning. Specific experiences with each logo may support reading. Also, environmental print influences the preschooler to learn that word and may learn more quickly when it is attached to a logo they is familiar with (Cronin, Farrell, and Delaney, 1999).

**Oral Language Development**

Preschoolers should also be encouraged to talk! Pullen and Justice’s (2003) concluded that preschoolers who had trouble with oral language skills are more likely to experience literacy problems such as developing a reading disability.

Hilary P. Ruston and Paula J. Schwanenflugel (2010) looked at how the use or oral language in conversations enhanced a preschooler’s development of expressive language. Over a ten week period, 73 preschoolers (30 girls, 43 boys) who were four years old were involved in conversations with others that promoted complex talk and expressive vocabulary.

The 73 preschoolers came from four different full day preschool programs that were child-center based. These centers were all involved in the same universal lottery-funded program. Each preschooler was given a pretest using the Expressive
Vocabulary Test (EVT) and also tested on lexical diversity. From these results, each preschooler was matched into pairs with another preschooler that matched, or came close to matching, their results based on the EVT. One preschooler of each pair was randomly selected as the participant of the experiment while the other was the control.

Four senior undergraduate students were selected to become the “talking buddies” of the preschoolers selected. These talking buddies attended a four hour training before intervention. This training taught good general conversation techniques in order to foster vocabulary development in children. One talking buddy was assigned to each center after the training. Each talking buddy had 3-5 pairs of children to work with.

Talking buddies met with each pair selected to be in the study for 24 minutes two times a week for 10 weeks. This totaled 500 minutes of conversation with the preschoolers. They met in a quiet area with pre-picked conversation topics and props (pets, holidays, toys) for the initial sessions. As the sessions progressed, the conversation was geared toward student interest as the talking buddy became familiar with each preschooler. Throughout the session, the talking buddy use rare words (say humongous for the word large), ask questions and expand the preschoolers thinking. They would also ask open-ended questions. Language samples were also recorded and transcribed to see any growth in lexical diversity (Ruston and Schwanenflugel, 2010).
The results of this study showed a significant improvement in preschoolers' lexical diversity and use of expressive vocabulary. A post test was given for the Expressive Vocabulary test and lexical diversity. After the 500 minutes of intervention, the mean score of the Expressive Vocabulary test increased by 4.8 and the mean score of lexical diversity increased by 7.8. As for the control group who did not receive the 500 minutes of intervention, the mean score for the Expressive Vocabulary test only increased by 1.08 and their lexical diversity increased by 3.99. Those who received the extra time with genuine conversations did much better than those who did not. This study shows how important oral language is and how conversations and aid in a preschoolers understanding of language.

Explicit Instruction

The results of Pullen and Justice’s study demonstrated that in order for preschoolers to have high-quality literacy instruction related to phonological awareness, print awareness, and oral language development, they need to be given explicit instruction. However, explicit instruction refers to meaningful and engaging activities, not drill-like instruction. Preschoolers begin with a basic understanding of literacy and should be taught in a meaningful and engaging ways to help them develop a deeper understanding and expand upon knowledge they already have (Pullen and Justice, 2003)

There are concerns though that this way of teaching, using hands on and meaningful activities to teach literacy instead of skill and drill instruction, is not being
implemented in nearly enough preschools around the world. This was looked into by Janelle Young (2009). In her study, Janelle investigated the need for instruction to support emergent literacy and found there was little evidence that teachers in Australia were putting any emphasis on emergent literacy at all.

During her five month study, Young worked with 50 preschool children from one preschool in North Queensland with two teachers. Young conducted a pre and post screening of the children’s emergent literacy skills and interviewed the teacher interviews. The pre/post test consisted of seven areas:

- Word Finding Vocabulary Test (Renfrew, 1996)
- Sutherland Phonological Awareness Test Revised (SPAT)-syllable counting, rhyme detection and production (Neilson, 2003)
- Self portrait/writing own name/identifying letters (Justice, Invernizzi, Geller, Sullivan & Welsch, 2005)
- Writing vocabulary based on self portrait (Clay, 1993)
- Alphabet Identification (McKenna & Stahl, 2003)
- Concepts About Print (Clay, 1993)

During the five months, teachers were trained on emergent literacy skills by personnel from a local university and given ways that they can include engaging literacy activities in a play-based program. The teachers then implemented these new ideas. Teachers implemented games using environmental print from home and school, and encouraged socio-dramatic play. The teacher in one class set up a shop while the
other teacher set up a restaurant to stimulate play activities. The teachers encouraged oral language and engaged meaningful interactions with students.

The results of the post test given showed that the preschoolers’ ability to identify letters in the alphabet improved by 80.18 percent and their Concepts About Print (Clay, 2003) increased 46.81 percent. Every assessment improved by, at the very least, 19.39 percent. These results show that by embedding engaging and meaningful literacy activities into daily literacy instruction can help improve skills in preschoolers that will aid in their academic success in later grades.

**Multisensory Approaches to Literacy**

Monica Campbell, Shawnna Helf and Nancy L. Cooke (2008) looked at the benefits of adding multisensory approaches to literacy. The researchers explored the idea that supplementary multisensory activities enhanced student’s ability to read, decode and spell with the strongest effects being in younger children, such as kindergarten.

Over 20 sessions (each session lasting 10-12 minutes) the researchers gave five, 8 year olds and one 7 year old supplemental multisensory literacy instruction for letter/sound correspondences, segmenting, word reading and connected text. The researchers gave the students a pre and post test using the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) for sounds within nonsense words. The multisensory additions were as follows:
<table>
<thead>
<tr>
<th>Task</th>
<th>Normal Instruction</th>
<th>Multisensory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Addition</strong></td>
<td>Teacher touches under letter and student says sound.</td>
<td>Student looks at each letter states the sound, and forms the letter in a carpet square.</td>
</tr>
<tr>
<td><strong>Letter/Sound</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correspondence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Segmenting</strong></td>
<td>Teacher says a word slowly without stopping between sounds student repeats the word saying it slowly before writing word on a dry erase board.</td>
<td>Teacher says the word slowly without stopping between the sounds and the student taps out the words using the nondominant hand.</td>
</tr>
<tr>
<td><strong>Word Reading</strong></td>
<td>Teacher points to a word in isolation and the student practices as they sound them out.</td>
<td>The student taps out words sounding out the word slowly, without pausing between the sounds. Then, the student reads the word the fast way.</td>
</tr>
<tr>
<td><strong>Connected Text</strong></td>
<td>The student reads orally from the teacher’s manual or storybook.</td>
<td>The student taps out all unknown words.</td>
</tr>
</tbody>
</table>

(Campbell, Helf, and Cooke, 2008, p. 276)
The results of the multisensory activities in addition to normal teaching instruction showed that all six students improved by the end of the 20 session study. All students increased the amount of nonsense words read for the DIBELS assessment by at the very least four words. One student increased the amount of words read by 20 words, while another increased by 15 words. Gains were made in oral reading and fluency during this intervention using multisensory activities.

Debora L. Scheffel, Jack C. Shaw, and Rose Shaw (2008) conducted a multisensory study looking at how effective a supplementary multisensory reading program was for first grade students. The researchers implemented a multisensory program created by the Institute of Multi-Sensory Education (IMSE) in addition to the Orton-Gillingham Reading Program.

The participants came from three different schools within the same suburban school district in Colorado. Over 18,000 first grade students were used in this study. 50 percent of the students were Hispanic, 47 percent white, 1 percent African American, 1 percent Native American, and 1 percent Asian.

Researchers tested the students using the Dynamic Indicators of Basic Literacy Skills (DIBELS) and then placed in a risk status (low, medium, or high) based on their results. The DIBELS assessment tested the student’s skills of phonemic awareness, alphabetic principle, and fluency with connected text. There was a treatment group, which consisted of 224 students. The group received 90
minutes each day of the core reading program and then an additional 30 minutes each
day of the multi-sensory reading program. This additional program was taught in
small groups for the entire school year. The comparison (control) group, which
consisted of 476 first grade students, only received the 90 minutes of core reading
instruction a day. Teachers were given 30 hours of training before they implemented
the additional multisensory program and they were also observed three times a year
by a person from IMSE.

The treatment group received the extra 30 minutes a day of multisensory
learning used visual, auditory, and kinesthetic teachings of phonetic concepts,
encoding/decoding words, writing/reading sentences, and vocabulary words. The
treatment group was given sand trays, blending boards and syllable division cards to
help aid their learning.

The researchers tested the students using the DIBELS assessment in the fall,
winter and spring. The assessment conducted in the fall showed that 18.3 percent of
students in the treatment group and 22.9 percent of the comparison group were
considered “high risk” for understanding phonemic awareness. By spring, only 0.9
percent were considered “high risk” in the treatment group and 1.7 percent in the
comparison group.

For the alphabetic principle assessment, the treatment group had a high risk
percentage of 40.2, while the comparison group had a percentage of 44.7 in the fall.
For the spring assessment, the treatment group had 3.6 percent as high risk and the
comparison group had 8.4 percent. There were no significant differences measured between the treatment group and comparison group for the assessment of fluency with connected text.

However, in all of the assessments the treatment group had a smaller range of testing scores throughout the year making the assessment more homogeneous. Also, by spring, the treatment group had 95.5 percent of students considered low risk for in phonemic awareness with only .9 percent considered high risk. The researchers interviewed the teachers at the end of the year and all stated that they were satisfied with the extra multisensory program and thought it made improvement in their students’ education. Overall, the treatment group did make significant improvement with the use of multisensory approaches to learning.

These studies prove how effective multisensory approaches can be. Multisensory approaches embrace many ways of learning (visually, auditory, kinesthetic) therefore reaching more learning needs of students.

**Social Skills and Literacy**

Gretchen Owocki and Yetta Goodman (2002) discussed the idea of classroom socialization and learning social skills through literacy activities. A preschool classroom should promote socialization and have a welcoming environment so that preschoolers feel comfortable to learn, make mistakes, and grow (Owocki and Goodman, 2002). Preschoolers should know that they are in a safe community and they are able to use the environment to aid in their learning. Owocki and Goodman
also present the idea that sociocultural experiences shape literacy learning.

Preschoolers come to school with knowledge about social skills from their own family and culture with plays out in dramatic play. All children have some knowledge of literacy and they are able to build upon this knowledge while learning and developing their social skills through play.

Owocki and Goodman stress the importance of observation of children when it comes to social skills and literacy. They suggest teachers consider the following questions while observing young children:

- In what settings does the child use more or less oral language?
- In which settings does the child appear comfortable?
- Is the child attentive when others are speaking?
- In what ways does the child adapt and adjust language to new situations and settings?
- In what settings does the child need further support?

(Owocki and Goodman, 2002, p 13)

By asking these questions, teachers may be able to see how preschoolers are using literacy and language throughout their dramatic play and how they learn social skills. Children are able to use language to work through social problems. As preschoolers play, they begin to learn more about each other. Preschoolers use their own knowledge of life and implement that into play. They may play house, doctor, or
Preschoolers use language to express their ideas about what to play with others (Owocki and Goodman, 2002).

Kathy Kalmar (2008) explored the idea of social skills and literacy and play. Kalmar urged the use of language in preschool classrooms and presented the idea that the noise coming from talking is good in the classroom and teachers should not expect children to be quiet. Language is crucial to literacy skills such as learning vocabulary, understanding speech, and using language to express one’s own thinking. However, language is a powerful tool when it comes to learning social skills in play as well. Teachers should “set the stage” for preschoolers by giving children props in their centers and providing opportunities for talking and working through problems together.

Kalmar believes that dramatic play is an ideal activity for children to explore language and social skills. When children play, they assign roles to each others, set rules and expectations, negotiate, and give directions. If children play in a block center they need to communicate about what to build, what will work and what won’t, decide where to build and problem solve. Play becomes much more complex when preschoolers are encouraged to talk, listen, and watch each other. Therefore, providing a print-rich and language-rich classroom will help enhance preschoolers’ literacy and social skills (Kalmar, 2008).
Summary

When it comes to preschool, opportunities for literacy learning and development are everywhere. Even well known signs and symbols (environmental print) can be connected to literacy and help preschoolers realize that print has meaning. Preschoolers need to be able to manipulate and explore literacy without any boundaries. They should be encouraged to play and talk in order to use their own knowledge of literacy and develop their social skills and abilities. A silent classroom does not always mean that students are simply well-behaved and on task.

Preschoolers need opportunities discover literacy on their own and learn social skills through hands-on learning activities, having multisensory activities for literacy available to them, meaningful and engaging experiences, and also feeling comfortable in their environment to play and interact with others.
Chapter Three: Methods and Procedures

The purpose of this study was to explore how incorporating multisensory approaches and activities into literacy instructions influence the literacy development of preschoolers. I was looking to see how teachers can develop literacy curriculum for preschool and find effective approaches using multisensory activities.

Specific elements of multisensory approaches include the use of all five senses and having the students actively involved. Throughout the study, I paid special attention to how students use their senses to explore and comprehend literacy in a variety of activities using multisensory strategies.

Research Questions

I explored the following research questions:

- How does incorporating multisensory approaches into literacy instruction influence the literacy development of preschoolers?

- How can curriculum be planned around multisensory activities?
Participants

For this research study, I worked with 7 out of 15 Universal Pre-Kindergarten (UPK) students who attended a local, off-site childcare center in a suburban school district in western New York. These students attended preschool each morning, Monday-Friday, for two and a half hours a day. The class consisted of six boys and nine girls. Most of the 15 preschoolers came from a middle class suburban family. I chose this UPK class because of the accessibility of the childcare center and my prior professional work at the center for UPK in previous years. I ensured the confidentiality of the participants through the use of pseudonyms.

Context of Study

I completed my research in a classroom that is not my own at a local childcare center that I have previously been employed at. I was familiar with the schedule and layout of the classroom, as well as am familiar with many of the students who attend. The classroom had an open layout with seven defined center areas (science, reading, kitchen, blocks, math, puzzles/games, and writing). Children were able to rotate through centers.

The daily schedule was fast paced and structured. Children came in and had circle time with the teacher reviewing the date, weather, colors alphabet, and any morning news. After, they enjoyed snack before they moved into their center time. The teacher then chose the centers for the day, including a guided art project and
guided content center. After centers, there was a whole group read aloud. At the close
of two and a half hour program, the children were able to either go to the gym or to
the playground before being picked up to leave.

I implemented my research during the designated center time. There were
many different ways I approached data collection. I led some of my own activities,
(as in a guided literacy center), I was actively involved with dramatic play in a variety
of centers, and some days I was only observing centers.

My Positionality as the Researcher

I was currently finishing up the requirements of my graduate program for a
master’s degree in childhood literacy during the time of this study. I had a New York
State initial teaching certificate in childhood education grades 1-6 and had just
applied for my early childhood extension. I spent the 2009-2010 school year teaching
Universal Pre-K at the particular site where I conducted the study and had an interest
in emergent literacy because of this.

I have spent time in the UPK classroom prior to the start of the study as a way
to acclimate to the students and for them to acclimate to you. I wanted to make sure
that I was not distracting coming in and out of the classroom. The class was familiar
with me coming into the room at different times throughout the week.
I believe that children need to be actively engaged and involved in their own learning. Children will be able to accomplish this by working together, as well as individually, to explore, discover, and understand new knowledge. For this to happen, children need to find answers and explanations on their own. Teachers should not be there to just transmit data, but to help children understand information, make connections and coach them to reach their own potential.

**Data Collection**

I collected data in two different ways: observation and interviews.

**Observations**

My main approach for collecting data was through observation. I documented what the children did during their time at UPK, and our time together during the multisensory activities. I recorded the students' conversations with each other and their teacher during the activities and their free play. I also observed how the students reacted to literacy activities I provided, as well as what kinds of literacy they may have inserted into their own free play. I also observed the teacher and watched how she used literacy in the classroom, interacted with her students, and how she presented opportunities for literacy within the classroom, as well as outside of the classroom.
**Interviews**

I interviewed the UPK teacher and recorded her thoughts about literacy and how she supports her students’ literacy development (see Appendix C). I was curious to learn about the kinds of activities she engaged her class in and if she had noticed how her class learns best. I was hoping the teacher could give me insight as to how I could plan my activities to enhance her own literacy instruction that she had already set in place. All participants remained anonymous through the use of pseudonyms.

**Data Analysis**

I used my observations, interviews, and conversations to triangulate my data to see how multisensory approaches promoted literacy growth for preschoolers in the classroom. In order to do this, I transcribed all conversations with students, as well as the teacher interview to analyze how literacy is viewed and used in the classroom.

I looked for patterns in my observations to look for any reoccurring themes or categories. I also be coding for patterns that I see.

For the interviews, I wanted see how those answers work into my observations and if they align with any of the patterns or categories that have emerged.
Time Schedule

I began my data collection in the end April and continued through June of the 2010-2011 school years. The frequency of my observations and interviews depended on the teacher’s available schedule, but were mostly between three to four times a week for one and a half hours a day.

Procedures

Week 1.
- I conducted one initial one hour observation of the students in play and structured literacy activity.
- I conducted an interview with the UPK teacher about her thoughts of literacy and how she promotes literacy in her classroom.

Week 2
- I had conversations with each student during their free play and recorded their thoughts about their own opinion of reading, writing, listening, and speaking.

Week 3 and Week 4 and Week 5
- Next, I planned and implemented multisensory literacy activities in addition to the UPK teacher’s plans based on a springtime theme.
- I observed the class in small and large group and watch their engagement of literacy during my activities and their own free play.

Week 6
-Next, I had the same literacy conversations with each student as before and record their thoughts after our activities together.

-I then looked at my observations, interviews, and conversation records from the beginning of my time research and after I have implemented multisensory activities to see how students perceived literacy.

Criteria for Trustworthiness

My goal for this research was to present my observations, notes, and the interviews in a truthful and professional manner. I took preventative measures to maintain the privacy of students involved and recorded observations and notes in a non-judgmental way to limit any data collection that may be bias or influenced on personal feelings.

Limitations

As with all research studies, this study was bound by several limitations. I was limited with time due to scheduled days off for the school district. Spring break also occurred right in the middle of my study. Therefore, I had to add time each day to collect the necessary amount of data and implement multisensory literacy activities. For my interview with the teacher, she also could have given answers that she thinks I am looking for instead of her own personal ideas.
Chapter Four: Findings

The purpose of this study was to learn what happens when I integrated multisensory approaches into my literacy instruction of preschoolers. I conducted the study at a local childcare center where I engaged the students in multisensory activities three times a week for one hour a day over six weeks. The seven students, five girls and two boys, who participated in the study were all in the age range between four years nine months and four years and eleven months and lived in a suburban area in western New York.

Over the course of the six weeks, I explored the research questions:

-How does incorporating multisensory approaches into literacy instruction influence the literacy development of preschoolers?

-How can curriculum be planned around multisensory activities?

Throughout the research process I collected data through observational notes, student interviews, and a teacher interview. These sources of dated helped answer each research question that I presented.

As I analyzed the interview and observation data through a process of reading and reading and coding for patterns, several themes began to emerge: Oral language played a distinct role in the students’ abilities to learn social behaviors and literacy skills. All seven students used oral language to explain their understandings of concepts and to talk about problems that came up in our activities or dramatic play.
Students needed opportunities to play with different types of literacy activities in order to see that it involved more than books and coloring activities, and students seemed to be more active in their learning when using multisensory activities.

In this chapter, I discuss the weekly activities that I conducted with the seven preschoolers during guided multisensory activities, center play, and independent activities.

**Student/Teacher Interviews and Observations-Week 1**

**Students Interviews**

Student interviews were the first item I conducted. The students’ responses to the ten interview questions, adapted from Owocki and Goodman (2002), provided me with a view of their understanding of literacy. All seven students answered that in order to read, they need books and that they enjoy when adults read to them. Amanda stated that she thought “reading is fun because I can find letters and sight words in books.” Celia thought that reading was “fun because I can sound out words and read like a teacher.” Calvin said “reading is boring, but sometimes I like the pictures.” Irene and Ethan both said they “like to read.” Ella thought that her teacher’s “reading is fun, especially if it’s Alvin and The Chipmunks.” Avery thought that reading was “just for school,” but her mom “reads to her and her sister every night.”
One idea that seemed to be interwoven into all seven of the students’ responses was the meaning of writing. All seven students said writing was “coloring pictures,” or “coloring letters.” When I prompted the students to say more about writing, they gave examples of writing/coloring such as making a “card for their mom/dad,” “drawing a picture for someone,” or “writing their name.” It was my perspective that they seemed to have a basic understanding about writing and that it involves letters or pictures that were attached to some sort of meaning.

When I asked questions about when they talk to their friends, all seven students replied “at school.” Also, I asked each student the question about what was his/her favorite part of school. Amanda, Irene, Calvin, and Ethan answered “play centers” while Celia and Ella said “outside time” and Avery answered “reading with Miss Cathy.”

Teacher Interview

From my interview with Miss Cathy, the classroom teacher, I recognized that she held literacy to a high standard. She indicated that she encourages students to be active in reading, writing, listening, speaking, and viewing. Miss Cathy defined literacy as an “understanding of print/symbols, involving yourself with text environmental print, and understanding that print contains meaning.” Miss Cathy’s students take home literacy kits, which include a book and several activities that go along with the story, a word wall, which includes all of the students’ names, as well as the words “a, the, in, is, and, it.” Miss Cathy stated that “some of the students who have begun to write words use this wall as
a resource when writing." She conducts “read alouds once a day with a strong introduction to
the book” and makes sure to have students do a retelling of the story or find their favorite
parts of each story. Miss Cathy “continually encourages students to make connections or
prediction.”

Miss Cathy believes that environmental print plays a strong role in students’
development of early literacy skills and she brings in logos and symbols that are often seen
out of schools. In the kitchen center, for example, Miss Cathy hung Wegmans and
McDonald’s signs. She does not think “at this time her students understand the huge
importance literacy will play in their lives as they grow older.”

Oral Language

Oral language played a significant role throughout this study. Students were
able to talk to each other, which led them to be able to work through problems.
During an activity using magnetic students used language to problem solve and work
together.

Calvin: We can’t reach the letters!
Irene: Put it in the middle!
Ethan: I will dump some in the middle, okay?
Amanda: I need an N!
Ethan: Here is one!
Amanda: No, this is a Z.
Ethan: Oh, it is?
(Amanda turns the letter around. Ethan checks the alphabet poster on
the wall)
Ethan: Oh! I see!

A problem came up when all four students making their names could not reach the jar of magnet letters. Irene had the idea to put the jar in the middle and Ethan took that idea further by dumping out the letters so that everyone would not have their hands in the jar at the same time. Amanda faced a challenge when she could not find the letter “N” for her name. Ethan tried to help when he gave her a “Z” that was turned around, which made it look like a N. Amanda physically turned the letter around and Ethan was able to understand by double checking with the resources (ABC Poster, Word Wall) in the classroom to see that the letter was a “Z”, not an “N”.

After they had made their names, they discussed how to come up with a way to clean up their mess.

(Some letters were on the floor and under the table after the activity)

Ethan: We have too much to clean up!

Amanda: (to Calvin) Hey! I was putting my letters in the jar first! Stop pushing me!

Calvin: They keep falling on the floor when you push me!

Irene: How bout you get them off the floor and put them on the table and I will put them in the jar? (To Irene and Calvin)
The group seemed to understand that only one person could put letters in the jar at a time or else they would fall out. Irene was able to problem solve by designating that the other students pick up the letters on the floor and put them on the table. Irene then took the letters off the table and placed them in the jar. They all were able to work together to quickly clean up so they could switch to the next center.

During another center I observed, the students were given a picture of a pond from Miss Cathy with different animals and objects that may or may not be found in the pond. Their job was to look at each picture and decide if it is found in the pond. The group worked through this activity by talking with each other and the Miss Cathy. The activity lasted ten minutes.

Amanda: What is this?
Ethan: Lily pads! That belongs in the pond
Amanda: What are lily pads?
Irene: Remember we made them in art? They are for the frogs!
Miss Cathy: What doesn’t belong in the pond?
Calvin: A lion! (holding up a lion picture)
Ella: Polar bears! (holding up a polar bear picture)
(Teacher shows a picture of cattails to Avery)
Miss Cathy: What is this?
Avery: Um, tadpoles or something?
Ethan: I don’t know
Teacher: Cattails.
(Laughter and confusion from the entire group)
Calvin: Cattails? Those aren’t cat tails, Miss Cathy!
Teacher: Not cat tails like the tail on your pet cat. These are called cattails.
They are a plant that grows in the pond.
Amanda: That’s a silly name for a plant!

The third center that I observed was guided by the teacher, Miss Cathy. The students had markers to fill in the blank with the missing beginning letters of words on a worksheet. Each worksheet focused on three different letters. For example, one worksheet focused on the letters C, L, and N. Miss Cathy guided the students through three of the words and then had them complete the last three independently.

Ella: I don’t know what ‘lion’ starts with.
Miss Cathy: Well, it starts like the first one we did together. What was the first one we did?
Ella: Um, leaf. L-l-l-leaf! L-l-l-lion! L?
Miss Cathy: Yes! Leaf and lion start with the same letter, L.

Ella and Miss Cathy explored the letter L farther by thinking of other words that started with the letter L such as lamp, lamb, and lip.

While I was observing this group, I noticed that Amanda and Irene seemed to have a difficult time writing the letter “B”. Both girls would write the letter backwards (a reversal). However, both students used resources around the room to help them look at how the letters are formed. Irene had the word “Ball” in which she needed to fill in the letter “B”. She wrote the letter “B” backwards and then stared at
it for a second. She then took her paper up to the alphabet poster and checked her “B”. When she got back to her seat she erased the letter and re-wrote it correctly saying, “Miss Cathy, I always get that messed up!” Miss Cathy replied, “It’s ok Irene. You had such a great idea going over to the alphabet poster to help you out. That was great!” This conversation seemed to prompt Amanda to go over to the wall and check her letter B’s as well. She then went back and changed the letter to go the right way and Miss Cathy reinforced that it was great the students “were using the room to help them with their letters.” She then asked what else they could use in the room to help them.

Miss Cathy: I love how Amanda and Irene used our alphabet poster on the wall.

If we are having trouble remembering what way our letters go what else could we use in the room that will help?

Calvin: The word wall!

Miss Cathy: That would be an excellent place we could check!

Ella: Uh, our cubbies?

Miss Cathy: What is on our cubbies?

Ella: Our names.

Miss Cathy: Yes, we could use our name tags on our cubbies.

Anything else?

Calvin: Our alphabet book!

Avery: Or our journals, in the back there is the alphabet.

Miss Cathy: Very good! There a ton of different placed we could check if we need help!
Environmental print played a role in the classroom guiding students to use the entire classroom as a resource to help with their learning. Students knew that there were letter, numbers, words, colors, all around the room that they are able to look at and help them with their understanding of those skills.

Miss Cathy encouraged the students to use their oral language and the room itself to guide their learning. Between prompting and continuous conversation, Miss Cathy set students up for success and to discover concepts on their own without simply being told an answer.

Summary

During this first week, it was interesting for me to see how much the students talked. Oral language seemed to be the major component in supporting the students’ learning of new concepts. The teacher and the students engaged in conversations, which scaffold their learning. When figuring out what resources could be used around the room for help, Miss Cathy engaged the students in a question/answer conversation. Miss Cathy prompted students to come up with ideas as to where they could look for help. She also started out by praising Amanda for using the alphabet chart and then went into asking questions about other resources. Oral language also helped when students were engaged in activities that promoted social skills. Students were able to talk about problems and figure out a solution. When analyzing the student’s interviews and after observing, it seems as though the students have a
general idea about print and literacy because of their simplistic answers and their idea that coloring is writing.

**Observation and Conversations-Week 2**

During the second week, I continued to observe the students during their center time and also started having conversations with them. While a group of four students were playing in the “kitchen” center, I noticed they started playing a game of house together. As I continued to observe, I noticed that the one “leader” of the group started to designate rolls to the other three. Avery decided she was the mom, Celia was the dad, Calvin was the dog, and Amanda was the baby. It was clear to me that gender did not play a role as to the character of each student. It did not matter if a male student played the role of the father or if a female student played the role of the mother. Avery told Celia she needed to go to work for the day and come back when it was dinner time. She then pretended to put the baby, Amanda, in the car so they could go to Wegmans. I asked Avery about her imaginative trip to Wegmans.

**Jenn:** What are you going to Wegmans for?

**Avery:** To get food! That’s what my mommy does.

**Jenn:** I see! I go to Wegmans too. But when I go shopping I usually bring a list. Does your mom bring a list?

**Avery:** A list?

**Amanda:** My mom does!

**Avery:** Oh yeah, my mom does too.

**Jenn:** What is on their list?

**Amanda:** I don’t know, I can’t read! I think stuff she wants.
Calvin: My mom has coupons.

Avery: My mom doesn’t.

Jenn: Those are some things people bring to the grocery store. Maybe we can make some for our center.

Amanda/Avery: Yeah!

I watched the four students make grocery lists and coupons. Their grocery list contained scribbles to represent the items; however, they told me what each scribble meant: Milk, Go-Gurts, Lunchables, and cookies. I then tried to extend their thinking about writing

Jenn: Why do you think people write lists?

Cecil: To know what they want?

Jenn: That is one reason! Sometimes I forget so I need to write things down. Why else do you think people write?

Amanda: Um, maybe to tell other people to do things.

Avery: Yeah, and like words.

Jenn: Right! Sometimes we write things down to ask others to do them and we write words down so they can read them.

Avery: I can write my name.

Calvin: Me too!

I finished observing this group and watched how they incorporated reading, writing, listening, speaking, and viewing within their learning centers and free play. Most of the time, the group acted out “real-life” situations that happened at home or
things they did with their families such as getting ready to go to Wegmans, making
dinner, and getting ready for school. They also worked out problems through
reasoning with each other. For example, at times, I observed some of the students
pushing and shoving or taking a toy away from another child. But, they were quick to
explain their reasoning to Miss Cathy who would often intervene to mediate the
situation and have the students work together fix the problem. Many times, there
would be an argument over a toy that two students wanted to have. Miss Cathy would
first see if the two could work out the problem on his/her own. If not, she would step
in and ask what a better choice could be for playing with the toy. She may ask if they
could share or if both students could take five minute turns with the toy. Miss Cathy
would give examples on how to use the toy or ask what the students felt could be a
better choice than arguing.

I noticed that writing activities occurred more often in the dramatic play
scenarios, which took place in the kitchen center than in other centers. Even though
paper and writing utensils were not always supplied, some of the girls would pretend
their hand was a piece of paper and pretend to write on their hand. When I would ask
them about what they were writing, before we talked about making lists, Avery and
Ella both told me they write “stuff” but did not give any specifics.

Summary

This week, I found it interesting to see how the students took every day
situations, such as the ones listed above, and wove literacy into them as they played
together. Simple situations, such as going to the store or making cookies at home, can be turned into a learning experience within the classroom.

Multisensory Activities-Week 3

After observing the students and the teacher for two weeks, I began working with my own group of seven students, Amanda, Celia, Calvin, Irene, Ethan, Ella, and Avery doing multisensory activities during centers. The first day we used shaving cream to write letters on cookie sheets. I chose this activity to do first to give me an idea as to where each child was in regards to his/her knowledge of writing letters. During my time observing the class in the beginning, I had noticed students writing letters during their time coloring or with Miss Cathy.

Shaving cream is a great tactile way to write letters because of the different sensations the shaving cream and the table creates. The rich smell of the shaving cream also enabled the students’ sense of smell in this activity. I broke up the group of seven students I had into two groups, picked in no particular order. I gave each student a pile of shaving cream on a cookie sheet to spread around and make letters on with their fingers. I wrote the letter ‘A’ on the white board so the students had a visual representation to use as a resource when making their letters. We did the first seven letters of the alphabet A, B, C, D, E, F and G because I decided to divide the alphabet up for each activity. Having the students do the entire alphabet in one sitting would most likely prove difficult because of how long it would take. Most preschoolers have not yet built up their academic stamina to sit through an activity.
lasting longer than 20 minutes based on personal experience. I believe that direct instruction of letter writing is developmental appropriate for preschoolers as long as time is managed wisely.

Throughout the activity with shaving cream, I noticed that all seven students looked at the white board to see how to make their letters. Some students looked at the white board for each letter before and after they wrote it, while others only looked to check to make sure they wrote it correctly. They also looked at the alphabet poster to see what letter I would ask for next because I was going in ABC order.

Jenn: Can we write the letter A? I will write it on my white board too.
Celia: This is hard!
Avery: I have a letter A in my name! Avery!"
Ethan: My teacher teaches us this! Hey Avery, I have the letter A in my name too!
Jenn: Celia, would you like help? Let's see if we can write the letter A together.
Celia: Ok, I just don't know how to do it.

[I help her with the letter A by taking her hand and helping her make the letter ]

Jenn: Now trace the letter A we just made together
Celia: That wasn't hard!

While Celia and I carried most of the conversation, the others continued to write the letter A multiple times in the shaving cream. I decided to work with Celia more closely at first because she seemed to be upset that her ‘A’ was not looking like
the one I had used in my model. She seemed to have the right idea, except she was writing the letter sideways. This prompted me to help her write the letter the correct way and then having her trace it on her own.

Many of the students were able to work independently with the task of writing letters in the shaving cream. Every student enjoyed being able to play with the shaving cream. When we were done making letters, all of the students decided to write his/her name in the shaving cream.

The following day, I brought in trays of colored sand and repeated the activity from the day before with only sand with letters H, I, J, K, L, M, N, O, P and Q. (Please describe what happen with the sand and the letters on this day.) On the third day, we finished making the alphabet using Play-Doh to make the letters R, S, T,U,V,W,X,Y and Z.

Some letters, such as B, D, J, K, S, and Z proved to be difficult for the students to create. I believe those letters were more difficult because of the directionality of the letters. For example, Amanda, Calvin, Ella, and Avery drew their ‘J’ going the opposite way as well as the letter ‘S’ for Amanda, Ella, Avery and Irene. I recognized through this activity that the students’ fine motor skills are still developing because drew the letter ‘B’ with a large half circle for the first hump and then a smaller half circle to complete the ‘B’.
I wondered if the type of multi-sensory materials the students used made the letters more difficult to create. I questioned if there might be a better “material” to use for this activity? Therefore, on the fourth day of week three, I decided to try out those letters (B, D, J, K, S, and Z) using all three materials (shaving cream, sand, and play-doh) to see if and how the material influenced the students’ abilities to create the letters. Even though the students loved to play in all of the materials, shaving cream proved to be more “usable” for tricky letters listed above. All of the students were able to manipulate the shaving cream easier to create letters. The sand also seemed to be easier for the students to manipulate because it was easy for them to push around with their fingers. Play-doh took the students more time to manipulate and roll out as they attempted to create the desired letter. I noticed that four students (Celia, Ella, Irene, and Avery) had a difficult time rolling out the play-doh or moving it into the letter shape. Those four out of the seven students would ask for help rolling out the play-doh for each letter or easily got discouraged when they could not move the play-doh to make the letter. Those four students listed seemed to have not yet acquired the strength to roll out the play-doh as well.

The use of different materials helped students become more hands-on with their learning. However, finding the right material is key to a successful multisensory activity. By trying out different materials, I was able to figure out which one worked best of all students and which ones may be better for older students and/or a different kind of activity.
I was able to see a pattern between the letters that the students had trouble with the letters, (B, D, J, K, S, and Z), because they seem more complex and intricate for little hands to manipulate. Also, the relevance of the letters may play a factor as to which letters were more difficult. Many of the students did not have the above letters in his/her name so each student may not be as familiar with writing those particular letters.

**Summary**

Conducting multisensory activities from this week helped me reflect upon what else I could be used in the classroom along with these activities to tie the letter concept together. Using their names as a starting point may have been a better choice because they are familiar with those letters. Because I was only had a small amount of time with the students, I reflected upon what I would do with my future students. Along the above activities, throughout the week I would have taught songs that went along with the letters we were learning. I decided to use songs that went along with the letters we were learning to use another one of their senses for multisensory activities. Songs allow children to say and listen to letters; some songs also had movements that encouraged children to use his/her body while singing. Also, finding letters within read aloud books and within the room would be a good connecting activity. Students are able to see how print is used around the classroom. Students could work on their motor skills by cutting out letters from magazines and gluing them on paper. All of these activities can tie together to reinforce not only making the
letters but seeing them in print and hearing them in songs. Also, the letters in student’s name help them understand that letters/words contain meaning.

Multi-Sensory Activities- Week 4

During the fourth week, I added singing and movement to our multisensory activities to incorporate more of the senses. We began our first day of activities this week by singing “The Alphabet Song” (see Appendix D) they had learned at the beginning of the school year. The lyrics of the song focus on the letters and letter sounds. Also, as I indicated during the discussion of the first week of activities many of the students in this study reversed some of their letters so I decided to focus on activities that would have them manipulate the letters so they could explore directionality of the letters. It is not uncommon for students to reverse letters while writing. Many may not be as familiar with letters he/she is reversing and may simply need more practice and guidance to learn how to correctly write the letter.

Since the students were learning about springtime and plants, I decided to have my group of seven students use seeds to create the letters. Using the letters from the previous week that proved difficult for the students (B,D,J,K, S, Z), I wrote each letter on its own sheet of construction paper with black marker. The first day, we explored the capital letters B, D and J. We traced them with our finger before and after we glued the seeds on. After discussing each letter, I had the students glue sunflower seeds to the construction paper to outline the letter. After the seeds dried,
we used our fingers to trace the sunflower seed outlines of each letter while saying the name of the letter and the sound it makes. The students seemed to enjoy this activity and asked what other letters we could make. It was interesting to see how students glued on their seeds. Some students used many seeds and made sure each one touched the next one, while others put more spaces in between the seeds.

Ella: Miss Jenn, Calvin didn’t use all of his seeds!
Miss Jenn: That is ok Ella, can you still see what letter he made?
Ella: Yeah, he made a J.
Calvin: I didn’t want to use all of the seeds.
Miss Jenn: That is ok, Calvin. You did not have to use them all! We just want to make sure we can tell what letter you made.
Calvin: I made a J!

We then talked about what words start with those letters and I wrote them on the whiteboard. Some of the words that the students came up with were: bug, dog, and jump. The following day, we did the same steps with letters K, S and Z. Some words the students came up with were: kite, shovel, and zebra.

On the third day of the fourth week, the students and I reviewed these “tricky” letters, B, D, J, K, S, and Z, and moved around the room with magnifying glasses to see if we could spot the letters anywhere else. Students found the “tricky” letters on the word wall, cubbies, books, center labels, kitchen center on the fake food, and on
posters on the wall. As we found them, we traced them with our fingers as well and said the name of the letter. The students really seemed to enjoy this and they were able to find more resources around the room for them to use.

Being able to pinpoint the “tricky” letters for these students helped me plan my activities around it. I used the term “tricky” with the students because Miss Cathy used that term already when describing activities, concepts, or skills that may be difficult for some students. I incorporated classroom resources because Miss Cathy already encouraged her class to use environmental print to help them.

Summary

This week, I was able to reinforce some of our learning by using singing, tracing, and using the room as a resource. However, as stated above, I believe this should be these activities should be used every day to build upon learning. We were only able to do these activities for thirty minutes to an hour. If I were able to spread out these activities throughout the day, I think it would have enhanced learning.

Being able to watch the students explore the room and find letters with their magnifying glass was interesting to watch. I do not think at first the students realized how many items in the classroom had print on it. By the end of our scavenger hunt, some students found letters on the bottom of toys, printed on the tags of their blankets, and even under the sink. I think these activities showed the students just how much literacy is in our everyday life.
Multi-Sensory Activities-Week 5

For the last week of multisensory activities, the students and I continued to work on letter-sound recognition. This week, I decided to have the students apply what they had learned throughout the school year and during the three weeks of my study to create a collaborative writing piece. The reason I chose this idea was to bring all seven students together as a whole. As stated before, the seven students were split up into two groups so that I could focus on smaller group sizes. I wanted the seven students to work together on a writing piece because I felt each one would be able to contribute to the thought process or the writing piece and the final product.

Following the springtime theme in the classroom, the students and I brainstormed a list of words on chart paper that they thought would go along with the idea of spring.

Jenn: Because we are talking about springtime the past few weeks, I thought we could write about what you have learned with Miss Cathy.

Irene: Like write a story?

Jenn: Yes, we are going to make a class book together about spring.

Celia: Oh! Cool! Can we draw pictures??

Jenn: Of course we will, we will be authors and illustrators of our book.

[side conversations and excitement begin to take over the group]

Jenn: Ok, ok. First we have to come up with some ideas to put into our writing. What are some things you have
learned about from Miss Cathy about springtime? I will write down our ideas on chart paper.

Ethan: It gets warmer outside!

Amanda: We see butterflies, oh and some bees too!

Ella: Ah! I hate bees! They scare me! I hate spring!

Avery: What? You hate spring? That’s silly!

Jenn: Yes, we do see butterflies, and there are some bees.

Amanda: We get lots and lots of flowers in the ground!

Jenn: Oh yes! The flowers are my favorite part of springtime! What happens to the trees?

Celia: Um, they grow?

Calvin: Yeah! They get huger!

Jenn: Yes, they may grow bigger. But, what about the leaves? Are there leaves on the tree during the winter?

Avery: No! They grow too!

Jenn: The leaves do grow on the trees and they get fuller and greener!

Celia: Then we can go in the shade and read books. My mommy reads me books in the shade.

Jenn: That is a very nice thing to do outside! What are some other things we can do outside when it is springtime? Irene, what do you like to do outside?

Irene: I like to play.

Jenn: Do you think you can play outside more during the springtime?

[Irene nods her head yes]

Calvin: I like to play basketball.

Jenn: How fun! In the springtime we can go outside and play basketball or baseball because the weather is nicer. I think we have a great list so far. Let’s see what we need
to do next to start writing and we can add onto our list if we think of anything else!

As each student gave an idea, another student would think of something else or have something to say about an idea given. All seven students made connections when we talked about the trees growing and Celia knew that her mom reads to her in the shade when the tree grows. Each student was able to participate and contribute to our conversation.

The following day we began to write our story about spring. I cut out poster paper of a large head of a flower for us to use as our book. We wrote our sentences as a class as interactive writing on sentence strips to glue onto the flower. I had the group help sound out the letters and each had a copy of the alphabet linking chart (see Appendix F) to use.

Jenn: Ok friends, we are going to come up with sentences about springtime from our list of words. I thought we could title our book “How I Know It Is Springtime”. Our sentence starter can be “I know it is springtime when…”

[I write our sentence starter on a sentence strip]

Jenn: Hmm, what should I do next? Let’s look at our list.
Calvin: When you see bees!
Jenn: Bees and what else did we put on our list, Calvin?
Calvin: Butterflies!
Jenn: Come up here and help me write that please. We will write ‘we see bees and butterflies’. What does the word ‘we’ start with?

Calvin: Um, Y?

Jenn: It’s ‘wha’ like ‘watch’.

[Calvin checks his alphabet chart]

Calvin: W?

Jenn: Yes! W and then an E.

[Calvin wrote ‘we’ on the sentence strip]

Jenn: As Calvin is writing, can we make the letter ‘W’ in the air?

We finish our writing piece as each student shared and idea and comes up to write came up to the board to help me write their idea as a part of interactive writing. As each student wrote, I asked the rest of the group to either make a letter in the air, on their arm, on a partner’s back, or on the rug. This reinforced our letter/sound relationships using a multisensory way of practicing how to make the letters. Our finished story read:

*I know it is springtime when we see bees and butterflies.*

*We see flowers in the ground. The trees have leaves and grow.*

*The weather is warmer. We go outside to play games.*

On the last day, each student drew a picture to go along with our story and we pasted them around our flower book. Each student was able to contribute to our final project and come up with his/her own ideas through conversation.
Summary

Again, conversation played a major role for our collaborative book. Students were able to bounce ideas off of each other and talk about their own personal experiences with springtime which led to making connections with each other. Students are able to be engaged in their own learning when they are responsible for it. For example, the group of the students knew that they were creating their own book. The students were the ones who came up with the ideas and turned it into a story. With prompting from myself, they were able to take their own ideas about springtime and contribute to the class book. Students were motivated because they were excited about creating something as a class. Keeping students motivated and engaged can be a problem though, especially when only one person is doing the work at a time. When each student was coming up to participate in interactive writing, I noticed some students getting restless. Having the students who were not writing make the letters in the air or on another student’s back helped keep the students involved and also expanded upon their own learning of letters with practice.

Final Conversations/Observations-Week 6

For the final week of the study, I continued to have conversations with the students about their thoughts about literacy. All seven students were still very excited about the book we had made and wanted to read it out loud to others. We decided to
go around to different classrooms to share our book and they were able to read it to
others which also helped them practice reading aloud.

Jenn:  What did you think about reading and writing?
Ella:  I think it’s fun. I like make letters in the sand and stuff.
Jenn:  Do you think writing our book was fun?
Celia:  Yeah, but it was kind of hard too. Writing is hard.
Jenn:  Yes, it can be hard but you will get better and better at it.
Irene:  Will we do more books when we are grownups?
Jenn:  You might! You might even make even longer books!
Calvin:  Wow! Like a billion pages?
Jenn:  That would be a lot!

Everyone in the group seemed very positive about their literacy experiences.
For example, Avery was very interested in using her alphabet chart to make a
birthday card for her mother, and Celia, Irene, and Ella wanted to play in kitchen
because of the notebooks they could use to write. Now that they were able to
contribute to a piece of writing, they were looking forward to more opportunities to
read and write.

Summary

Multisensory activities including using shaving cream, sand, play-doh,
promoted literacy skills. By the end of the six weeks, I noticed that all seven students
were infusing letters into their pictures and also just simply writing letters without
any picture such. All of the students were using alphabet charts more readily that
Miss Cathy had given to them in the beginning of the year.
Chapter 5: Conclusions and Recommendations

The focus of this study has been to learn what happens when I integrated multisensory approaches into literacy instruction for preschoolers. The multisensory approaches that I used involved oral language, conversations with students during guided activities and free play, hand-on activities creating letters with sand, play-doh, and seeds, songs, and visual resources within the room including alphabet posters and familiar print.

My research question was: How does incorporating multisensory approaches into literacy instruction influence the literacy development of preschoolers? The finding from the study indicate that preschoolers may benefit from including multisensory approaches to literacy instruction into everyday activities and that teachers can implement multisensory activities into the curriculum already set in place.

The findings from this study suggest that use of multisensory activities within literacy learning support students through literacy. Multisensory activities enable preschoolers to explore aspects of speaking, listening, viewing, reading and writing as well as expanding upon their social skills.
Conclusions

Preschool teachers need to remain aware of the influence that multisensory activities can provide preschoolers in literacy. Cronin, Farrell, and Delaney (1999) suggest that using multisensory approaches along with environmental print influences preschoolers to learn that word and may learn more quickly when it is attached to a logo he/she is has already familiarized.

The Use of Multisensory Activities Enabled Preschoolers to Development of Oral Language and Problem Solving Skills

The use of multisensory activities and environmental print can enhance preschoolers’ learning and can be used to scaffold learning (Clay, 2005). Ruston and Schwanenflugel (2010) looked at how the use of oral language in conversations enhanced a preschooler’s development of expressive language. The results of this study showed a significant improvement preschoolers lexical diversity and use of expressive vocabulary. Each preschooler was given a pretest using the Expressive Vocabulary Test (EVT) and also tested on lexical diversity. Those who received the extra time with genuine conversations did much better than those who did not. This study shows how important oral language is and how conversations can aid in a preschoolers understanding of language.

I found that when students were able to talk through problems that arose
during center play they were able to work together and use language to problem solve. For example, when cleaning up after an activity, too many students were trying to put magnet letters away in a small jar causing some of the magnets to fall onto the floor. By talking about the problem, the students were able to problem solve and designate one person to put the magnet letters into the jar while the others picked up all of the letters that had fallen onto the floor. Oral language was something that was used every day between me and the students, as well as between students, and helped students to understand new concepts by talking to each other.

Using Multisensory Activities Engage Students In Own Learning of Literacy

When Scheffel, Shaw, and Shaw (2008) conducted a study looking at how effective a supplementary multisensory reading program was with first grade students, they suggested that multisensory approaches embrace many ways of learning, using visual, auditory, and kinesthetic teachings of phonetic concepts, encoding/decoding words, writing/reading sentences, and vocabulary words, therefore reaching more students’ learning needs. The first graders were able to explore skills and strategies in many different ways which in turn is not a one size fits all teaching plan. By incorporating varying ways of teaching/learning, students were able to be in charge of their own learning. I incorporated visual, auditory, and kinesthetic ways of teaching into my activities. All of the students in my study were engaged in his/her own learning and fully participated in each multisensory activity.
Play Encourages the Use of the Senses and Incorporates Literacy and Home Connections

Student play also impacted the results of this study. Everyday play showed how students viewed life that was around them. Students were able to incorporate what they saw being done at home into their own pretend play. Making grocery lists, coupons, and menus encouraged students to expand upon their thinking of play and literacy. Students physically pretended to write grocery lists and also listened to others about new ideas to incorporate into play. Students would pretend to smell food cooking in the play kitchen and even asked to bring real food in to try.

Implications for Student Learning

I believe students may benefit from the concepts and ideas behind my research in a few ways.

Speaking Enabled Children to Begin to Develop Higher Level Thinking

Through the use of oral language, students will be able to orally discuss and problem solve, Oral language was a major theme that resulted in this study, at times overriding learning from multisensory activities. Allowing students to talk encourages him/her to be able to expand their thinking and use each other to make connections or problem solve.
Students Can Find Their Own Learning Style Through Senses

When students are introduced to different ways of learning, as they grow older they will be able to understand how they learn best. Some will realize they are visual learners, while others may be more auditory. By experimenting with multisensory activities, students will be able to figure out what works best for them in a learning environment. Because preschoolers are still too young to understand that concept, teachers introducing many different ways of learning will enable students to begin learning in different styles at a younger age.

Pretend Play Encouraged Social Skills

Students who are actively engaged in pretend play can build social skills as well as literacy skills. Pretend play involved reading, writing, speaking, visual and listening. All of these pieces of literacy are tied together in pretend play encouraging students to engage in literacy in different ways. Each day may be a different kind of pretend play which pushes students to think of new ways to make pretend play work. Students need to “get in character” in order to pretend. One day they may be mothers, the next they may be doctors. Each brings their own thinking of how that character would act into pretend play.
Implications for My Future Teaching

The findings and the conclusions drawn from this study will inform my future work as a teacher in several ways.

Students Should Be Actively Engaged In Their Learning

First, I will continue to use multisensory activities for literacy tasks. I will include the use of senses in activities, specifically being able to feel, listen and see during activities. Multisensory activities engage students with their learning and enable them to be ‘hands-on.’ In the chapters one and two, I discussed how the traditional ways of teaching, such as skill and drill, may not be the most beneficial way to teach students (Piaget, 1973). Students need to be active in his/her learning and discover concepts on his/her own. Simply practicing how to write letters is not enough for students to internally understand what makes that letter unique. By pairing literacy skills with songs, poems, and hands-on activities, students are able to take on a deeper understanding of concepts. This came to life in my study when students were able to connect letters they were making during our seed letter activities to words of songs we had sung. The traditional way of teaching, as discussed in chapters one and two, in all types of instruction including literacy, focuses on students listening and watching the teacher. Students, who are engaged in hand-on activities, using more than one of their senses, are more likely to retain information and are able to build upon that knowledge because they have physically learned it (Piaget, 1973). Students were able to use their sense of smell, hearing, and sense of
touch to look at and manipulate letters as well as hearing letters sounds in songs and conversation.

**Authentic Experiences/Environmental Print Influences Learning**

When thinking of how to plan and conduct multisensory activities I must think about what objectives I would like my students to meet or what goal I want for my students to have achieved by the end of the lesson. The use of multisensory activities is much more productive when joined with authentic experiences such as viewing and discussing logos and activities that are seen in everyday life for preschoolers, or connecting letters or words posters or books seen every day. Viewing or experiencing environmental print — print, symbols, and logos, which are all around children on a daily basis — is just one of the ways in which young children, start to understand that there is meaning behind a symbol or that print carries meaning. Some young children may know the “golden arches” for McDonalds, or can recognize the Oreo box. This is an important step in how a child emerges in his or her literacy development. Preschoolers are beginning to understand literary concepts with a sound-symbol relationship (Pullen & Justice, 2003).

**Oral Language Aids in Problem Solving Skills**

My findings also suggest that oral language plays a significant part when it comes to literacy and social skills. Students were able to talk to each other to problem solve during play encouraging the use of social skills. During the multisensory activities, conversation was used during each activity to expand upon learning and
reach higher level thinking by being able to connect letters to other known knowledge such as letters within his/her name. I will continue to encourage my students to talk to each other and work out problems to evaluate their thinking process and see what my next steps can be to help them. Talking to each other also promotes speaking and listening skills. Oral language is used in and out of an academic setting and can help benefit students throughout their entire lifetime.

**Recommendations for Future Researchers**

**Use Home/School Connection to Give Insight to Previous Learning and Literacy Used In the Home**

Through this study I examined the use of multisensory activities using the senses of sight, hearing, and feeling in a preschool classroom to see if using multiple sense would influence literacy learning. There are several areas in which this study could be expanded upon and continued. Observations of student in the home and conversations with them and their parents may provide opportunities to see how the preschoolers are exposed to literacy activities in the home. This may give insight to what each student has been exposed to before preschool and how literacy is valued.

**Use Multiple UPK Classrooms to Obtain Widen Scope Of Study**

Expansion of this study includes to study across different UPK classes within the school district to see how each teacher is using literacy and multisensory activities. Because there was no set UPK state standards at the time of the study, researchers could see how teachers and students who focus more on multisensory
activities in the classroom as oppose to those who do teach in a more “traditional” way yield the same or different results.

**Use Multisensory Curriculum to Enhance Student Learning**

Another expansion of this study is to create a curriculum based around multisensory activities in all subject areas. This could enhance students’ learning and development and start a common curriculum throughout the school district for UPK.

**Lengthen Study Time and Study Group Size**

Data collection across an entire school year and comprising of several UPK classes will yield more results. In this study I focused on seven preschoolers over the course of six weeks. Using more students during a longer time frame will show student growth in literacy with the use of multisensory activities.

**Recommendations for Teachers**

Preschool teachers need to be attentive of the ways in which multisensory activities are utilized. Activities should be well planned and interconnect into other activities to make them more valuable.

**Print-Rich Environment and Daily Conversations Add To Literacy Development**

Multisensory literacy activities should be used in a print rich environment to enhance learning and encourage students to make connections. Preschoolers use their understanding of the alphabet and phonological awareness to start decoding and
recognizing words in their environments. Conversations should also be encouraged through these activities and in center play to promote student’s ability in literacy for listening, viewing, and speaking.

**Monitor and Adjust All Activities**

All teachers need to monitor and adjust their activities as they see fit. Teachers need to carefully observe how students are reacting and engaging with activities and adjust activities to best meet student needs. Just as the play-doh letters seemed too hard for some students, I had to make a note to myself that this probably would be something I could do as they got older and more advanced. Also, the preschoolers had not yet used play-doh in the way I was asking them to for creating letters. Because it was a new activity to create letters with play-doh is may have been another factor that made the task difficult. The sand and shaving cream seemed to work best for the students to manipulate and use.

It is my belief that the aforementioned recommendation will prove valuable to both preschool teachers and teacher researchers in their future work with multisensory activities in preschool. Through multisensory activities in literacy and oral language, students can benefit from each which may influence their literacy skills.
Final Thoughts

Using hands-on, multisensory approaches using listening, speaking, viewing, and feeling can encourage preschoolers to work through new concepts, literacy, and social situations. Also, talking with students helped promote their language skills and gave them opportunities to use language to problem solve. More importantly, I used this study to find out how preschool teachers can use multisensory approaches by incorporating the use of senses into literacy activities in preschool classrooms and engage young children in reading, writing, speaking, viewing and listening activities. Students’ behaviors and social skills also provided information as to how all areas of literacy are represented in the classroom and everyday life. Throughout his or her day, a preschooler is continually being introduced to new concepts, and benefits from appealing ways to explore those new concepts.
References


Appendix A

Observational Notes

Date of Observation: __________________________

Student Pseudonym(s) __________________________

<table>
<thead>
<tr>
<th>Literacy Activity:</th>
<th>Observation Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on back
Appendix B

Student Interview Questions

Adapted from *Kidwatching* (2002) by Owocki & Goodman

1. What is your favorite thing to do when you are at school?

2. Do you think reading is fun? Why?

3. Do you think writing is fun? Why?

4. Do you think you are a good reader? Why?

5. Do you think you are a good writer? Why?

6. What is reading?

7. What is writing?

8. Do you think your teacher likes to read and write?

9. Why do you read?

10. Why do you write?
Appendix C

Teacher Interview Questions

1. What is your definition of literacy? Reading writing speaking….understanding of print/symbols, involving yourself with text environmental print, contains meaning not just reading or writing

2. How do you use reading/writing/speaking/viewing in the classroom? read alouds, journals, word walls, independent reading, coloring, literacy bags.

3. Do you provide materials to enhance literacy in your learning centers? (Example: paper in the kitchen area)

4. Do you use multisensory approaches for literacy activities? If so, what do you do?

5. How do you think your students feel about literacy?

6. What literacy activities do you do on a daily basis with your class?

7. How do your views of literacy influence your organization of the classroom?
Appendix D

Sang to the ABC’s

A-a-Apple
B-b-Butterfly
C-c-Cat
D-d-Dog
E-e-Elephant
F-f-Fish
G-g-Goose (What a dish!)
H-h-House
I-i-Ice Cream
J-j-Jam
K-k-Kite
L-l-Lollipop
M-m-Mouse
N-n-Nest (What a house!)
O-o-Octopus
P-p-Pillow
Q-q-Queen
R-r-Ring
S-s-Snake
T-t-Turtle
V-v-Violin
W-w-Watch
X-x-X-ray
Y-y-Yo-Yo
Z-z-Zebra
### U-u-Umbrella

Appendix E

<table>
<thead>
<tr>
<th>Alphabet</th>
<th>Aa</th>
<th>Bb</th>
</tr>
</thead>
<tbody>
<tr>
<td>abcd</td>
<td>apple</td>
<td>bear</td>
</tr>
<tr>
<td>efg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hijk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lmnop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>qrst</td>
<td></td>
<td></td>
</tr>
<tr>
<td>uv</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cc</th>
<th>Dd</th>
<th>Ee</th>
<th>Ff</th>
</tr>
</thead>
<tbody>
<tr>
<td>cat</td>
<td>dog</td>
<td>egg</td>
<td>fish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gg</th>
<th>Hh</th>
<th>Ii</th>
<th>Jj</th>
</tr>
</thead>
<tbody>
<tr>
<td>gate</td>
<td>hat</td>
<td>igloo</td>
<td>jack-in-the-box</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kk</th>
<th>Ll</th>
<th>Mm</th>
<th>Nn</th>
</tr>
</thead>
<tbody>
<tr>
<td>kite</td>
<td>leaf</td>
<td>moon</td>
<td>nest</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oo</th>
<th>Pp</th>
<th>Qq</th>
<th>Rr</th>
</tr>
</thead>
<tbody>
<tr>
<td>octopus</td>
<td>peg</td>
<td>queen</td>
<td>ring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ss</th>
<th>Tt</th>
<th>Uu</th>
<th>Vv</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun</td>
<td>turtle</td>
<td>umbrella</td>
<td>vacuum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ww</th>
<th>Xx</th>
<th>Yy</th>
<th>Zz</th>
</tr>
</thead>
<tbody>
<tr>
<td>window</td>
<td>x-ray</td>
<td>yo-yo</td>
<td>zipper</td>
</tr>
</tbody>
</table>