

Effects of Different Types of Play on Preschoolers' Vocabulary Learning

By

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## ABSTRACT

This study investigated the effects of different types of play-embedded instruction on preschoolers' vocabulary learning during a vocabulary intervention known as Say-Tell-Do-Play (STDP). The goal of this study was to determine whether or not two types of play – Story Drama and a Vocabulary Matching Game – enhanced the effectiveness of the STDP strategy. To investigate this goal, the researcher implemented the STDP instructional routine for 17 children with three different picture books and their corresponding play activities and a control condition (Drawing) in a counterbalanced order. Descriptive statistics were utilized to understand the effects of these different play activities on the children's receptive and expressive vocabulary learning.

Findings showed that the STDP vocabulary instructional strategy had a much larger impact on children's receptive vocabulary than on expressive vocabulary learning. The play activities did not seem to make much difference in the learning of receptive and expressive vocabulary. The results indicated that the STDP strategy is an effective way to teach receptive vocabulary. There was a lack of evidence that the different types of play significantly affected children's vocabulary learning.

## DEDICATION

To my father and mother who love me unconditionally and to my loving husband

who believes in me

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## CHAPTER 1

### INTRODUCTION

#### **Overview**

In response to a congressional request in 1997, the National Reading Panel (NRP) was convened to determine comprehensive, formal, and evidence-based practices for teaching children to read. Built upon the work of the National Research Council (NRC) on *Preventing Reading Difficulties in Young Children* (Snow, Burns, & Griffin, 1998), the results of the *National Reading Panel: Teaching Children to Read* (NICHD, 2000) included the importance of explicit and scientifically-based instruction in several areas of early literacy. These areas included phonemic awareness, phonics, fluency, vocabulary, and comprehension (Bialystok, 1999; NELP, 2008; NRP, 2000; Snow et al., 1998). Research has confirmed that the development of these skills is a predictor of early reading success (Bialystok, 1999; Christie, 2008). NRP findings were the cornerstone of the Reading First and Early Reading First initiatives of federal education legislation during the past decade.

In 2001, the No Child Left Behind Act (NCLB) was passed in the hope of improving the performance of schools by increasing the standards of accountability for states and school districts, as well as providing opportunities, programs, and resources for disadvantaged students to help them improve their academic achievement. This legislation required that all students in grades 3 to 8

take a standardized reading achievement test to verify that all students reach proficient reading levels within 12 years. The Early Reading First initiative of the NCLB Act provided support for preschools to implement scientifically-based instruction in support of early literacy development including vocabulary skills.

In summary, previous U.S. reports and initiatives have documented that young children need to acquire essential literacy skills for later achievement in reading, and one of these skills is vocabulary. In addition, these reports have supported the view that vocabulary skills can be developed through explicit, direct, and scientifically-based instruction.

### **The Statement of Problem**

Vocabulary, children's knowledge of word meanings, is a prerequisite for future reading achievement, playing a significant role in the development of reading comprehension, oral language proficiency, and even academic success at school (Beck, McKeown, & Kucan, 2002; Biemiller, 2003; Biemiller & Boote, 2006). A body of research demonstrated that explicit vocabulary instruction can facilitate vocabulary development and later reading ability for young children (Beck & McKeown, 2007; Biemiller & Boote, 2006; Mol, Bus, & de Jong, 2009; Lonigan & Whiteburst, 1998; NELP, 2009; NRP, 2000). However, compared to essential skills like phonemic awareness or alphabet knowledge, where there is a general agreement about what to teach and how to teach, the domain of vocabulary has not been fully examined to guide instructional strategies and practices (NRP, 2000).

Research has shown that age affects vocabulary development, and the most effective time to address vocabulary differences is in the preschool and early primary years (Biemiller, 2003; Biemiller & Boote, 2006; Christian, Morrison, Frazier, & Massetti, 2000). Unfortunately, there is little research on age-appropriate vocabulary instructional strategies that can help young children understand and develop critical vocabulary knowledge (Beck, Perfetti, & McKeown, 1982; Coyne, McCoach, & Kapp, 2007; Coyne, Simmons, Kame'uni, & Stoolmiller, 2004).

The role of play in the early literacy development of young children has been a popular research topic in recent years (Yaden, Rowe, & MacGillivray, 2000). Research has demonstrated there is a significant relationship between play activity and important early literacy skills, including print awareness, oral language development, story comprehension, and productive language competence (Galda, 1984; Roskos & Christie, 2000; Smilansky, 1968). However, there is still a paucity of research on play-embedded vocabulary instruction for young children.

### **Purpose of the Study**

The purpose of the study was to examine the influence of the play-embedded direct instruction strategy, Say-Tell-Do-Play (STDP), on vocabulary learning of preschoolers. Specifically, the study investigated effects of different types of play on preschoolers' receptive and expressive vocabulary.

Say-Tell-Do-Play (STDP) is an instructional strategy that promotes young children's vocabulary learning in the framework of *before*, *during*, and *after* of storybook reading activities. Research has shown that reading storybooks to children is one of the most effective ways to increase vocabulary development. However, most literature on vocabulary instruction has been carried out with elementary-grade and high school students. Little research on effective vocabulary instructional strategies has been with preschoolers (Beck et al., 1982; Coyne et al., 2004; Coyne et al., 2007). In this study, STDP included play as a critical vocabulary instructional element. While the role of play in literacy development has been examined by many researchers in the last decade, there is still a lack of information making connections between different types of play and literacy development (Roskos & Christie, 2000). As a result, this study examined the possibility that types of play activities combined with direct instruction on target vocabulary might be an effective way to learn vocabulary.

The purpose of the investigation was to determine the potential of STDP to not only foster vocabulary learning, but also to provide evidence that teaching vocabulary within play activities reinforced the vocabulary learning experiences of preschoolers. Identifying and implementing the best strategies for vocabulary learning could allow young children to be better prepared to start formal schooling and learn to read.

### **Research Questions**

1. Do play activities enhance the effectiveness of the Say-Tell-Do-Play vocabulary instructional strategy in teaching receptive vocabulary?
2. Do play activities enhance the effectiveness of the Say-Tell-Do-Play vocabulary instructional strategy in teaching expressive vocabulary?
3. Which type of play strategy, Story Drama or Vocabulary Matching Games, is more effective in promoting children's receptive vocabulary learning?
4. Which type of play strategy, Story Drama or Vocabulary Matching Games, is more effective in promoting children's expressive vocabulary learning?

### **Play-Embedded Strategies**

In this study, one of play activities that the researcher used was Guided Story Drama. In Guided Story Drama, the teacher helped children act out a story that has just been read to them. Engaging in Guided Story Drama after having heard the story could allow children to have more opportunities to practice and retain targeted vocabulary. In Guided Story Drama, the book was used as a tool for the re-enacting the story and using vocabulary words that were learned during Say-Tell-Do instruction. Props, such as realia of the target words, story character cut-outs, and pictures were prepared to scaffold children's understandings of the words and to facilitate active engagement. Sticky notes were used to highlight pages to be read. When a target word was encountered during reading, the researcher guided and prompted children to use the props to act out the event. It was important that the researcher took the lead and became a good model of these



reenactments. In addition, the researcher could use several strategies, such as pretending the story roles, communicating with co-actors, and prompting questions related to target words.

The other play activity that the researcher used was a Vocabulary Matching Game. In the Vocabulary Matching Game, the vocabulary picture cards used for the original instruction were reused for playing the game. All five target vocabulary pictures were placed face down on the floor, and each child took a turn to pick a card, say the word, and do the action. Children then placed all five target vocabulary words back face down on the floor, and each child took a turn to pick one card and try to match it with a picture. When matching the pair, the child said the word and did the action one more time. Participating in the Vocabulary Matching Game, after having heard the story, enabled children to practice the target vocabulary words with the set of rules. This game with rules was selected because it had different play characteristics than Guided Story Drama. Actual examples of the implementations of Guided Story Drama and Vocabulary Matching Game will be introduced further in the Method chapter.

## **Limitations of the Study**

### **Participants**

The number of participants in this study was relatively small. A total of 17 children participated after one child dropped out of the program. Because of

the small number of participants, it was difficult to generalize the results to larger numbers of young children who were in need of a vocabulary intervention strategy. In addition, the children were English Language Learners, so the results may not generalize to native English speakers. However, the STDP instructional strategy seemed to have a positive influence on the receptive vocabulary learning for preschoolers in light of the findings of this study. Further research is necessary with larger numbers of children in order to fully understand the effects of different types of play on young children's receptive and expressive vocabulary learning.

### **Class Schedule and Classroom Setting**

The preschool schedule and classroom setting created limitations for this study. The class followed a schedule for only four hours a day. Within this limited schedule, the researcher was only allowed to use 75 minutes in each session. Finally, depending on the daily schedule, the available time allotted the researcher was variable. This was a serious limitation in that, at times, there was quite a short amount of time to collect the data. The preschool schedule also affected the assessment. Since preschool week ended on a Thursday, it was likely that a participating child, who did not come to a class to take an assessment on Thursday then had a four day break prior to the assessment. Assessing children's knowledge of target vocabulary after four day could have affected the results.

The classroom itself had limited spaces in which to conduct the study strategies. STDP strategy is usually implemented on the floor with a small group

of children without any disturbance. For this study, a corner of the classroom was used to implement the strategy, while the other children worked in a center time activities. Four chairs and one table were located in this corner, which sometimes acted as an obstacle for implementation. This was especially true for the Story Drama as the most active play condition. Even when the researcher used a tri-fold board display to shield the area, participating children were constantly interrupted by the noise and activity of the other children. Above all, children were sensitive to the main teacher's directions. The participating children were distracted from the researcher's strategies by the teacher's directions to clean up and come to the rug for larger group time.

### **Design of the Study**

Compared to whole protocol of STDP strategy, this research design used a simplified version. For usual STDP instruction, the book is read to children at least two times while focusing on different target vocabulary words each time. Once children get familiar with the storylines and words, the story reenactment is implemented.

In this study, each book was only read one time. Each child also participated in Story Drama and Vocabulary Matching Game as the play condition. Furthermore, Drawing was used as the control condition. Altogether, children participated in the three activities, each in a counterbalanced order. A total of three treatments for each child was small for an examination of the relationship between different types of play and children's vocabulary learning.

Future studies should include more treatments with more books spread over a longer period of time.

There were further limitations regarding the design of the types of play activity used in this research. This study only took two different types of play into account. Story Drama was used to engage children in the form of play by acting out the story. The Vocabulary Matching Game was used to engage children in a type of play in terms of rule-governed small group game activity. Drawing was selected as a control condition because it is easily engaged in by most children and is also the most common practice within the preschool setting.

### **Implementation**

The researcher prepared and implemented all research strategies. The researcher was not familiar with these children and their behaviors. Given the fact that the researcher is not an experienced classroom teacher, the quality of implementation could be different if conducted by the main teacher.

Also, assessments were held the day following delivery of each treatment. Beyond this, there was no further follow-up assessment. Future studies on vocabulary learning through STDP strategies should use longer term assessments to see if play has a delayed effect on vocabulary learning.

## CHAPTER 2

### LITERATURE REVIEW

#### **Scientifically-Based Reading Research**

The question of “how to teach children reading the best?” has been controversial among educators who have different perspectives on reading. In 1997, the National Institute of Child Health Development (NICHD, 1997) created the National Reading Panel (NRP) to investigate the best approach to teaching children to read. The findings shed light on the necessity of explicit and scientifically-based instruction in reading from grade K-3. The field of early childhood education started recognizing the importance of using science to inform practices and policies (Christie, 2008). In 2001, No Child Left Behind Act was passed, and it stipulated that the educational interventions that receive federal financial support should be based on Scientifically-Based Reading Research (SBRR). Traditionally, SBRR is empirical research that tests a theory on two groups of participants; an experimental group and a control group. The results then are analyzed statistically to see if the experimental group shows a significant difference as a result of the experimental treatment. Results of scientific research generally are published in peer-reviewed journals or reviewed by a panel of experts (Milam, 2003). SBRR advocates that rigorous experimental and correlational research can reveal: (a) the skills and concepts young children need to master to become proficient readers and writers, and (b) the most effective

strategies for teaching these skills and concepts to children (Christie, 2008).

Feuer, Towne, and Shavelson (2002b) report NCLB contains - 111 references to ‘scientifically-based research’ in their study. The definition of scientifically based research in NCLB [section 9101(37)] is as follows:

The term “scientifically based research” means (a) research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs; and includes (b) research that – (i) employs systematic, empirical methods that draw on observation or experiment; (ii) involves rigorous data analysis that are adequate to test the stated hypotheses and justify the general conclusions drawn; (iii) relies on measurements or observational methods that provide reliable and valid data across evaluators and observers...; (iv) is evaluated using experimental or quasi-experimental designs in which individuals, entities, programs, or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the condition of interest...; (v) ensures that experimental studies are presented in sufficient detail and clarity to allow for replication...; (vi) has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific reviews.

This definition of scientifically-based research emphasizes the importance of using well designed experimental studies with a random assignment to groups and

control groups. If random assignment is not possible, sufficient numbers of participants are needed to support the designs in order to be a scientifically-based research. Most importantly, systematic, objective, and explicit design makes the study effective and scientific.

SBRR applies rigorous, systematic and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties. The most valuable contribution of the SBRR approach is that it has identified the “core” knowledge and skills that young children must have to become successful readers (Christie, 2008; Snow et al., 1998). NRP identified five critical areas of reading instruction and offered instructional guidance based on SBRR. The five areas are phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Since 1992, the scores of National Assessment of Educational Progress (NAEP) in reading by fourth and eighth graders were very low. Among fourth graders, 31 percent of students in 2005 rated proficient which is just two points higher than in 1992. Scores for eighth graders did not change at all between 1992 and 2005. Advocates of SBRR have argued that scientifically-based, explicit, and direct instruction in reading - specifically focused on five elements of early literacy - can yield significant findings that can improve student achievement in reading (Milam, 2003; NELP, 2008; NRP, 2000; Pedak, Rasinski, Sturtevant, & Linek, 2002). Numerous research studies, books, and journals on SBRR have been published, advocating that this is the most effective approach to

teach children to read. Also, research on five specific components of early literacy related to reading achievement has supported that they are critical areas that predict success in reading and school readiness (Moats, 2007; Snow et al., 1998). In addition, increased populations of English Language Learners (ELLs) in the U.S. have made researchers pay attention to language minority groups and their needs. Research has shown that enhanced teaching of key components of English identified by NRP has a positive influence on the literacy development of language minority students (NELP, 2008).

However, some professional educators argued against the perspective of SBRR and have cited its limitations (Pedak et al., 2002). Here are summaries of their arguments:

- NRP findings only focus on quantitative measures of effects on reading and need to embrace a wide range of potentially effective instruction.
- NRP only focuses on K-3 reading research and failed to include older learners.
- NRP oversimplifies the complex scientific findings on how children learn to read by limiting reading instruction in five elements.
- The most effective SBRR program includes the key elements together, not teaching each element in isolation.



In spite of these limitations, SBRR and its implications have wide support. If educators and teachers understand essential aspects of SBRR in reading instruction and apply it appropriately, SBRR has significant benefits and advantages. Particularly, the features of direct instruction provide at-risk children with better instructional strategies to promote their school readiness. In order to employ SBRR properly, teachers and educators are encouraged to continue to study and participate in professional development.

### **The Role of Vocabulary in Early Literacy Development**

For a long time, attention has been given to understanding early language development and ways to improve children's reading skills. In recent years, research has indicated that specific sets of skills and direct instruction on reading are required as a foundation for learning to read and for continuing to advance in reading skills (NICHD Early Child Care Research Network, 2005; NRP, 2000; Storch & Whitehurst, 2002). Because reading skills are highly correlated with academic and social competence in school, starting out with low reading skills can negatively affect overall performance in school and beyond (Snow et al., 1998).

Current educational policies on literacy development emphasize the explicit instruction in specific areas. Vocabulary is one of key components of early literacy identified to be precursors of later literacy achievement by the National Reading Panel (NICHD, 2000; Christie, 2008; NELP, 2008; Storch & Whitehurst, 2002). Vocabulary includes both oral (speaking and listening) and

written (reading and writing) vocabulary. Vocabulary knowledge can be achieved by exposure to oral language in everyday life, reading itself, listening to someone read aloud, oral language practice, and explicit instruction on word meanings. If children have a large vocabulary, it is easy to comprehend the meaning of written text. Research on ways to improve vocabulary knowledge has been conducted with different focuses. Penno et al. (2002) concluded listening to stories, frequency of exposure to words, and teacher's explanations of unknown words have a significant effect on vocabulary development. Wasik and Bond (2001) found out that when teachers present concrete objects for words and provide many opportunities for children to use the new words, children can acquire the vocabulary.

Vocabulary knowledge is composed of both the breadth and depth of vocabulary. The breadth of the vocabulary (a number of words in children's lexicon) is as important as the depth of vocabulary (how well children know the meaning of words) to comprehend texts. Research indicated that vocabulary knowledge lays the foundation for early language and literacy development and ultimately links to young children's academic and social competence in a school (Silverman, 2007; Snow et al., 1998; Wasik, Hindman, & Jusczyk, 2009). In addition, researchers have documented a relationship between vocabulary knowledge and reading comprehension (Beck et al., 2002; Biemiller, 2003; Coyne et al., 2004; Stahl & Nagy, 2006). The term "Matthew Effect" adopted by Stanovich (1986) illuminates the importance of learning vocabulary at an early

age and its connections with reading comprehension. Children who have rich vocabulary knowledge tend to comprehend texts well and their vocabulary knowledge will gradually expand as their reading comprehension increases. These children tend to do lots of independent reading, which in turn exposes them to more vocabulary. On the other hand, children will struggle if they have limited vocabulary knowledge, and this will affect vocabulary growth and reading ability across the school years. Children who have difficulty learning to read tend to do less independent reading, depriving them of opportunities to learn new words. In other words, the size of children's vocabulary has a direct relationship to their reading skills as well as their oral language proficiency. A child with an extensive vocabulary will easily transfer this knowledge to the appropriate abilities to understand a text that is being read. In sum, the rate of vocabulary growth and vocabulary knowledge are central to the development of early literacy skills and will eventually influence children's learning to read and write at school. The next section introduces a research-based vocabulary instructional strategy, Say-Tell-Do-Play, which is developed to incorporate the components of direct vocabulary instruction, storybook reading, and play.

### **Research-Based Vocabulary Instructional Strategy: Say-Tell-Do-Play (STDP)**

Say-Tell-Do-Play (STDP) is a small-group vocabulary instruction strategy developed by Roskos and Burstein (2011) for at-risk preschoolers. This strategy is designed to teach target words embedded in children's books with a set of structured procedures in the framework of before-during-after (BDA). A

research-based vocabulary instructional strategy, STDP, integrates several important aspects of vocabulary development such as using a storybook reading, multiple exposures to target words, various interactions through play, and direct instruction.

First, STDP uses children's picture books for read aloud activities that create the context for vocabulary instruction. Storybook reading has been acknowledged to be effective way to improve children's vocabulary (NRP, 2000). It provides a rich and meaningful language environment for young children and opportunities for multiple exposures to hear new words that are not often heard in everyday speech (Beck et al., 2002; De Temple & Snow, 2003). Through interactive storybook reading, children are offered not only a physical environment for word learning, but also a well-established social environment for teaching and learning in preschool settings (Roskos & Burstein, 2011). Second, features of the STDP allow children to engage in multiple social interactions through routine procedures. Children do the following: Say the word, Tell the word to a friend, Do the word, and Play the word. As they engage in these activities, they make sense of the word and reconstruct the meaning of the word through interactions with peers. Purposeful inclusion of target words for instruction provides opportunities to develop basic concept words for everyday life and to prepare for school readiness. Third, children learn and practice target words within varied contexts, in particular in play settings. This instructional strategy affords both SBRR-supported instruction on vocabulary and playful

engagements with vocabulary. Various types of play settings allow children to engage in meaningful use of the language that they have learned. Finally, the STDP instructional strategy is organized to be a small group time. Small groups enable all children to actively engage in an activity and have a chance to talk (Vukelich & Christie, 2009). In particular, this is very effective for at-risk children. In STDP, a small number of children are pulled out for intensive instruction while the rest of the class works and plays in centers. This “concentrated” instruction is often referred to as Tier 2 instruction as part of Response to Intervention (RTI), and it is intended for at-risk children (Vukelich & Christie, 2009).

A set of structured procedures of STDP is embedded in the framework of Before-During-After storybook reading. Before reading, a teacher introduces a book with a brief summary of the story, author, and illustrator. The teacher introduces the target words with vocabulary cards with pictures. With guidance from the teacher, children take turns saying the word, telling the meaning of the word, and “doing” the word with a motion or gesture. When a target word is encountered during reading, the teacher prompts children to say the word and do the action. After reading, teacher briefly reviews the target words with children by inviting them to practice the words. Then the teacher invites children to play a game related to the story and encourages using the target words in play. While children engage in STDP strategy, children have multiple exposures to words by

reading and speaking and have opportunities to interact with peers in both SBRR and playful settings. Table 1 provides the protocol of STDP.

Table 1

*The protocol of the STDP*

Phrase	Instructional Strategies
Before Reading	Teacher introduces target words with picture cards.
	I Say the target word, you Say the target word.
	I Tell the definition of the target word, you Tell the definition of the target word.
	I Do the action for the target word, and you Do the action for the target word.
During Reading	Say the target word.
	Do the action for the target word.
After Reading	Review the target words.
	Play

Roskos & Burstein (2011) examined the design potential of STDP in L2 Early Reading First classrooms over a 3-month period. They found out that at-risk preschoolers made significant gains in their receptive vocabulary and substantive progress in their expressive vocabulary through STDP intervention, as compared to a control group. They pointed out that there are several critical components in design features of the intervention: small-group storybook reading, preselecting target words, and multiple exposures to words in close succession.

The downside of this instructional technique is that it requires considerable professional development and practice to be successful. But this research-based vocabulary instructional strategy has potential advantages over other intervention designs. Explicit instruction, step-by-step procedures, and playful reinforcement during storybook reading provide high-quality vocabulary instruction which is critical for at-risk young children. The next section describes research on how direct vocabulary instruction, storybook reading, and play are related to early literacy development.

### **Direct Vocabulary Instruction**

It has been agreed that vocabulary knowledge plays a significant role in comprehension of texts, in children's oral language proficiency, and even in academic success at school. However, there has been very little corresponding research on helping young children understand words or develop vocabulary knowledge (Biemiller & Slonim, 2001; Coyne et al., 2004; NRP, 2000). Most research on explicit vocabulary instruction has been carried out with children in grade three and above, and little research is done in prekindergarten through grade two (Beck et al., 1982; Coyne et al., 2004; Coyne et al., 2007; Jalongo & Sobolak, 2011; Marulis & Neuman, 2010)). It is evident that there is a need for developing research-based, explicit vocabulary instruction for young children.

Vocabulary instruction at an early age is important for several reasons. Research has shown that children need to learn five to six new words per day to become proficient readers. This adds up to 38 words per week, 2000 new words a

year, and 10,000 words by age 6 (Byrnes & Wasik, 2009). Most individual differences in vocabulary knowledge develop before grade three, when there are large differences in rates of word acquisition (Biemiller & Slonim, 2001). It is difficult to close the gaps between children who have adequate vocabularies and those with limited vocabulary knowledge until there is success in developing and implementing a research-based vocabulary development program (Biemiller, 2003; Marulis & Neuman, 2010).

The National Reading Panel (2000) cited the effectiveness of explicit vocabulary instruction that focuses on teaching students the meanings of words. Well designed research-based vocabulary instruction for young children supports growth in vocabulary and helps children with limited vocabulary become proficient readers. That is, vocabulary instruction should be intentional and preplanned, as well as incidental (Christie, 2008). Coyne et al's (2007) study of comparing three types of vocabulary intervention for kindergarten students found that extended vocabulary instruction which is characterized by explicit teaching including both contextual and definitional information, and multiple exposures to target words resulted in greater word learning than either incidental instruction or embedded instruction. In other words, carefully designed explicit vocabulary instruction has been supported by intervention research, and it has been proven to be the most effective way to enhance vocabulary knowledge of young children.

Beck, McKeown, and Kucan (2005) conceptualized vocabulary as three different Tiers and emphasized the importance of using appropriate vocabulary



levels when teaching children. Tier 1 words are common and easy words that are widely understood and are quickly comprehended through an illustration. Thus, instructional time is minimal. Examples of Tier 1 words are *door*, *table*, *computer*, and *hippopotamus*. Tier 2 words have high utility for mature language users in listening, speaking, reading, and writing (Beck et al., 2005; Biemiller & Slonim, 2001). Tier 2 words are focused on more abstract or complex ideas and should receive high instructional priority. For example, Tier 2 words include *courage*, *confused*, *touched*, and *intentional*. Tier 3 words are related to subject-specific areas and ones that are not utilized outside of those areas. These words such as *fulcrum*, *obtuse*, *adobe*, and *chlorophyll* are necessary to learn within a content area, but do not warrant teaching until needed in specific content areas. Beck et al.'s (2005) research serves as a pioneering work in the area of early childhood because it provides perspectives on conceptualizing vocabulary levels to guide effective ways to teach vocabulary for young children and helps to understand basic functions of vocabulary in everyday life. This study has helped to establish the importance of identifying different levels of vocabulary for children who have different baseline knowledge of vocabulary.

A recent meta-analysis of the effects of vocabulary intervention on young children's word learning reported an overall effect size of .88 and a gain of nearly one standard deviation on vocabulary measures (Marulis & Neuman, 2010). Results indicated that middle and upper class at-risk students were significantly more likely to benefit from vocabulary intervention than those at-risk, lower class

students. Another study of effects of composition of vocabulary learning in preschool found that growth rates varied between groups: typically achieving children made more significant gains than those who have special needs and are at risk (Roskos et al., 2008). In other words, finding appropriate instructional strategies to increase low-SES children's vocabulary growth is important when designing and implementing vocabulary instruction to close the gap between children with high vocabulary knowledge and children with low vocabulary knowledge.

Most research on effectiveness of specific instructional strategies has been examined in the context of storybook readings. Coyne et al. (2004) completed a vocabulary intervention study using shared storybook readings and found that explicit teaching of word meanings within storybook readings may help to narrow the vocabulary gap among students. Studies on storybook readings for vocabulary intervention have implied that three instructional principles: conspicuous instruction, instructional scaffolding, and opportunities to practice with high quality feedback (Beck et al., 2002; Coyne et al., 2004; Coyne et al., 2007; NRP, 2000; Stahl & Fairbanks, 1986). These instructional practices complement traditional storybook reading activities for children who are at risk for reading difficulties. Robbins and Ehri (1994) asserted that "because children with weaker vocabularies are less likely to learn new words from listening to stories than children with larger vocabularies, teachers need to provide more explicit vocabulary instruction for children with smaller vocabularies" (p. 61).

The role of vocabulary development for young children and the urgency of establishing research-based explicit vocabulary instruction strategies have been discussed. Research calls for the concerted efforts to conduct vocabulary research to benefit at-risk young children in preschool through grade two. When designing a curriculum, it is recommended to find ways to intensify vocabulary learning by carefully examining critical components of vocabulary instruction and instructional strategies. The next section introduces specific instructional strategies that are developed to support children's vocabulary growth: storybook reading.

### **Storybook Reading**

Listening to storybook is an effective way to increase students' vocabulary (NRP, 2000). Storybook reading is the most heavily researched approach to teaching vocabulary in preschool and kindergarten. Shared storybook reading provides rich and meaningful language that is not often heard in everyday speech, and it offers children multiple contexts in which to discuss new words (Beck et al., 2002; De Temple & Snow, 2003). While discussing new words, children can be exposed to the words and connect these words with their personal experiences. This, in turn, helps children to remember the words in meaningful ways. Explicitly teaching word meanings within the context of shared storybook reading is an effective method for increasing the vocabulary of young children at risk of experiencing reading difficulties (Coyne et al., 2004; Penno et al., 2002). The storybook reading context provides an excellent tool for the intentional

development of the vocabulary and inferential thinking within high-quality language environments between teachers and young children (Cabell, Justice, Vukelich, Buell, & Han, 2008).

Recent studies on effects of storybook reading for vocabulary instruction found that it has a positive impact on the specific early literacy components. Mol, Bus, and deJong's (2009) study on the impact of interactive storybook reading found that it has a moderate effect size for expressive vocabulary (.28) and a slightly more modest effect size for print knowledge (.25). Another study on the effects of parent-child storybook reading reported that it has moderate effects on oral language and print knowledge (Mol, Bus, deJong, & Smeets, 2008).

Senechal, LeFevre, Hudson, and Lawson (1996) also confirmed that children's knowledge of storybooks serves as a predictor of language skills. A recent synthesis and meta-analysis of research on the effects of storybook interventions for young children has focused on dialogic reading, repeated reading for stories, before, during, and after reading, computer assisted story, and story reading with extended vocabulary activities (Swanson et al., 2011). They concluded that dialogic reading, with its emphasis on active child engagement, has the most positive effects on children's literacy outcomes.

Research suggests that several characteristics of storybook reading result in a stronger vocabulary intervention. First, children's active engagement in knowing a word and word analysis encourages them to easily understand the concept (Cabell et al., 2008). Specific use of an organizing framework *before-*

*during-after* (Roskos & Burstein, 2011) facilitates multiple exposures to new words and appears to be influential in vocabulary development. Wasik, Bond, and Hindman (2006) found that teachers' and children's active involvement in *before* and *during* storybook reading significantly improved children's gain in vocabulary. Children's involvement during and after storybook readings produces significant vocabulary learning, especially when teachers invite children to engage in rich dialogic discussion which scaffolds the learning by asking questions, adding information, or prompting children to describe what they heard (Whitehurst et al., 1994; Whitehurst et al., 1999; Senechal, 1997).

Language- and literacy-related play is one way to increase children's active participation and supports vocabulary learning. Socio-dramatic play promotes the development of cognitive skills and increases language use when it is accompanied with creative ideas, props, and teachers' instructional discourse (Roskos, Christie, Widman, & Holding, 2010). Second, storybook reading can serve as an ideal context for scaffolding children's early literacy and language skills (Cabell et al., 2008). Teachers can utilize various types of instructional strategies to understand how children are making sense of words and help them increase specific skills that are important for reading development. Third, clear phonological and orthographic (letter) representations of words can provide children with multiple ways to remember new words. Juel and Deffes (2004) compared three different vocabulary instructions during a storybook reading and found that discussion-based, active word meaning analysis helped children gain

and retain vocabulary knowledge. Lastly, various instructional practices for vocabulary development are encouraged. While doing storybook reading, teachers need to employ strategies such as repetition, connection of words with children's experiences, retelling, acting, and playing.

Among various strategies, repetition is considered to be the most effective instructional practice that teachers can utilize not only in storybook time, but also in many types of contexts that encourage vocabulary learning. Research has shown that vocabulary learning can be promoted in the primary grades using repeated reading combined with word meaning explanations (Biemiller, 2003; Biemiller & Boote, 2006; Senechal, 1997). Current research in neuroscience showed that it is not just repetition, but the process of retrieving word meaning repeatedly that strengthens the neural pathways between form and meaning (National, Long, & Richards, 2007). Through repeated practice of words, children can have multiple opportunities to understand the meanings of the word.

Play is also one of the effective instructional strategies that teachers can employ, particularly with young children. Employing appropriate play after reading aloud increases opportunities for children to practice the target vocabularies that they learned. Roskos and Christie (2007) claimed that, to a certain degree, classroom play should be "networked" with instructional goals related to academic content.

Specific features of storybook reading appear to affect opportunities for construction of meaning: organizational features and instructional features

(Karweit, 1989). Organizational features are program characteristics such as materials, topics of study, and size of group. Instructional features include teacher's characteristics, teacher's enthusiasm, opportunities for interaction, and opportunities for story reconstruction (Karweit, 1989). Well-planned organizational and instructional features enhance children's engagement in learning and create opportunities for children to actively construct meaning. When children have various opportunities to actively engage in the story and make meaning out of it through such activities as retelling, dramatic play, and games, their comprehension of the story and vocabulary knowledge are increased (Fredericksen, 1999; Leung, 2008; Levy, 1992; Robinson, 1975).

Researchers recently have begun to identify variations that influence vocabulary learning from storybook readings. Variations in children's exposure to storybooks are related to differences in vocabulary knowledge (Senechal et al., 1996). These factors include a number of children participating in the storybook reading (whole group versus small group), choosing engaging storybooks, and selecting critical vocabularies or what to teach (Biemiller, 2003; Biemiller & Slonim, 2001; Coyne et al., 2004). Cabell et al. (2008) proposed that individual and small group contexts with greater scaffolding from a teacher are important for children with low vocabulary knowledge. Regarding selecting appropriate words, it is important to "layer support" to meet children's diverse needs and intentionally reduce children's risk for academic difficulties (Justice, 2006). Tier 2 instruction refers to structured lesson plans to provide children who do not learn

as easily as others with supplemental experiences. Tier 2 experiences constitute an important vehicle for closing the achievement gap at the earliest stage possible between higher- and lower- achieving children (Cabell et al., 2008). Research on various factors affecting vocabulary learning and development of vocabulary instructional strategies needs to be examined to recognize what and how young children need to learn. Storybook reading provides children with multiple opportunities to engage in the activities and helps them to be exposed to words in multiple contexts if it is carefully designed to meet children's needs.

Recent studies on Early Reading First projects have shown that these programs had an impact on children's print awareness and alphabet knowledge but did not have a significant influence on vocabulary (Jackson et al., 2007). At present, scientifically-based vocabulary instruction which is explicit and direct is needed to ameliorate current challenges to vocabulary learning. This study draws attention to the effects of different types of vocabulary activities, specifically direct instruction and play, on young children's vocabulary learning. The next section discusses brief history about how the meanings of "play" and theories around play have been evolved to understand the role of play in early literacy development.

### **Theoretical Views of Play**

In the past several decades, research studies have examined the relationship between play and early literacy to highlight the importance of use of play in the curriculum. The theoretical orientations that many researchers take to



implicate the role of play in the development of children's literacy are Piaget (1962) and Vygotsky (1976). Both theories have a common ground of understanding of importance of social dimensions of cognitive development. Vygotsky (1976) stipulated the role of society and social interaction in his theory. Piaget (1962) also acknowledged the role of social factors in terms of facilitating or inhibiting the rate of development, however not in terms of the nature of the developmental process per se. Also, both agreed that the preschool years were crucial for play's role in development (Pellegrini & Galda, 1993). For both theorists, play was an important venue in which young children could practice (Piaget) or learn (Vygotsky) using representational media (Pellegrini & Galda, 1993).

### **Piaget's orientation**

Piaget (1962) focused on the interactions between the child and objects in the physical environment. His view of child's action in the physical environment explains that young children develop intelligence and cognition as they interact with objects naturally and actively. The child's cognitive development is an orderly, stage-like progression. Piaget was concerned with the process of conflict and its role in learning and development. In order to develop logical thinking, assimilation, accommodation, and equilibration are crucial. Assimilation occurs when child integrates new information into pre-existing cognitive structures (subordination of the bigger world to one's own view of world), and accommodation occurs when the child modifies existing mental structures to

adapt to new experiences. Equilibration occurs when the child balances between conflicting assimilation and accommodation.

This theoretical perspective itself applies for the play and literacy relationship. Piaget (1962) viewed play as assimilative activity that reflects a more general level of children's semiotic or representational abilities. He specified that it is through play and imitation that the child learns to separate signifiers from the signified, and attach meanings to symbols (Galda, 1984). This semiotic function refers to the ability to represent an object which is absent or an event which is not perceived by means of symbols or signs (Piaget, 1962). For example, children use objects as a symbolic transformation when they engage in symbolic play and incorporate reality in its own manner without conforming to the new physical environment.

Piaget believed there are minimal effects of the role of social interaction in child's development. He was concerned with "intra-individual" development in which the child develops logical thought and cognition as a result of conceptual conflict encountered while they interacted with their physical and logical world (Piaget, 1983). In other words, his view of young children was that they are egocentric (Piaget, 1965). He stated "the child constructs symbols in isolation" (p. 124). In Piagetian theory, the individual child, developing across time by interacting with objects, should be the unit of analysis in development studies (Pelligrini & Galda, 1993). At the same time, Piaget believed the importance of the social dimension of the environment related to development, but it was very

limited to a micro-level of interaction with peers. He was more interested in the conceptual conflicts between peers, not in adult-child interaction which he thought to be an inhibiting factor. As the analysis was limited to the individual child, the Piagetian perspective overlooked the influence of macro-level social interactions and cultural factors on development, factors that have a crucial role in Vygotsky's theory.

Research on the relationship between play and literacy based on Piagetian theory has been conducted over the past several decades. These studies have focused primarily on the effects of the environment on play and literacy learning. Literacy-enriched play centers where children have an opportunity to practice emergent skills have supported a link between play, the environment, and literacy. Piaget (1962) stipulated that play provides valuable opportunities to practice emergent skills and consolidate previously learned skills about the functions and structure of print, but it does not generate learning. Substantive research has supported a positive relationship between literacy-enriched play centers and children's emergent reading and writing gains (Christie & Enz, 1992; Neuman & Roskos, 1992).

### **Vygotsky's orientation**

Theories of play have gone through several shifts in points of view regarding the appropriateness of adult support for child's development through play (Morrow & Schickedanz, 2006). Evidence suggests that children's play is a potential context for promoting literacy learning and that adults have an important

role in nurturing this learning (Morrow & Schickedanz, 2006). Among numerous scholars, it was Vygotsky who emphasized the cognitive aspects of play and recognized the importance of having a partner who is more experienced when playing. Vygotsky (1976) believed strongly in the importance of learning through interactions with others and the dynamics of play, which provides children with meaningful chances to engage in the learning. Vygotsky asserted that people are playful beings whose games always have a larger meaning. Games are always exactly appropriate to children's age and interests, and encompass all those elements which lead to the development of essential habits and skills.

Vygotsky's philosophy of learning is aligned with the value of play with collaboration with others. Collaborating with more skilled persons creates what he called a zone of proximal development (ZPD) which enables children to move beyond their capacities with the assistance of others who know more than they do. Vygotsky conceptualized games as organizing the higher form of behavior, involving the resolution of rather complex problems of behavior, requiring guesswork, quickness, and resourcefulness, and the concerted and coordinated efforts of the most diverse capacities and forces (1976, p. 90). While children play in the game with peers and teachers, they try to confront challenges and seek adequate solutions in collaboration with others and by themselves. For Vygotsky, play is a very important mechanism for development of representational abilities through interaction between play behaviors and language that children use for cognitive

development, which is spurred by scaffolding activities with more competent adults.

Vygotsky (1978) believed that play is a casual force in the development of very specific areas (Pelligrini & Galda, 1993). His context-specific approach to cognition asserted that writing and reading are different processes for young children. When children first engage in play, it is a first-order symbol system like drawing and emergent writing. First-order symbolization involves symbols “directly denoting objects or actions” through oral language or drawing (p. 115). The second-order symbol system involves “the creation of written signs for the spoken symbols of words” (p. 115) which relates to reading and writing.

Other scholars also agreed about the benefits of play for young children based on the Vygotsky perspective. Rogoff (1990) acclaimed the importance of apprenticeship in learning through interactive activities and games. She emphasized the zone of proximal development by moving beyond the explicit and verbal communication. When children play a game with peers, their body language and nonverbal cues such as facial expressions, smiles, and behaviors play an important role in implying words, and they can figure out the alternative ways to understand and learn the words. Developing a learning community where children move into the zone of proximal development with apprenticeship enables children to actively and comfortably engage in the learning activities.

Play has a role in the development of learning communities. A playful classroom atmosphere, where organized games are accepted as contributing to

learning and where play is recognized as a form of creativity, relieves students of self-conscious effort and frees them to take chances without fear of being “wrong” (White, Shimoda, & Fredericksen, 1999, p. 159). Play also makes students feel a strong sense of community in which they are encouraged to take risks when they learn to read and write (Nicolopoulou & Cole, 1993). Results of Levy’s (1992) study on the relationship between sociodramatic play and language performance also support the theories of Vygotsky (1997) and Rogoff (1990) that it is important to have planned play activities as a vehicle for enhancing language performance. The next section sheds light on the role of play in literacy development and early learning and its interaction within the differentiated types of play.

### **Interactions between Play and Literacy**

Considerable research has focused on examining the relationship between play activity and literacy development and early literacy learning over the past several decades. Even as interest in accountability and standardized assessment for young children has accelerated, efforts on theorizing interactions between play and literacy have received attention from researchers who are interested in understanding the critical role of play in the classroom for young children. Young children learn and understand their life through play, helping them make sense of meanings and the world. From the perspectives of both Piaget and Vygotsky, play is viewed as a practice where children integrate new information into pre-existing cognitive structure and consolidate their knowledge and emerging skills

through playful interaction. And it is viewed as learning through scaffolding with or by others. Children are able to engage in more difficult activities and learn new skills through interacting with more competent others.

Connections between play and the development of narrative and language competence have been developed within two kinds of symbolic play: sociodramatic play and thematic fantasy play (Galda, 1984). Smilansky's (1968) seminal play-training study highlighted the role of sociodramatic play in the story comprehension and productive language competence. Training children to dramatize social situations or stories over a period of time facilitates the quality of play and affects a wide range of cognitive and affective measures (Christie, 1982). Smilansky (1968) referred sociodramatic play to play that involves imitating an aspect of the player's experience through actions and verbalizations. In sociodramatic play, children pretend about objects, actions, and situations while verbally communicating with other players. Research has acknowledged that this complex type of play requires high-level use of lexical and syntactical features of language to signify the person, object, and situational transformations that occur in pretense play and identify and elaborate on play themes (Roskos & Christie, 2007).

Thematic fantasy play is related to the roles, events, and themes that players have not experienced in real life. For example, children play a role in *The Three Bears*. Instead of creating their own scripts, as is the case in sociodramatic play, thematic fantasy play involves acting out a readymade script. Through

participating in the thematic fantasy play, children substitute signifiers (words and gestures) for the signified objects (Galda, 1984). Children learn to separate signifiers from the signified and use language to transform roles, objects, and situations from their real lives.

Research on adult involvement in the play setting has shown that the active engagement of an adult in children's play results in increased literacy-related activity (Galda, 1984; Rubin, 1980). Roskos and Neuman (1993) examined how teacher's scaffolding relates to literacy development during play, and findings revealed that experienced teachers adopt a variety of roles from being an appreciative audience to being an active play leader when interacting with children. Other studies reported that children's print recognition ability is increased when teachers draw children's attention to environmental print in play settings (Morrow, 1990; Neuman & Roskos, 1992).

Another factor is related to the age of children. The frequency and complexity of dramatic play increases with age from 3 to 6 years (Saltz et al., 1977; Smilansky, 1968). Study by Pellegrini and Galda (1982) investigated the effects of thematic fantasy play training on the development of children's story comprehension in kindergarten and second grade children. The study had three conditions, dramatic play, discussion, and drawing. The results confirmed that the degree of active involvement in play through verbal reconstruction and peer interaction leads to increased comprehension of the story (Pellegrini & Galda, 1982). This study also agreed with of Saltz et al.'s (1977) findings on the age



factor in relation to the degree of development of story comprehension. Dramatic play facilitated the comprehension of younger but not older children. Pellegrini and Galda (1982) concluded that second grade children did not show significant improvement because they already had acquired basic narrative skills that enabled them to adequately retell the story.

Williamson and Silvern (1992) examined the play construct to identify the most crucial elements promoting comprehension. There are two different play modes: pretend play in which children are “in role” and metaplay in which children are “out of role” but communicating about play (Williamson & Silvern, 1992). Rubin (1980) asserted that metaplay leads to the conflict resolution within the play context, and it serves as the casual variable for increased social competence. For example, when a child says, “Let’s pretend we are the mommy bear”, the child is clearly out of role, engaging in metaplay to negotiate a particular action with other players. Williamson and Silvern (1992) examined the relative contribution of play, metaplay, and productive language competence to story comprehension. They concluded that both metaplay and language production competence are contributors to comprehension, and metaplay and language production competence are independent of each other. Metaplay is largely instrumental and involves social perspective-taking ability, but language production competence is more descriptive and takes different verbal capacity such as tones of voice, gestures, inflections and so on (Williamson & Silvern, 1992).

In another study by the same authors, Williamson and Silvern (1992) reframed the study and examined the effects of metaplay within two play and two drawing groups. They found out that children engaging in metaplay increased story comprehension more than children who only played. The social interaction that children engage in during the metaplay experience encourages decentering and therefore adaptation to the concept of stories and storytelling (Williamson & Silvern, 1992). In other words, metaplay serves as an important component in relation to early literacy development, in that children have opportunities of verbalization and symbolic reenactment. Most importantly, the language of conceptual conflict accompanying peer interaction, in and out of symbolic play, is important in children's early literacy and story comprehension (Pelligrini & Galda, 1993).

The play and literacy connection has been researched by many scholars in the areas of literacy for the past several decades. The focus has started to extend into additional areas (Roskos & Christie, 2000) because of the current surge in the interest of school readiness and emergent literacy learning. Now, researchers in the areas of early childhood and language and literacy pay attention to the role of play in the emergent literacy acquisition for young children and its positive relationship between play and emergent literacy (Roskos & Christie, 2000, 2001). Literacy-enriched play centers that contain lots of resources and materials that encourage children to actively engage in play-related activities become an important contextual feature related to early literacy learning. This "ecologically

focused intervention” (Roskos & Christie, 2007) provides children with opportunities for learning early reading and writing skills (Neuman & Roskos, 1992). What is behind in this connection is that, through interacting with literacy objects during play, children will have opportunities to consolidate their emerging concepts about the functions and structure of print and to practice emergent forms of reading and writing (Roskos & Christie, in press). Most research has found a positive link between play and emergent reading and writing development in the literacy-enriched play settings (Christie & Enz, 1992; Morrow, 1990; Neuman & Roskos, 1992). In this section, the importance of play and role of play in relation to early literacy development have been discussed in the foundation of Piaget and Vygotsky’s perspectives. The next section will briefly investigate different types of play: Story Drama and games.

### **What is Story Drama?**

Story Drama (Thematic-Fantasy Play) is similar to Smilansky’s (1968) sociodramatic play in several ways. In both types of play, a group of children engage in role enactment, pretend about objects, actions, and situations, and verbally communicate with other players. However, the content of the two types of play differs. In thematic-fantasy play (TFP), children enact roles and themes from a prepared script, often based on folk tales (Saltz & Johnson, 1974; Saltz, Dixon, & Johnson, 1977). In sociodramatic play, on the other hand, children act out themes and events within the realm of the children’s experiences such as shopping at a grocery, visiting to a doctor’s office, and making a pizza

(Smilansky, 1968). In TFP, children are required to imagine and perform behaviors described to them in story narration which are never actually observed in real life (Saltz & Johnson, 1974).

Story Drama is the same concept as TFP, but it is not limited to traditional folk tales. Story Drama can involve any type of storybook. In Story Drama, children act out a story with props after having heard the story read aloud. Story Drama can be used for both young children and older children. Young children can enjoy acting out a story as it is being read, and older children can enjoy exploring the concept or themes of the story. In story reenactment, children informally re-create or “play” familiar stories by acting out a story themselves or by using puppets to act one out (Martinez, 1993).

Research has indicated that Story Drama is a promising intervention tool that significantly affects a number of positive behaviors and abilities in preschool children (Saltz & Johnson, 1974; Pellegrini, 1984; Pellegrini & Galda, 1982). Saltz and Johnson (1974) examined the effects of thematic-fantasy play intervention on disadvantaged preschoolers and found that fantasy play training was significantly related to story-sequence memory skills and story verbalization skills. The follow-up study by Saltz, Dixon, and Johnson (1977) examined effects of TFP on cognitive development and intellectual performance. They concluded that training in TFP led to increases in cognitive tasks and an impulse-control task. They identified four variables that are potentially important in TFP. First, TFP allows children to free themselves from concrete reality because children employ

themes and events that are extremely remote from their personal experiences. Second, TFP can be reenacted within a compressed time since it has casual sequence of plots with a prepared script. Third, enactment of the fantasy stories is more effective than just listening to the stories. Lastly, TFP provides verbal stimulation, particularly for disadvantaged children who may lack such stimulation at home.

Research indicated that reenacting stories supports young children's narrative competence and listening comprehension needed for reading comprehension (Christie, 1987). Pellegrini and Galda's (1982) study found that children who reenacted stories had better recall and comprehension of those stories than did their peers who reconstructed stories in teacher-initiated discussions and through art activities. Through a meaningful engagement in Story Drama, children can develop a sense of how stories are organized and arranged and other aspects of narrative competence.

Story Drama can be used as part of Tier 2 literacy intervention aimed at helping young children who are not making adequate progress in the regular literacy curriculum (Roskos & Christie, in press). A teacher can utilize the benefits of Story Drama in children's early literacy development by carefully establishing literature-rich environments and giving children more opportunities to practice and engage in the playful activities related to stories. Martinez (1993) examined early literacy development of kindergarteners through dramatic story reenactments and emphasized the importance of classroom contexts where

children are motivated to participate in engaging book-related activities. Revisiting a story with reenactment helps understand the story itself and reinforces the children's knowledge of the vocabulary words.

### **What is a Game?**

Although many kinds of games are available in elementary and secondary school, there have been few studies of games' effectiveness in relation to academic learning (Clegg, 1991). Researchers argued that games provide the experience of becoming involved in decision making and learning firsthand the interactions of various factors in the complex contexts, but little research is done to prove the benefits of games (Clegg, 1991; Greenbalt, 1987).

Games are defined as activities in which at least two people are engaged in and governed by rules specifying their moves and termination of the activity (Goodman, 1970). Von Neumann and Morgenstern (1947) made a general distinction between "a game" and "a play of game." A game is the totality of the set of rules which describe it, whereas the playing of game is a particular instance at which the game is played. Games with rules incorporating subject matter principles are characterized as "formal learning games" with respect to the incorporated subject matter and other all other games which are rule-governed can be considered as "informal learning games" (Goodman, 1970).

Piaget (1965) described in much detail the evolution of games with rules in his book, *The Moral Judgment of the Child*. His description of stages in the practice of rules and consciousness of rules in the game of marbles provides an

account of development which is applicable to children's play (DeVries, 1998). He stipulated that there are four stages or levels in children's play which has evolved into games with rules. Each stage will be described with regard to the practice of rules. The first stage is motor and individual play which occurs before the age of two years, and children simply uses marbles to explore the object or use it in symbolic play. In this stage, rules do not exist because children are asocial and yield no obligation to engage in the activities. The second stage is egocentric play which occurs between two and five years of age, and children try to learn other people's rules and submit to their authority. In this stage, children imitate other's action and rules, so they do not have unified rules. The third stage is incipient cooperation which occurs at seven and eight years of age. In this stage, a competitive attitude is emerging and children try to unify rules that enable them to understand the necessity of coordinating with others and the consequences. The fourth stage is codification of rules which occurs at eleven to twelve years of age. In this stage, children are more interested in cooperation with others and ways to eliminate possible conflicts. Children set rules that work for everyone since the regulation by rules is mutual self-regulation (Piaget, 1965). Piaget argued that progress of each stage with regard to the practice of rule is parallel with all other games with rules.

Scholars have justified the use of games with rules in the classroom because they believed games promote children's development in many ways (Casbergue & Kieff, 1998; DeVries, 1998; Fernie, 1988). Games are an ideal tool

to intersect between formal schooling and children's interests. For example, through playing a single game of tic-tac-toe, children have many opportunities to practice their intelligence: to think about spatial relationship, to understand specific strategies, and to evaluate the best move from available from options (Fernie, 1988). Another example, "guess-which-hand-the-penny-is-in" is good for assessing whether, or to what degree, children are able to understand the strategies of others in the game. Children also have opportunities to learn perseverance through guessing or hiding in the same hand (DeVries, 1998). Also, it is argued that games with rules promote children's socio-moral development (DeVries, 1998; Kamii & DeVries, 1980). While children engage in the games, they develop autonomous feelings of obligation (or moral necessity) about relationship with others as they find conditions in which children can adapt to external social rules and construct social negotiation when they follow mutually agreed upon rules. As they establish a set of regulations, children show sensitivity to each other's perspectives, develop mutual understandings among themselves, and engage in a high degree of cooperation (Casbergue & Kieff, 1998).

In Kamii and DeVries's book, *Group Games in Early Education: Implications of Piaget's Theory*, they explain that the cognitive and intellectual advantages of games with rules vary depending on the type of games and the ways in which children use it. In other words, not all games with rules are educational for everyone. Kamii and DeVries's (1980) study provided criteria for



educational games, principles of teaching group games and detailed information of how teachers use specific games with strategies.

Age-appropriate and developmentally productive games benefit children's development in social, intellectual perspectives, but little study has been done to examine the relationship between games and early literacy learning in early childhood context. Children's interests in games may entail active engagements in learning and ultimately lead to better outcomes in early literacy components.

## CHAPTER 3

### METHOD

#### **Research Design**

In this study, a descriptive repeated measures design was used to study the effects of play embedded instruction on preschoolers' vocabulary learning. A repeated measures design refers to a study in which all participants receive the same number of treatments under the same conditions of the experiment. The term 'repeated measures design' is also often interchanged with the term 'within subjects design' (Shuttleworth, 2009). In a repeated measures design, researchers do not worry about balancing individual differences across the conditions of the experiment because all participants serve as their own control. For example, if there is an experiment with two treatments, the participants will be randomized into two groups. The first group would receive treatment A followed by treatment B and the second group would get treatment B followed by A. In this case, all participants receive the same conditions of the experiment. Repeated measures design is an efficient and sensitive experimental design because it detects even the small effect of an independent variable (Conaway, 1999).

In a repeated measures experiment, every subject needs to be tested for every possible condition in a counterbalanced order; otherwise, the order in which treatments are given can affect the behavior of the subjects. Counterbalancing the order of the treatments thus ensures that carryover effects can be balanced or

averaged across the varying conditions of the experiment. In sum, a repeated measures design is used to meet the requirements of randomization, manipulation, and control (Shuttleworth, 2009).

### **Research Site: A Stepping Stone Foundation**

A Stepping Stone Foundation located in Phoenix was selected for this study. This site was introduced by Cathy Otto with whom the researcher worked as a research assistant for the Early Reading First project. A Stepping Stone Foundation is a family literacy-based program where parents of the children have access to many resources. Since their mission is to educate two generations together, there are certain eligibility requirements that parents need to meet in order to be enrolled in the program. First, parents must be in need of a high school diploma and/or help with English. Second, they must agree to be actively involved at all levels of their child's education and their own. These are some requirements that parents need to follow:

- Attend GED or ESL classes
- Attend a minimum of four hours of parenting workshops monthly
- Open their home monthly to visits from the teachers
- Volunteer to work with children in classrooms

The program is run by individual and corporate sponsored support through grants, financial aid or "in kind" donations, so children and parents can continue to learn and prepare for school success for free.

Because of certain requirements of the program, the majority of parents are Spanish speakers who only speak Spanish with their children at home. Janet Castaneda, who is the main teacher of the classroom, is fluent in both Spanish and English. Her ability to speak two languages plays an important role in bolstering learning opportunities for children and parents and helping them connect to their own community throughout the learning processes. Table 2 shows a daily schedule for the class:

Table 2

*Daily Class Schedule*

Time	Schedule
8:15	Arrival
8:20 – 8:45	Breakfast
8:45 - 8:50	Name writing/looking at books
8:50 – 9:15	Greeting/Calendar
9:15-9:25	Bathroom
9:25-9:45	Class Discussion: “Lesson of the Day” on carpet large group
9:45-11:00	Small Group Activity/Open Center Time
11:00-11:35	Outside Play
11:35-12:05	Lunch
12:05-12:15	Daily Closure/Dismissal

The preschool is open only from Monday to Thursday for four hours each day. Friday is the day the teacher visits the children’s homes. The class is very structured so that children can learn the basics of literacy (counting, name writing, text structure, vocabulary words, and so on) as intensively as possible for four

hours. For this study, the small group activity/open center time was used to collect data.

The classroom itself did not have a separate space to work with a group of children quietly, so a corner of the room with a table and four chairs was used for the implementation of the STDP intervention. Since other children were working on small group activities on the other side of the room, a tri-fold board display was used. This board served the dual functions of covering the area to avoid distractions from other children, and to prevent exposing the rest of the children to instructions that they had not yet received.

### **Participants**

A total of 20 children (8 boys and 12 girls) were recruited for a pre-screening purpose from the classroom. Prior to beginning the research, a parent permission form was signed and a child assent form was verbally collected by the researcher. As mentioned earlier, all of the children mainly spoke Spanish and some used both Spanish and English at home. This population was deliberately selected because it increased the chances of finding subjects who did not know the vocabulary words that the researcher would teach. The age range of the children was from 4:11 to 5:6 years old, with a mean of 5:1. All of these children have been attending the preschool for more than 1 year. The curriculum offered in this preschool essentially focused on kindergarten readiness, so children were exposed to some types of direct instruction focusing on vocabulary learning. In order for the children to be familiar with routines of the vocabulary instructional

strategy of STDP, all of the children received practice sessions with the two books that were selected from the library center in the classroom. Descriptions of practice sessions, pre-test procedures and the design of each treatment condition will be introduced in the following sections.

### **Practice Sessions**

Two books were carefully selected after a discussion with the teacher about the theme of the month and books that have not been read to the class. From each book, three target vocabulary words were selected and prepared for STDP instruction. Considering the focus of the study, the researcher differentiated the types of play after giving Say-Tell-Do instruction for each book. Using the book, *How Do Dinosaurs Go To School?* by Jane Yolen and Mark Teague, the researcher implemented 'Guided' Story Drama as a play activity, and then *Dinosaur Roar* by Paul Stickland and Henrietta Stickland had a Vocabulary Matching Game as the play activity. Since Drawing was a natural activity that children frequently practice, it was excluded from the practice sessions. The first book, *How Do Dinosaurs Go To Schools?* was implemented as a whole group, and *Dinosaur Roar* was implemented as a small group of four on a different day. These are the target vocabulary words for each book:

*How Do Dinosaurs Go to School?:* Growl, Leap, Stomp

*Dinosaur Roar:* Gobble, Grumpy, Spiky

## **Procedures**

This study examined effects of different play-embedded instruction on preschoolers' vocabulary learning during a vocabulary intervention known as Say-Tell-Do-Play (STDP) (Roskos & Burstein, 2011). In this section, the process of preparation, pretest, descriptions of STD instruction and play activities by book and posttest will be discussed.

### **Book and Vocabulary Selection**

Three picture books by the same author were selected for this study. All three books were narrative storybooks rather than pattern or expository books. The three books were *The Snowy Day*, *Peter's Chair*, and *Whistle for Willie* (See Appendix A, for a transcript of each text) by Ezra Jack Keats. These books included age-appropriate content, language, and a sufficient number of important vocabulary words.

There were several reasons that the researcher chose these three specific books. First, they were very similar in terms of genre, setting, illustration and the level of vocabulary words used in the books. Second, they had the same main character, Peter. It was considered important to have familiar sequences of the story and the same character for children because the story was being read to children only one time in this study. Lastly, they included a good source of Tier 2 words that can be used as target words to teach children. Tier 2 words appear in a wide variety of texts and children are less likely to learn them through everyday conversation (Beck et al., 2002). This study focused on Tier 2 words which were

high frequency and non content specific academic vocabulary, and they were the most important words for direct instruction. These are the final target vocabulary words that were selected for STDP vocabulary instructional strategy after the pretest.

*The Snowy Day*: toes, snowsuit, drag, stick, melt

*Peter's Chair*: stretch, crib, whisper, shout, curtain

*Whistle for Willie*: sidewalk, chalk, crack, whistle, whirl

### **Pretest**

To pre-screen children's vocabulary knowledge, a pretest on the vocabulary was administered with the selected words. This pre-test ensured that the subjects did not know the words that were being taught with the STDP strategy. A total of 24 words, seven words for each book, were selected for the pretest. These are the Tier 2 vocabulary words that the researcher selected for the pretest.

*The Snowy Day*: toes, stick, snowsuit, melt, drag, pack, climb

*Peter's Chair*: stretch, cradle, crib, whisper, shout, crocodile, paint

*Whistle for Willie*: sidewalk, chalk, crack, whistle, whirl, shadow, jump

Each child was randomly called to take a pretest in the implementation area. The researcher prepared the pre-selected picture cards from each book and asked differentiated questions depending on the types of the word. In the case of a noun, she asked "what is this?" and an arrow was used to clarify the exact target object. For a verb, she asked "what is the object doing?" to guide the children with more



clues for target words. For example, if the target word was *melt*, a child was shown a picture of an ice cube melting and asked “what is this ice doing?” The researcher recorded pretest scores and a total of 18 children who did not know at least five words from each book were selected for actual STDP implementation. Also, a total of 15 target vocabulary words were determined based on the pretest. Table 3 summarizes 15 target vocabulary words and definitions that are used for the instruction.

Table 3

*Definitions of the Words by Books*

Book	Word/Definition
The Snowy Day	Toes: five movable parts at the end of your foot
	Snowsuit: a clothing for snow
	Drag: to pull something along the ground
	Stick: a piece of wood from a tree
	Melt: if something melts, it becomes watery
Peter’s Chair	Stretch: to straighten your arms or legs
	Crib: a bed for a baby
	Whisper: to speak something very quietly
	Shout: to say something very loudly
	Curtain: a piece of cloth to cover a window
Whistle for Willie	Sidewalk: a path at the side of a street to walk
	Chalk: a small stick of a white or colored thing for drawing
	Crack: a very small space between two things
	Whistle: to make a high sound by blowing the air out through your lips
	Whirl: to turn around very quickly

## Design of the Treatments

The experiments including practice sessions were administered for 9 weeks from 9:45 a.m. to 11:00 a.m. Monday through Thursday. Each session lasted about 20 minutes. Six groups received a total of three treatments in a counterbalanced order. Treatment A included Say-Tell-Do instruction with a reenactment of the Story Drama as Play. Treatment B included Say-Tell-Do instruction with a Vocabulary Matching Game as Play. Treatment C included Say-Tell-Do instruction with Drawing and gluing cut-out pictures from the book as a control activity. Table 4 shows the overview of the sessions for each group.

Table 4

*The overview of the sessions*

	Session 1- The Snowy Day	Session 2- Peter's Chair	Session 3- Whistle for Willie
Group 1	Treatment A	Treatment B	Treatment C
Group 2	Treatment A	Treatment C	Treatment B
Group 3	Treatment B	Treatment A	Treatment C
Group 4	Treatment B	Treatment C	Treatment A
Group 5	Treatment C	Treatment A	Treatment B
Group 6	Treatment C	Treatment B	Treatment A

Treatment A: Story Drama; Treatment B: Vocabulary Matching Game; Treatment

C: Drawing

The treatments were implemented by a researcher. Prior to the implementation, the researcher watched and practiced the STDP instructional module which was developed by Roskos and Christie (2011). Then the researcher

practiced the delivery of the STDP strategy with another group of children from a local community and also with all potential participants of the study. The practice sessions with research participants helped the researcher to understand the children's learning behaviors. They also helped her to become comfortable and consistent with the implementation of STDP strategy. The sessions also helped the children get used to the STDP strategy. As a fidelity check, the researcher demonstrated the STDP instruction to a faculty member who helped develop the STDP strategy. This validity check established the degree to which the STDP strategy was being correctly implemented by the researcher.

### **Say-Tell-Do Instruction**

In each session, the researcher taught five vocabulary words with cards that have a picture and printed word on one side and a child-friendly definition of the word on the other side (See Appendix B). The cards were displayed on a tabletop pocket chart with the picture/word side visible. Before reading the book, the instructional sequence of the Say-Tell-Do was used to introduce each of the five target words:

- Say- I say the word, and then you (each child) say the word.
- Tell – I tell the definition of the word, and then you tell the definition of the word to a friend.
- Do- I do the action/gesture of the word, and then you do the action/gesture of the word.

During the reading of the book, the researcher paused when each of the target words was encountered and prompted children to say and do the action. Sticky notes on the pages where the target words occurred reminded the researcher to highlight the words.

After reading, the teacher reviewed the words with the children. The children then engaged in different types of play activities depending on the treatment. In treatment A, children used props to reenact the story with peers and the teacher guided and scaffolded their story reenactment. The researcher also prepared “story character” cut-outs that were used to make stick puppets to assist children in reenacting the stories. Children reenacted the narrative stories as the story was being read by the researcher. The researcher had picked the sequence of the story for each book and prepared scripts on how exactly to implement the STD instruction with children. In treatment B, the researcher took out a prepared set of vocabulary matching cards, and each child took turns to play a game. Vocabulary cards were the same as the word/picture cards that were used to reinforce knowledge of target vocabulary words. Children matched vocabulary cards that were used during the STD instruction with pictures that represented the same words. In treatment C, the researcher provided children with construction paper, markers, and cut-out pictures of the book which reminded children of words that they were taught. Children were asked to draw their favorite part of the story and glue cut-out pictures on the paper. Each play session was set up to

run for five minutes to make the study consistent in duration. Detailed scripts on each treatment will follow.

### **Play Instruction**

Since the researcher followed the Say-Tell-Do instruction protocol, the procedures of the two different types of play activities and the control activity for each book will be described in detail. The Vocabulary Matching Game and the Drawing activity were done exactly the same for each book, so they will be described only once. The blank indicates the targeted vocabulary word. For the Story Drama play activity, the researcher used the book as a scaffolding tool to reenact the story. Bolded words are the targeted vocabulary, and parentheses represent reenactment scripts that the researcher followed within the Story Drama activity.

**Vocabulary Matching Game for each book.** Materials: picture cards.

All five target vocabulary picture cards were placed face down on the floor. The children picked one picture card each and held on to them. Each child took a turn to show the card and say the word and do the action. Children then placed all five target vocabulary words back face down on the floor. Each child took a turn to pick one card and try to match it with a picture. The child said the word and did the action one more time when matching the pair. These are the instructions that the researcher gave to the children:

1. We are going to play a matching game with vocabulary words that we learned.

2. I am going to place these five picture cards face down on the floor.
3. Each of you picks one picture card and please do not show it to your friend. Just keep it to yourself.
4. Now each of you takes turn to show your picture card. Child 1, do you want to show your card to friends?
5. What is this word? Yes.. It is \_\_\_\_\_. Let's all say \_\_\_\_\_. Show me how you do \_\_\_\_\_.
6. Now I am going to place these five words face down on the floor.
7. Child 1? You can pick one word and show it to friends.
8. What is this word? It starts with \_\_\_\_\_. Yes.. It is \_\_\_\_\_. Child 1? Can you find a picture that matches with this word? Yes... Good job!!!
9. Let's all say \_\_\_\_\_ one more time and do the action.

**Drawing for each book.** Materials: paper, crayons or markers, cutout pictures from the book, and glue.

The following directions were given to the children:

*We read a book about snow and learned some new words today. Here I have some pictures from the book. On this paper, you can draw your favorite part of the story with markers and glue these pictures on the paper. I am going to put this book right here on the table. So you can take a look at pictures that you like to draw.*

**The Snowy Day- Guided Story Drama.** Materials: picture of snowsuit from the book, stick, tree, cotton snowball, picture of the sun.

1. One winter morning, Peter woke up and looked out the window.  
Look!! Snow covered everything as far as he could see.
2. After breakfast, he put on his **snowsuit** and ran outside (*Find the snowsuit picture. Let's pretend to wear a snowsuit like him. It is a very warm snowsuit. Now what are you all wearing?*). Look at this picture. The snow was piled up very high along the street.
3. Crunch, crunch, crunch. He walked with **toes** pointing out like this:  
(*Look at these footsteps that he made. I am wiggling my toes like this. Move your toes and make footsteps with toes. Show me how you are making footsteps*).
4. Then he **dragged** his feet s-l-o-w-l-y to make tracks (*I am dragging my feet. Can you drag your feet to make tracks? Drag your finger slowly to make a line on the table. Let's say drag, drag, drag*). And he found something in the snow.
5. It was a stick. A **stick** that was right for smacking a snow-covered tree (*Here is a stick. Let's hit a tree with a stick. You can also drag a stick to make tracks. What is this called?*).
6. He picked up a snow and packed it round and firm. And then he put the snowball in his pocket for tomorrow. Then he went into his warm house (*Can you guess what will happen to snow?*).
7. Before he goes to bed, he looked in his pocket. His pocket was empty. The snowball wasn't there. In his dream, the sun **melted** all the snow

away (*Show me your cotton snowball. What will happen to snow when it is under the sun for a long time? Yes! It will melt the snow away.*

*Show me your action for melt).*

8. When he woke up his dream, the snow was still everywhere. New snow was falling! After breakfast, he and his friend went out together into the deep, deep snow. The End.

**Peter's Chair – Guided Story Drama.** Materials: toy crib, picture of the curtain or real mini curtain.

1. Peter **stretched** as high as he could (*Let's stretch as high as you can like him. Stretch your arms and legs. It feels good when you stretch. Right? Let's all say stretch).*
2. Crash!!! Shhh!! Called his mother. You'll have to play more quietly. Remember, we have a new baby in the house.
3. Hi! Peter, said his father. Would you like to help paint sister's high chair? It's my high chair, **whispered** Peter (*I am going to whisper it to you. You can also whisper it to your friend. We all whisper, it's my high chair).*
4. He saw his **crib** and muttered. My crib. It's painted pink too (*Here is a crib. This is a baby's bed. Let's take turns to touch a crib and say crib. Let's pretend you sleep in the crib).*



5. Not far away stood his old chair. They didn't paint that yet! Peter **shouted** (*Peter said it very loudly like this. They didn't paint that yet!! Can you shout like me?*).
6. Let's run away, Willie... We'll take my blue chair, my toy crocodile, and the picture of me when I was a baby. Willie got his bone.
7. They went outside and stood in front of his house. He arranged his things very nicely and decided to sit in his chair for a while.
8. But he couldn't fit in the chair. He was too big!
9. His mother saw signs that Peter was home. He is hiding behind the **curtain** (*Show me a picture of curtain. Pretend you are hiding behind the curtain. How do you close and open the curtain?*).
10. She moved the curtain away. But he wasn't there. "Here I am," **shouted** Peter. (*Let's all shout, here I am!!*).
11. Peter sat in a grown-up chair. His father sat next to him. Peter said, "Let's paint the little chair pink for Susie." And they did. The END.

**Whistle for Willie – Guided Story Drama.** Materials: chalk, picture of crack on the sidewalk, a pinwheel.

1. Oh, how Peter wished he could **whistle!** (*Can you whistle? If you cannot, try to make your mouth like this and whistle*).
2. He saw a boy playing with his dog. Whenever the boy whistled, the dog ran straight to him.

3. Peter tried and tried to whistle, but he couldn't. So instead he began to turn himself around- around and around he **whirled**... faster and faster... (*Let's whirl yourself. How do you feel when you whirl? Yes. Everything turned down and up and up and down. Let's whirl the pinwheel and say whirl and whirl*).
4. Peter saw his dog, Willie, coming. Quick as a wink, he hid in an empty carton lying on the **sidewalk** (*Look at this picture. He is hiding in an empty carton on the sidewalk. You walk on the sidewalk. Let's pretend you are walking on the sidewalk*).
5. Wouldn't it be funny if I whistled? Peter thought. Willie would stop and look all around to see who it was. Peter tried again to whistle- but still he couldn't. So Willie just walked on.
6. Peter got out of the carton and started home. On the way he took some colored **chalks** out of his pocket and drew a long, long line (*Here are some chalks. You can draw pictures and lines on the chalkboard. What color is your chalk?*)
7. He kept practicing whistle. Still no whistle.
8. He walked along a **crack** in the sidewalk (*Here is a crack in the sidewalk. He is walking along a crack in the sidewalk. It is sometimes fun to walk along a crack*).

9. Peter scrambled under the carton. He blew and blew and blew.

Suddenly out came a real whistle! Willie stopped and looked around to see who it was. (*I love this part. Finally Peter whistled.. Hooray!*)

10. Peter's mother asked him and Willie to go on an errand to the grocery store. He whistled all the way there, and he whistled all the way home.

The END.

### **Posttest**

The assessment of vocabulary gains was developed by the researcher. The National Reading Panel (2000) concluded that specific vocabulary growth is best assessed through researcher-developed measures because these measures are more sensitive to the gains achieved through instruction than are standardized tools.

Both receptive and expressive vocabulary tests were assessed on the day following delivery of each treatment. The assessment was administered one-on-one by the researcher.

For the receptive vocabulary test, the researcher prepared the target vocabulary card with a different picture from the original instruction. Using different picture cards from the ones in the instruction was done to ensure that children's task was to learn not only the new words but to be able to transfer the newly acquired words to different representations of the referent (Senechal, 1997; Senechal & Cornell, 1993). For each item, the researcher had two foils and one target picture printed and laminated (See Appendix D). For example, the vocabulary word *drag* was represented in the instruction by a picture of a bear

dragging its feet, whereas it was represented in the receptive test by a picture of a man dragging a stick. Children were asked to “show me” or “point to” the vocabulary card that the researcher named. If a child pointed to the right card, he/she received a score of 1. If a child was wrong, he/she received a score of 0. For the expressive vocabulary test, children were asked to “tell me” the vocabulary card that the researcher brought out. Similar to the receptive vocabulary assessment, the researcher prepared a different picture of target vocabulary word (See Appendix E). Children were graded on the same scale as the receptive vocabulary assessment.

### **Child Attrition and Absenteeism**

During the course of the study, one child dropped out of the program because of personal issues. Therefore, a total of 17 children participated in this study. When considering the efficacy of the instruction, it was important for the children to be present on each treatment day as well as the day following delivery of each treatment for the assessment to adequately benefit from the instruction as a group. Three treatments and three assessments on the day following delivery of each treatment were the total maximum participation for each child. If one child was absent on the treatment day, the researcher postponed the session until every child was present. Since the study included different types of play activities, it was important that every child participated in the play activities as a group. Due to special class schedules Monday to Thursday, it was significant if a child, who received one treatment on Wednesday, was absent on Thursday. There were two

times that a child missed a class on the Thursday right after the instruction.

However, there were no significant differences in the scores between those that were one day apart and those four days apart from the assessment.

## CHAPTER 4

### RESULTS

This study examined the effects of different play-embedded instruction on preschoolers' vocabulary learning during a vocabulary intervention known as Say-Tell-Do-Play (STDP) (Roskos & Burstein, 2011). The results obtained are discussed with respect to the following four questions:

1. Do play activities enhance the effectiveness of the Say-Tell-Do-Play vocabulary instructional strategy in teaching receptive vocabulary?
2. Do play activities enhance the effectiveness of the Say-Tell-Do-Play vocabulary instructional strategy in teaching expressive vocabulary?
3. Which type of play strategy, Story Drama or Vocabulary Matching Game, is more effective in promoting children's receptive vocabulary learning?
4. Which type of play strategy, Story Drama or Vocabulary Matching Game, is more effective in promoting children's expressive vocabulary learning?

To answer research questions, the researcher implemented the STDP instructional strategy for 17 children with three picture books and their corresponding activities in a counterbalanced order. Story Drama and Vocabulary Matching Game were the play conditions, and Drawing was the control condition. The researcher-developed assessment was administered on the day following delivery of each

treatment to examine the effects of different types of play activities on children's receptive and expressive vocabulary learning.

This section reports the descriptive findings in an investigation of whether children experiencing playful activities within STDP instructional strategy acquired better receptive and expressive vocabulary knowledge than children who experienced Drawing activity. It also includes results addressing the effectiveness of these different types of play strategies, Story Drama versus Vocabulary Matching Games, in acquiring receptive and expressive vocabulary.

Research Question 1: Do play activities enhance the effectiveness of the Say-Tell-Do Play vocabulary instructional strategy in teaching receptive vocabulary? To address this question, descriptive analyses were conducted to compare the two play activities and the control activity. Table 5 summarizes the means and standard deviations of the three different treatments on receptive vocabulary. The mean of the combined two play treatments was 4.63. This result indicated that STDP vocabulary instructional strategy had a large impact on children's receptive vocabulary learning. However, the mean of the control Drawing condition was very similar ( $M = 4.59$ ). This indicated that type of activity that occurred after the Say-Tell-Do components of the strategy did not appear to influence the effectiveness of the intervention.

Table 5

*Means and Standard Deviations of Different Play Types in the Receptive**Vocabulary Assessment*

Play Types	Mean	N	SD	Minimum	Maximum
Story Drama	4.71	17	.588	3	5
Vocab Matching Game	4.59	17	.870	2	5
Combined Play	4.65	34	.729	2	5
Drawing	4.59	17	.618	3	5
Total	4.63	51	.692	2	5

Since the study also used three different books for each play type, the mean and standard deviation of different play types by books were calculated to see if there were any differential effects of book on children's receptive vocabulary learning. The books were used in the order of *The Snowy Day*, *Peter's Chair*, and *Whistle for Willie*. Also, each group used different types of play in a counterbalanced order. The means of the total number of words learned in each play condition and the control condition were similar (see Table 6), but there were differences in the number of words learned in each book.



Table 6

*Means and Standard Deviations of Different Play Types by Books in the Receptive Vocabulary Assessment*

Book	Play Types	Mean	N	SD
The Snowy Day	Story Drama	4.50	6	.548
	Vocab Matching Game	4.17	6	1.329
	Drawing	4.20	5	.837
	Total	4.29	17	.920
Peter's Chair	Story Drama	4.60	5	.894
	Vocab Matching Game	4.83	6	.408
	Drawing	5.00	6	.000
	Total	4.82	17	.529
Whistle for Willie	Story Drama	5.00	6	.000
	Vocab Matching Game	4.80	5	.447
	Drawing	4.50	6	.548
	Total	4.76	17	.437

Children learned more words for *Peter's Chair* ( $M = 4.82$ ) and *Whistle for Willie* ( $M = 4.76$ ) than *The Snowy Day* ( $M = 4.29$ ). This result indicated that children might have a preference for the specific book, and/or they became used to the STDP vocabulary instructional strategy as they gained familiarity over repeated exposures to that strategy. Considering the fact that S-T-D instruction

was a routine-based strategy, it is likely that children adapted to each play type throughout the sessions. The means of Story Drama increased from *The Snowy Day* (M = 4.50) to *Peter's Chair* (M = 4.60) to *Whistle for Willie* (M = 5.00). These differences were not very large. However, it was definitely a sign that children were becoming used to Story Drama play as the treatments progressed. Also, the means of Vocabulary Matching Game has been increased from *The Snowy Day* (M = 4.17) to *Peter's Chair* (M = 4.83). Children who used Drawing as the control activity for *Peter's Chair* and children who participated in Story Drama for *Whistle for Willie* were very successful in learning receptive target vocabulary words (M = 5.00 and M = 5.00 respectively).

Research Question 2: Do play activities enhance the effectiveness of the Say-Tell-Do Play vocabulary instructional strategy in teaching expressive vocabulary?

Table 7 summarizes the means and standard deviations of the expressive vocabulary scores for the three conditions. The mean of Story Drama (M = 2.12) was a little bit higher than the mean of Vocabulary Matching and Drawing (M = 1.94). However, the mean of combined play treatments (M = 2.03) and control Drawing condition (M = 1.94) were very similar. The results indicated that STDP vocabulary instructional strategy had less impact on children's expressive vocabulary than receptive vocabulary. As was the case with receptive vocabulary, play activities did not seem to make much difference in the learning of expressive vocabulary.

Table 7

*Means and Standard Deviations of Different Play Types in the Expressive**Vocabulary Assessment*

Play Types	Mean	N	SD	Minimum	Maximum
Story Drama	2.12	17	1.453	0	4
Vocab Matching Game	1.94	17	1.560	0	5
Combined Play	2.03	34	1.506	0	5
Drawing	1.94	17	1.519	0	4
Total	2.00	51	1.483	0	5

The means and standard deviations of different play types by books were calculated to see if there were any differences in children's expressive vocabulary scores (see Table 8). The children slightly did better with *Peter's Chair* ( $M = 2.00$ ) and *Whistle for Willie* ( $M = 2.12$ ) than with *The Snowy Day* ( $M = 1.88$ ). Compared to slight order effect for means of Story Drama in receptive vocabulary, the means of expressive vocabulary for Story Drama play did not show evidence of the influence of order. The mean for the first book read, *The Snowy Day* ( $M = 2.33$ ) was higher than that of the second book read, *Peter's Chair* ( $M = 1.60$ ), and identical to the third book read, *Whistle for Willie* ( $M = 2.33$ ). The means of Vocabulary Matching Game significantly increased from *The Snowy Day* ( $M = 1.33$ ) to *Peter's Chair* ( $M = 2.00$ ) to *Whistle for Willie* ( $M = 2.60$ ), indicated a

possible order effect. One interesting finding was the mean of Vocabulary Matching Game for *Whistle for Willie*. It had the highest mean of all other activities ( $M = 2.60$ ), but standard deviation ( $SD = 2.074$ ) was the highest as well. This finding indicated that children responded differently to the game activity which required them to follow certain rules while they were playing.

Table 8

*Means and Standard Deviations of Different Play Types by Books in the Expressive Vocabulary Assessment*

Book	Play Types	Mean	N	SD
The Snowy Day	Story Drama	2.33	6	1.366
	Vocab Matching Game	1.33	6	1.506
	Drawing	2.00	5	1.225
	Total	1.88	17	1.364
Peter's Chair	Story Drama	1.60	5	1.517
	Vocab Matching Game	2.00	6	1.095
	Drawing	2.33	6	1.862
	Total	2.00	17	1.458
Whistle for Willie	Story Drama	2.33	6	1.633
	Vocab Matching Game	2.60	5	2.074
	Drawing	1.50	6	1.517
	Total	2.12	17	1.691

Research Question 3 and 4: Which type of play strategy, Story Drama or Vocabulary Matching Games, is more effective in promoting children's receptive vocabulary learning and expressive vocabulary learning? These two research questions will be answered together since descriptive analyses of children's vocabulary tests have been provided in the previous research questions.

Table 9 summarizes the means and standard deviations of each play type in both receptive and expressive vocabulary test. The means of the two play treatments were very similar for both receptive and expressive vocabulary learning. For receptive vocabulary, the mean of Story Drama ( $M = 4.71$ ) was a little bit higher than that for the Vocabulary Matching Game ( $M = 4.59$ ). For expressive vocabulary, the mean of Story Drama ( $M = 2.12$ ) was a bit higher than Vocabulary Matching Game ( $M = 1.94$ ). Results indicate that the Story Drama and the Vocabulary Matching Game treatments had similar effects on children's receptive and expressive vocabulary learning.

Table 9

*Means and Standard Deviations of Different Play Types in Receptive and Expressive Vocabulary Assessment*

Play Types	Receptive Vocabulary		Expressive Vocabulary	
	Mean	SD	Mean	SD
Story Drama	4.71	.588	2.12	1.453
Vocab Matching Game	4.59	.870	1.94	1.560
Total	4.65	.729	2.03	1.506

## CHAPTER 5

### DISCUSSION AND CONCLUSIONS

The purpose of this study was to examine the effects of different types of play activities on preschoolers' receptive and expressive vocabulary learning within a vocabulary instructional strategy known as Say-Tell-Do-Play. Research has confirmed that young children's knowledge of vocabulary has a significant role in listening and reading comprehension and that delay in vocabulary knowledge at an early age places them at-risk of reading difficulties and can interfere with their future academic success (Hart & Risley, 1995; Snow et al., 1998; Storch & Whitehurst, 2002). Several studies have been conducted to examine the factors that can lead to vocabulary deficiencies in young children and ways to close the vocabulary gap. Research has found that children at-risk of oral language and vocabulary delays tend to come from low socioeconomic families, and they also were given less experiential and environmental opportunities to learn the depth and breadth of the vocabulary (Biemiller, 2003, 2004; Carlo et al., 2004; Hart & Risley, 1995; Marulis & Neuman, 2010). Shaywitz, Lyon, and Shaywitz (2006) did a longitudinal study on children with reading difficulties using imaging technology and found out that environmentally determined factors such as lower socioeconomic status and poor quality of instruction at disadvantaged schools had a strong influence on children's reading and verbal abilities. They suggested that an evidence-based and effective reading intervention can mitigate these effects of poverty and close this vocabulary gap.

Therefore, designing and implementing high quality vocabulary instruction for young children, such as the Say-Tell-Do-Play (STDP) strategy that is the focus of this study, can be a key to promoting vocabulary knowledge and closing the vocabulary gap. The STDP has the advantage of having a play component that can make the learning of vocabulary fun and interesting for young children. This chapter discusses the general conclusions of the study and the main factors that may have influenced the results. In addition, the practical implications of the research are explored and future directions for research are proposed.

### **Conclusions**

This study investigated several research questions:

1. Do play activities enhance the effectiveness of the Say-Tell-Do-Play vocabulary instructional strategy in teaching receptive vocabulary?
2. Do play activities enhance the effectiveness of the Say-Tell-Do-Play vocabulary instructional strategy in teaching expressive vocabulary?
3. Which type of play strategy, Story Drama or Vocabulary Matching Game, is more effective in promoting children's receptive vocabulary learning?
4. Which type of play strategy, Story Drama or Vocabulary Matching Game, is more effective in promoting children's expressive vocabulary learning?

The findings, reported in Chapter 4, led to several conclusions. First, while the STDP instructional routine appeared to be an effective strategy for promoting



receptive vocabulary, and to a lesser extent expressive vocabulary, play activities did not appear to enhance the effectiveness of the strategy. The mean of the combined play treatments was very similar to the mean for the control Drawing condition. Second, neither Story Drama nor the Vocabulary Matching Game versions of play appeared to be more effective in promoting receptive or expressive vocabulary.

### **Overall Effectiveness of the STDP Strategy**

The results indicated that the STDP instructional strategy was more successful in promoting children's overall receptive vocabulary learning ( $M = 4.63$ ) than their expressive vocabulary learning ( $M = 2.00$ ). The discrepancy between children's receptive and expressive vocabulary outcomes may be due to several reasons. First, receptive vocabulary, by its very nature, is easier to acquire than expressive vocabulary (Head Start Bureau, 2003). Receptive vocabulary refers to a child's ability to understand spoken words, and expressive vocabulary refers to a child's ability to use spoken words to communicate. Children tend to develop their listening and understanding of spoken language earlier than they develop the expressive abilities of speaking and communicating. Senechal and Cornell's (1993) study found that children could comprehend novel words but could not produce these same novel words after a single exposure to a storybook. Receptive vocabulary usually entails a comparison between an external and internal representation of a word whereas expressive vocabulary entails the additional process of reproducing the phonological representation of the word

(Senechal, 1997). Thus, multiple exposures to target vocabulary words usually facilitate the acquisition of receptive vocabulary because it provides children with more opportunities to associate and store new vocabulary words. But, repeated exposures to words do not provide children with practice at reproducing the phonological representation of the words.

Another possible explanation is related to the language backgrounds of the participants in this study. Fifteen out of the 17 children who participated in the study speak Spanish at home with their parents. The fact that the participants are English Language Learners (ELLs) may have influenced the children's receptive and expressive vocabulary outcomes. It is a well-known finding that at an early stage of second language development, many children go through the "silent period," during which they use little language and refrain themselves from talking and responding to speakers of the second language (Gibbons, 1985; Krashen, 1981; Saville-Troike, 1988). Considerable research has examined the role of this silent period in the acquisition of a second language by young learners. Clarke's (1989) study, involving one Vietnamese preschooler acquiring English as a second language, argued that the silent period is a phase of intense learning, because it determines whether the child gains access to the new language. Saville-Troike (1988) examined the learning strategies of nine second language learners and found that there is a dramatic drop in language directed to speakers of the second language. She argued that, during the silent period, children do more than passively assimilate second language input, but they also advance their

own learning by engaging in extensive private speech through repetition of others' utterances. This repetition serves as a sort of rehearsal for overt social performances, allowing them to practice innovations of linguistic forms, lexical substitutions, and so on.

Krashen (1981) argued that language learners must be provided with a large quantity of comprehensible linguistic input and must be given time to digest this input before being urged to produce linguistic output. The children who participated in this study were at an early stage of second language development. They were acquiring receptive vocabulary knowledge, but they may not have been ready to begin using new words in their own speech.

In this study, most children used Spanish as a means of communication with friends during small group activity/open center time in the preschool. It seemed likely that children understood English because the main classroom teacher usually spoke English and sometimes used Spanish for clarifying concepts. These children needed lots of comprehensible linguistic input: multiple opportunities to use target vocabulary words through repetition, rehearsal, and practice for an extended amount of time, to be able to use the new words on their own in classroom communications. Considering these reasons, it was likely that children immersed in a second language learning environments for a short period of time acquired receptive vocabulary knowledge faster than expressive vocabulary knowledge.

In this study, the children learned 15 target words total from three picture books. After being read each book once, children participated in the two different play activities, Story Drama and Vocabulary Matching Game. The total mean of receptive vocabulary was 4.63, and expressive vocabulary was 2.00. Considering the fact that these children were English Language Learners and only involved with the strategies a total of three times, the STDP instructional routine appeared to be an effective strategy for promoting vocabulary knowledge. The STDP strategy is particularly beneficial for children who are at risk of later reading comprehension or who entered elementary school with substantial disparities in the depth and breadth of their vocabulary knowledge. The STDP instructional strategy includes these particular and critical features:

- Concentrated storybook reading- Using one story book multiple times
- Frequent exposures to targeted vocabulary words – Before, during, and after book readings
- Explicit and direct Tier 2 target vocabulary instruction – Saying, defining, and doing the words together
- Playful activities aimed at targeted vocabulary words

Using storybooks to teach target vocabulary words is very common. Most research on the vocabulary development of young children employed similar instructional methods, usually called “interactive shared book reading” and “dialogic reading.” Interactive shared book reading is among the most commonly investigated book-reading methods (NELP, 2009; Sharolyn et al., 2011). In

interactive shared book reading, children actively and strategically participate in the discussions of storybook events, characters, and vocabulary as opposed to dialogic reading, which is a more structured format. Dialogic reading allows children to learn by making reading the story into an interactive experience through the use of children's questions. The adult and the child switch roles, so that the child learns to become the storyteller. The teacher then acts as an assistant and functions as both an active listener and questioner (What Works Clearinghouse [WWC], 2007).

The STDP instructional strategy uses storybook reading to teach target words just like the strategies of interactive storybook reading and dialogic reading. But the instructional focus of the STDP strategy is on the target vocabulary words. This is a distinguishing characteristic of the STDP instructional strategy and thus, why it works better for English Language Learners (ELLs) who need explicit instruction on targeted words. The STDP instructional strategy includes a variety of ways to expose target words in the framework of before, during, and after. Before the reading, children are taught the three to five target words with the strategy of: Say the word, Tell the definition, and Do the action of the word. During the instruction, concentrated storybook reading is followed by focusing on these target vocabulary words. A teacher reads a story and prompts the children to both say the word and do the corresponding action when the target words are read. The target words-concentrated storybook reading allows children to become used to learning and practicing the target words multiple times. Particularly,

preschool children who are ELLs might be the best fit for this strategy because it provides these children with a risk-free environment in which to practice the routines of the strategy. Also, it is important that the storybook is read multiple times at least three times with the different targeted words emphasized. Children can simultaneously enjoy the storyline and recall the target words while the storybook is being read to them. Multiple exposures of the same book are closely related to what children are playing after the instruction. As children get used to both the whole story and specific words, they can more actively engage in the type of play that requires more oral language and narrative skills (e.g., reenactment play).

Another critical feature of the STDP instructional strategy is an integration of the definition of each target word in the instruction. Before the instruction, children take turns to tell a child-friendly definition of the target word to a friend. For this study, a child-friendly definition of the word from the Longman Dictionary of Contemporary English website (<http://www.ldoceonline.com/>) was used. Telling a definition of the word to a friend encourages children to use their oral language abilities and to make further connections between the word and their existing knowledge. Little research has been examined the effects of using a definition of the word on at-risk children's vocabulary learning. And, some studies used the definition of the word in the instruction, but teachers only introduced the definition, and children did not get a chance to say the definition of the word. Pollard-Durodola et al.'s (2011) study on the effects of an intensive

shared book-reading intervention for at-risk preschoolers concluded that explicit, thematic intervention and more in-depth definition of the words increased children's abilities to associate illustrations and vocabulary knowledge. Research also found that providing a definition during the storybook reading significantly influenced fourth graders' vocabulary learning as compared to teaching words without explanations (Justice, Meier, & Walpole, 2005; Penno et al., 2002). In that STDP instructional strategy utilizes the verbalization of the definition of the word as a part of children's role, it then provides them with scaffolded practice that optimizes their vocabulary learning opportunities.

### **Lack of Effectiveness of the Play Component**

The results indicated that play activities did not have much impact on the effectiveness of the STDP vocabulary instructional strategy. For both receptive and expressive vocabulary, the combined means of the two play conditions, Story Drama and Vocabulary Matching Game, were very similar to means for the control Drawing condition (see Table 5 and Table 6). The mean of combined play condition was 4.65 for receptive and 2.03 for expressive, compared with means of 4.59 and 1.94 for the control condition. While the means were slightly higher for the play condition, the size of differences was so small that they had no practical significance. This indicated that the Play part of the Say-Tell-Do-Play instructional routine might not add much to the effectiveness of the strategy.

Lack of effectiveness of the Play component in the STDP instructional strategy could be attributed to several reasons. First, the STD components of the

strategy were relatively effective because they were directly related to the target words, whereas the Play only offered a review of the words. During the STD components, children were asked to say the words, tell the meanings of the words, and do the actions of the words. These direct and explicit procedures provided children with scaffolded activities in which boosted their knowledge of the target words. On the other hand, Play component only guided children to use the words during the activities. The Play component was not a routine-based activity that directly taught the meanings of words. Rather, it was a kind of playful reviewing activity. As the Play component merely offered a review of the words, it appeared to have a complementary role to the STD components.

Second, the design of this study could possibly be another contributing factor of the findings. This study only used three books, and children participated in each play activity once. A total of three treatments could be relatively too few to examine the effects of different types of play on children's vocabulary learning. Considering the different requirements of each type of play, children may have needed more time to be familiarizing themselves with the format of both the Guided Story Drama and the rules of the Vocabulary Matching Game. Future study involving more books and larger numbers of participants is recommended to examine the effects of play on the vocabulary learning of the young children in the STDP strategy.

Another consideration was the delayed effects between the instruction and assessment. The assessment was held the day following delivery of each



treatment, and there was no later follow-up assessment. One day might be too short to test children's lasting memory of newly acquired vocabulary. Therefore, a type of longitudinal study – timing assessments over a longer time span – could prove very informative. There is a possibility that engaging in more playful activity leads to better long term retention of the words than engaging in a less playful activity, like Drawing. Also, play provides practice and consolidation, so maybe the effects of play do not show up until later. Children who participated in a Story Drama or Vocabulary Matching Game as play treatments may have better outcomes than children who did Drawing as a control condition if they assessed two to four weeks later. Further investigation on the delayed effects of vocabulary instruction with different types of play treatments is necessary in future study.

Lastly, different characteristics of each play component in relations to the design of the study may have caused the results of a seeming lack of effectiveness of the Play component. Story Drama and Vocabulary Matching Game as play treatments and Drawing as a control condition were purposely selected because they exhibit different characteristics of play. As a part of reenactment play, Guided Story Drama was employed to see how children's acting out the story affected their vocabulary learning. Children who participated in this study were mainly Spanish speakers whose parents only speak Spanish at home. In order to engage in the play reenactment, children needed a certain degree of language proficiency to remake and retell the very storylines for the target words. But, they

may not have had sufficient language ability to act out the story on their own. Future research should also be conducted to determine the effectiveness of play in the STDP strategy when used with native English speakers.

Second, the story was read only one time with emphasis on the five target vocabulary words. Story reenactment is promoted when children become very familiar with the story and words, so they can then recall the main events of the story and act them out. Therefore, it is recommended that, in future studies, the book be read at least three times before the story reenactment. This should enable children to be more familiar with the story and may enhance the effects of Guided Story Drama.

Games have distinctive features that distinguish it from “play.” Games involve rules and roles that are set in advance, and players need to conform to those rules. But, sometimes, in practice, those rules and roles are then negotiated and compromised by the players. The Vocabulary Matching Game that was used in this study was also modified to meet the participants’ needs. Another different feature that games have is the variables of socializing and competition. Games require at least two people to engage in the activity and also involve certain degree of competition. Players in a game compete with others and demonstrate the skills to show that they abide by the rules. Based on the characteristics of the games, it may require experience and maturation for children to learn the rules and to fully participate in the game. Baines and Blatchford (2011) said that “development in game play involves increasing personal knowledge of game rules

to an appreciation that rules are collectively agreed but modifiable according to the needs of the group” (p. 264). In this respect, children need to understand and be well acquainted with the rules of the game to engage in the activity fully.

Children in this study only played the Vocabulary Matching Game a total of two times including a practice session. This may not have provided them with enough time to be completely aware of the rules. The Vocabulary Matching Game had several rules to follow: take a turn to pick a card, show it to friends, and then match a picture with a word card. While they were in playing the game, one particular child, who was very verbal always wanted to take two cards at a time. (There were a total of five sets of cards and four people, including the researcher, participated in the game). This child dominantly participated in the matching game because another child was more hesitant to match cards due to his low English oral language ability. Another child, who did not appear to speak either English or Spanish, did not participate in the activity. Taken all together, there probably would have been better outcomes if they played and learned the rules of the game through more practice sessions, before the actual research implementation. Another possibility would be a longer time period for the intervention with more exposures to the game, so that the children would acquire a better sense of the game, thus enhancing their opportunities for acquiring the targeted vocabulary.

Drawing was deliberately selected as a non-playful activity and as the control. Relationships between drawing and play in educational settings have

been examined in the focus of a semiotic perspective of drawing in the play activities (Hopperstad, 2008; Kress, 2003). Drawing can be, in part, a play activity in which children use visuals and graphics to convey meanings and share their knowledge of the world. Also, drawing can be used as a tool to transform the visual-graphic forms into possible meaning that children express. Kress (2003) defined drawing as a semiotic or meaning-making activity in which children use visual resources to share information, knowledge and ideas. However, Drawing in this study was used as a non literacy-related activity. Compared to Guided Story Drama and Vocabulary Matching Games, Drawing did not involve much talking and there was no discussion about the target words. The researcher purposefully did not ask questions or provide them with instructional scaffolding related to the target vocabulary. In this sense, Drawing was considered to be an individual activity that was not involved in much interaction with the target words even if it has some aspects of play activity. The study findings showed that there was not much of a difference between the two play activities and the Drawing activity to enhance the effectiveness of the strategy. Perhaps the semiotic properties of drawing had more of an effect on vocabulary learning than anticipated. In other words, the control condition may have actually been an intervention that was just as effective as play.

### **Recommendations for Future Research**

Because this study only involved a small number of participants for limited time periods, the study was not fully able to examine the effects of

different types of play on children's vocabulary learning. So, future studies on effects of different play types for children's receptive and expressive vocabulary learning should include more children and implement the STDP strategy for a longer period of time. In addition, follow-up assessments should be used to see if play has delayed effect on vocabulary learning. Studies also need to be conducted with other groups of children, including low-income Anglo preschoolers. This section discusses two other issues that may have influenced the results and need further attention: assessment and implementation of the STDP strategy.

### **Receptive and Expressive Vocabulary Assessment**

The researcher developed the receptive and expressive vocabulary assessment. Previous studies found that researcher-developed measures were more sensitive to vocabulary growth than standardized assessments (NRP, 2000; Senechal, 1997; Sharolyn et al., 2011). The assessment was administered by the researcher on the day following delivery of each treatment. Because of the preschool's limited schedule (Monday to Friday from 8:30 to 12:30), consistently administering the assessment the day after the delivery of treatment was a challenge. For example, one week, the preschool had a field trip on Friday. The researcher decided to administer the assessment on Thursday for the children who received the instruction on Wednesday, but then several children were absent on that day. In this case, those missed children received the assessment on the following Monday, which was four days after the treatment, compared to the one day gap for other students between the treatment and the assessment. This may

have influenced the results. If future studies have much larger numbers of subjects, then ones that are absent and have large delays in assessment could be dropped or statistical methods could be used to deal with “missing data.”

For actual implementation of the assessment, the researcher called one child to the table where the instruction had been conducted. For the receptive vocabulary assessment, the researcher prepared the target vocabulary card with a different picture from that used in the original instruction. The researcher had two foils and one target pictures printed and laminated. Placing the picture cards in the random order, children were asked to “show me” the target vocabulary card. It was very interesting that several children also repeated the word after the researcher, while they were pointing to the target word. The findings cannot reveal how children’s repeating of the words is related to their expressive vocabulary scores, but children’s behaviors and responses during the assessment and its relationship with vocabulary learning are one area that needs to be examined in the future.

For the expressive vocabulary assessment, a different picture of each target vocabulary word was also printed and laminated. During the assessment, several children answered the words in Spanish, but with those actions that they learned from the instruction. Those children were the ones who spoke Spanish only. Since the main classroom teacher can speak both English and Spanish, children who only speak Spanish can successfully communicate in their native language. It would be interesting to further examine the role of Spanish in

vocabulary learning for young children. It is expected that children from different native languages will receive better benefits if the instruction is conducted in both English and their home languages.

### **Implementation of the STDP Strategy**

The researcher conducted all STDP treatments. The quality of a preschool teachers' preparation (e.g., experiences, degree, certificates, preparation programs, and so on) is as important as the quality of their classroom instruction. Even though the researcher did numerous practice sessions with children, it was not enough time to get fully familiar with the children. The results of the study might have been different if it had been conducted by the children's regular teacher with a professional development of STDP instructional strategy. Further studies on how implementation of the strategy is related to children's vocabulary outcomes are highly recommended to understand the relationship between the fidelity of implementation and children's vocabulary outcomes.

It is also important to know children's baseline vocabulary knowledge before the implementing the study. Although findings indicated that these children benefitted from the STDP vocabulary instructional strategy, future research should attend to children's baseline vocabulary knowledge. If children are emergent learners and have minimal vocabulary knowledge, then vocabulary intervention should pay attention to children's vocabulary capacity. This study focused on teaching Tier 2 words. Teaching Tier 2 words is important, but learning these words may have smaller effects when young children do not have a

strong language base upon which to build (Beck & McKeown, 2007). Focusing on only Tier 2 words may not be the best instructional strategy for at-risk children who need to build a vocabulary foundation. Better results might be achieved by focusing on unfamiliar Tier 1 words.

### **Implications**

This research began with the question, “How to best teach children reading?” Considering reading comprehension is intimately related to vocabulary knowledge, the question can be rephrased as, “How to best teach children vocabulary?” As previously stated, little research has been conducted on age-appropriate vocabulary instructional strategies that help young children understand and develop critical vocabulary knowledge (Beck et al., 1982; Coyne et al., 2004; Coyne et al., 2007). In this respect, the STDP vocabulary instructional strategy appears to be an effective way to teach young children vocabulary. Effective features of STDP instructional strategy provide children with an instructional scaffold for learning and using words across multiple contexts. Even if there were no significant findings on the different types of play on the children’s vocabulary learning, this study indicates that the STDP strategy, as a whole, is an effective way to teach receptive vocabulary. Emerging evidence suggested that educators should incorporate vocabulary instruction throughout the preschool day and that such instruction requires explicit instruction that assists children in making connections between content-area knowledge and academic



language (Beck & McKeown, 2007; Biemiller & Slomin, 2001; Coyne et al., 2004; Pollard-Durodola et al., 2011).

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APPENDIX A

A TRANSCRIPT FOR EACH BOOK

## *The Snowy Day*

1. One winter morning Peter woke up and looked out the window. Snow had fallen during the night. It covered everything as far as he could see.
2. After breakfast he put on his snowsuit and ran outside. The snow was piled up very high along the street to make a path for walking.
3. Crunch, crunch, crunch, his feet sank into the snow. He walked with his toes pointing out, like this:
4. He walked with his toes pointing in, like that:
5. Then he dragged his feet s-l-o-w-l-y to make tracks.
6. And he found something sticking out of the snow that made a new track.
7. It was a stick. – a stick that was just right for smacking a snow-covered tree.
8. Down fell the snow – plop! – on top of Peter’s head.
9. He thought it would be fun to join the big boys in their snowball fight, but he knew he wasn’t old enough – not yet.
10. So he made a smiling snowman and he made angels.
11. He pretended he was a mountain-climber. He climbed up a great big tall heaping mountain of snow – and slid all the way down.
12. He picked up a handful of snow – and another, and still another. He packed it round and firm and put the snowball in his pocket for tomorrow. Then he went into his warm house.

13. He told his mother all about his adventures while she took off his wet socks.
14. And he thought and thought and thought about them.
15. Before he got into bed he looked in his pocket. His pocket was empty. The snowball wasn't there. He felt very sad.
16. While he slept, he dreamed that the sun had melted all the snow away. But when he woke up his dream was gone. The snow was still everywhere.  
New snow was falling!
17. After breakfast he called to his friend from across the hall, and they went out together into the deep, deep snow.

*Peter's Chair*

1. Peter stretched as high as he could. There! His tall building was finished.
2. Crash! Down it came. "Shhh!" called his mother. "You'll have to play more quietly. Remember, we have a new baby in the house."
3. Peter looked into his sister Susie's room. His mother was fussing around the cradle. "That's my cradle," he thought, and they painted it pink!"
4. "Hi, Peter," said his father. "Would you like to help paint sister's high chair?" "It's my high chair," whispered Peter.
5. He saw his crib and muttered, "My crib. It's painted pink too." Not far away stood his old chair. "They didn't paint that yet!" Peter shouted.
6. He picked it up and ran to his room.

7. “Let’s run away, Willie,” he said. Peter filled a shopping bag with cookies and dog biscuits. “We’ll take my blue chair, my toy crocodile, and the picture of me when I was a baby.” Willie got his bone.
8. They went outside and stood in front of his house. “This is a good place,” said Peter. He arranged his things very nicely and decided to sit in his chair for a while.
9. But he couldn’t fit in the chair. He was too big!
10. His mother came to the window and called, “Won’t you come back to us, Peter dear? We have something very special for lunch.” Peter and Willie made believe they didn’t hear. But Peter got an idea.
11. Soon his mother saw signs that Peter was home. “That rascal is hiding behind the curtain,” she said happily.
12. She moved the curtain away. But he wasn’t there! “Here I am,” shouted Peter.
13. Peter sat in a grown-up chair. His father sat next to him. “Daddy,” said Peter, “let’s paint the little chair pink for Susie.”
14. And they did.

*Whistle for Willie*

1. Oh, how Peter wished he could whistle!
2. He saw a boy playing with his dog. Whenever the boy whistled, the dog ran straight to him.

3. Peter tried and tried to whistle, but he couldn't. So instead he began to turn himself around- around and around he whirled... faster and faster...
4. When he stopped everything turned down... and up...
5. And up... and down... and around and around.
6. Peter saw his dog, Willie, coming. Quick as a wink, he hid in an empty carton lying on the sidewalk.
7. "Wouldn't it be funny if I whistled?" Peter thought. "Willie would stop and look all around to see who it was." Peter tried again to whistle- but still he couldn't. So Willie just walked on.
8. Peter got out of the carton and started home. On the way he took some colored chalks out of his pocket and drew a long, long line.
9. Right up to his door. He stood there and tried to whistle again. He blew till his cheeks were tired. But nothing happened.
10. He went into his house and put on his father's old hat to make himself feel more grown-up. He looked into the mirror to practice whistling. Still no whistle!
11. When his mother saw what he was doing, Peter pretended that he was his father. He said, "I've come home early today, dear. Is Peter here?"
12. His mother answered, "Why no, he's outside with Willie." "Well, I'll go out and look for them," said Peter.
13. First he walked along a crack in the sidewalk. Then he tried to run away from his shadow.



14. He jumped off his shadow. But when he landed they were together again.
15. He came to the corner where the carton was, and who should he see but  
Willie!
16. Peter scrambled under the carton. He blew and blew and blew. Suddenly-  
out came a real whistle!
17. Willie stopped and looked around to see who it was.
18. "It's me," Peter shouted, and stood up. Willie raced straight to him.
19. Peter ran home to show his father and mother what he could do. They  
loved Peter's whistling. So did Willie.
20. Peter's mother asked him and Willie to go on an errand to the grocery  
store.
21. He whistled all the way there, and he whistled all the way home.

APPENDIX B

VOCABULARY PICTURE CARDS



# Toes

**Definition:**

Toes mean five movable parts at the end of your foot

**Do Action:**

Wiggle your toes



# Stick

**Definition:**

Stick means a piece of wood from a tree

**Go Action:**

Use your finger to make a stick



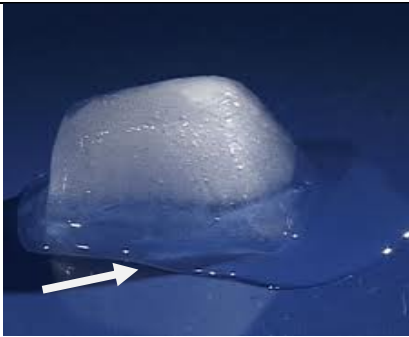
# Snowsuit

Definition:

Snowsuit means a clothing for snow

Do Action:

Pretend to wear a snowsuit and feel warm



# Melt

Definition:

Melt means if something melts, it becomes watery

Do Action:

Pretend you have an ice in your hand and rub it



# Stretch

**Definition:**

Stretch means to straighten your arms or legs

**Do Action:**

Stretch your arms and legs



# Drag

**Definition:**

Drag means to pull something along the ground

**Do Action:**

Use your finger to drag the table



# Whisper

**Definition:**

Whisper means to speak something very quietly

**Do Action:**

Whisper the word “whisper” to your friend



# Shout

**Definition:**

Shout means to say something very loudly

**Do Action:**

Pretend to shout “ah”



# Whistle

**Definition:**

Whistle means to make a high sound by blowing the air out through your lips

**Do Action:**

Make your lips round and whistle



# Curtain

**Definition:**

Curtain means a piece of cloth to cover a window

**Do Action:**

Use your hands to close and open a curtain



# Crib

Definition:

Crib means a bed for a baby

Do Action:

Pretend you sleep in a crib



# Sidewalk

Definition:

Sidewalk means a path at the side of a street to walk

Do Action:

Pretend you are walking on the sidewalk





# Chalk

**Definition:**

Chalk means a small stick of a white or colored thing for drawing

**Do Action:**

Use a chalk to draw something on your hand



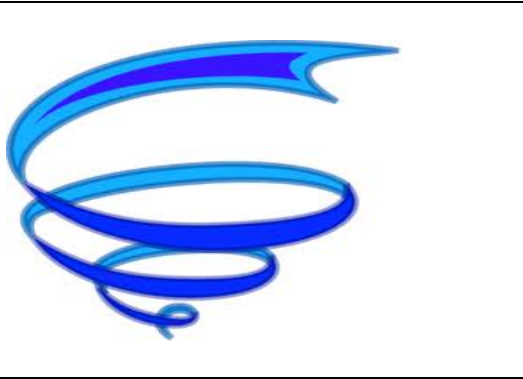
# Crack

**Definition:**

Crack means a very small space between two things

**Do Action:**

Let's find a crack on the ground



**Whirl**

**Definition:**

Whirl means to turn around very quickly

**Do Action:**

Point your finger and whirl it

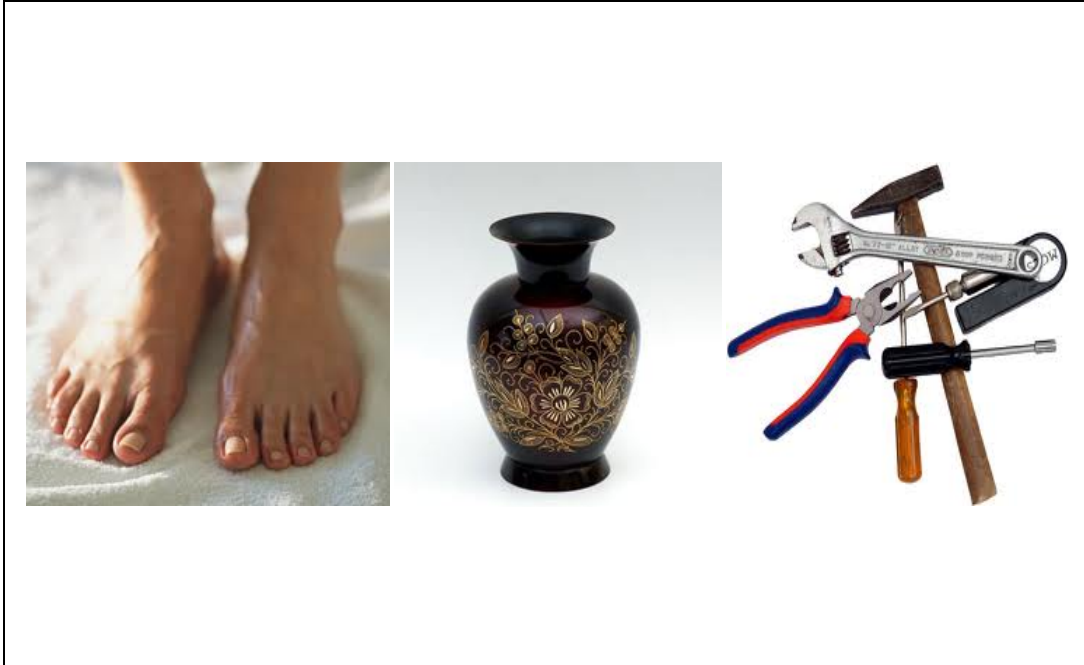
APPENDIX C

TARGET VOCABULARY WORDS

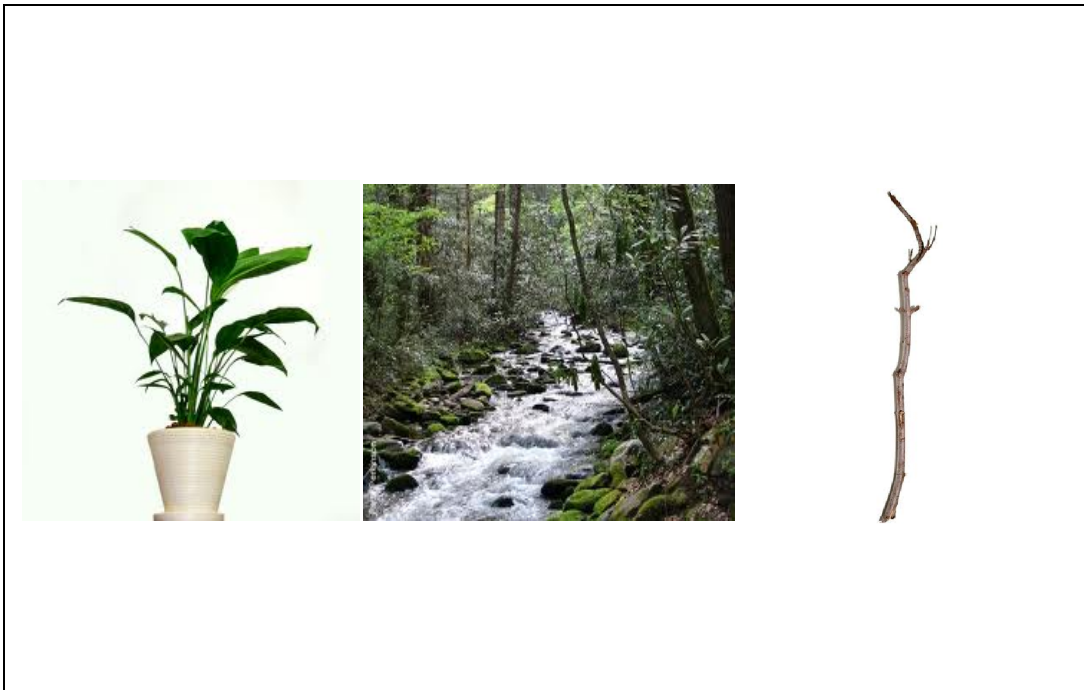
The Snowy Day	Toes
	Snowsuit
	Drag
	Stick
	Melt
Peter's Chair	Stretch
	Crib
	Whisper
	Shout
	Curtain
Whistle for Willie	Sidewalk
	Chalk
	Crack
	Whistle
	Whirl

APPENDIX D

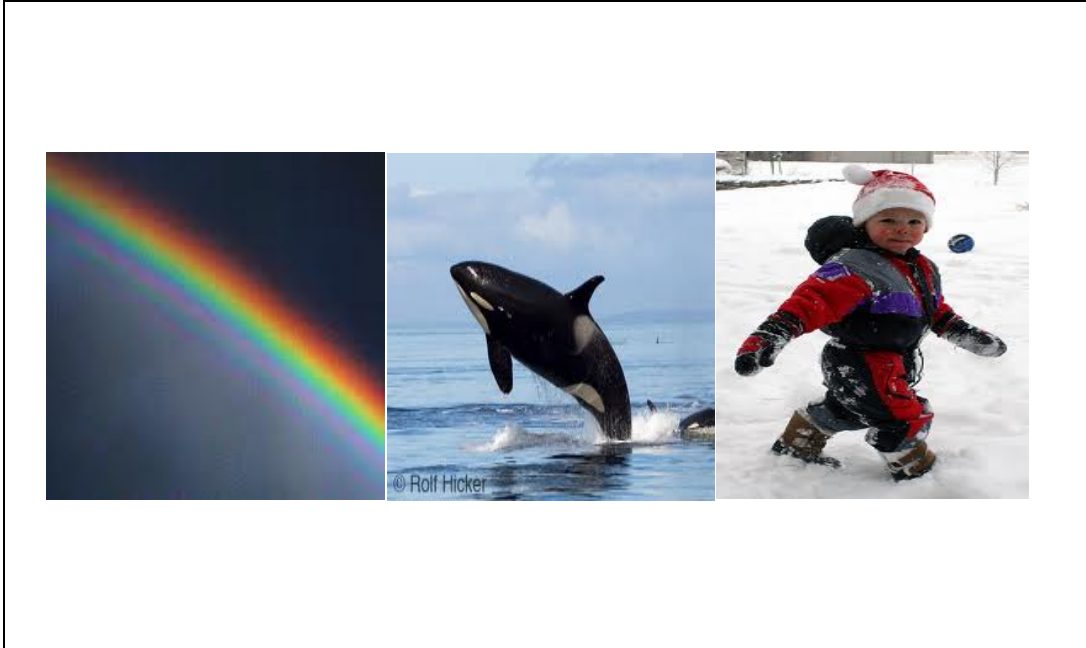
RECEPTIVE VOCABULARY ASSESSMENT



Answer: Toes



Answer: Stick



Answer: Snowsuit



Answer: Melt

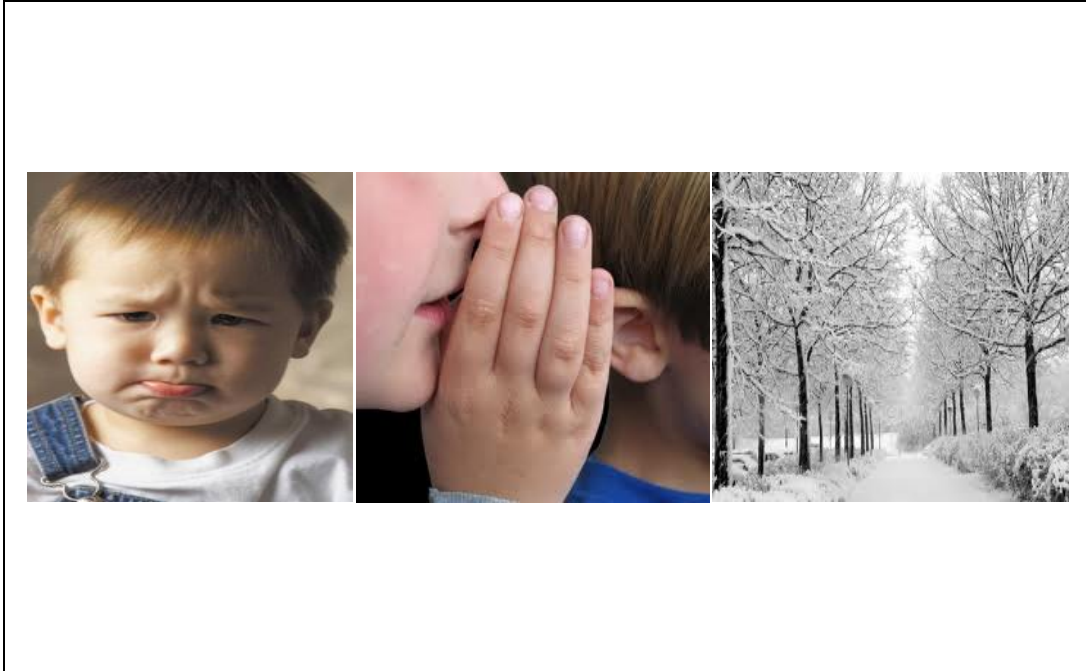


Answer: Drag

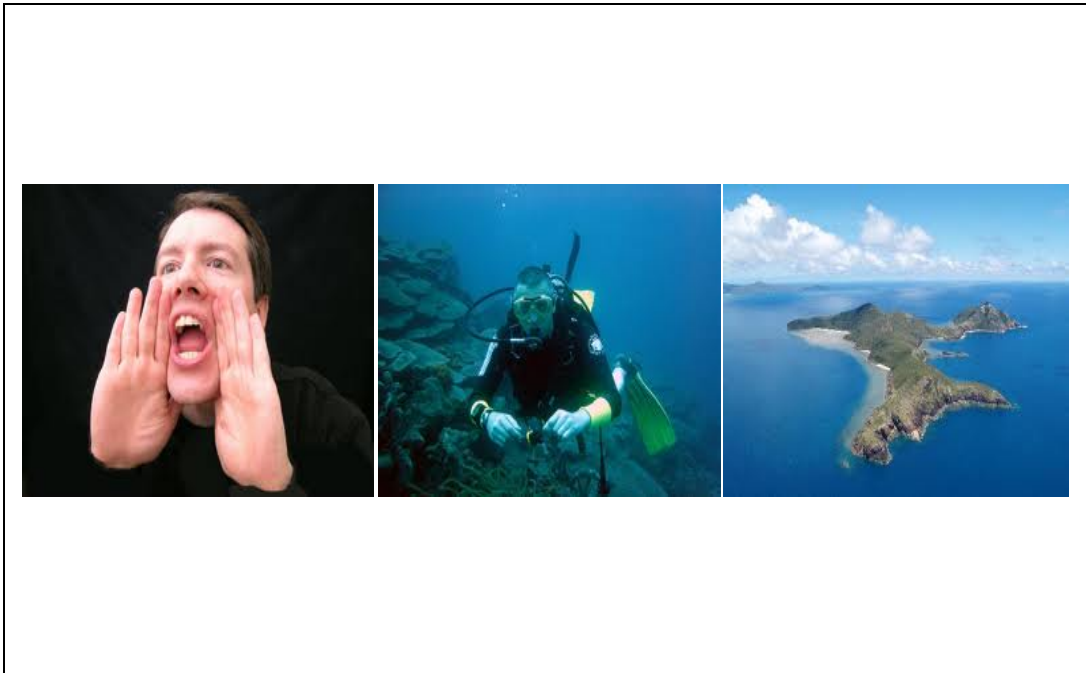


Answer: Stretch





Answer: Whistle



Answer: Shout



Answer: Crib



Answer: Whirl



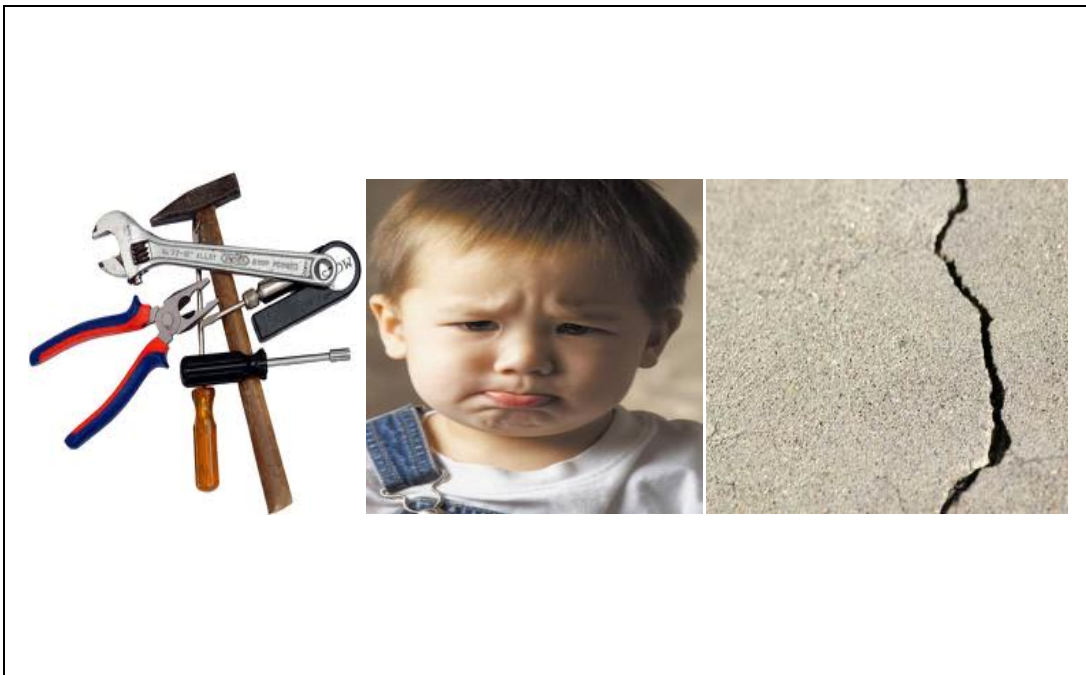
Answer: Curtain



Answer: Sidewalk



Answer: Chalk



Answer: Crack



Answer: Whistle

APPENDIX E

EXPRESSIVE VOCABULARY ASSESSMENT



Answer: Toes



Answer: Snowsuit



Answer: Drag



Answer: Stick





Answer: Melt



Answer: Stretch



Answer: Crib



Answer: Whisper



Answer: Shout



Answer: Curtain



Answer: Sidewalk



Answer: Chalk



Answer: Whistle



Answer: Crack



Answer: Whirl

APPENDIX G

CHILD ASSENT FORM

**Effects of Different Types of Play on Preschoolers' Receptive and Expressive Vocabulary**  
**Learning**

Mom/dad said it is okay to play with you. I want to know how you learn new words while you play. I will read a book to you and you will learn new words while you play. If you don't want to learn new words, it is okay to say "no." If you like to learn new words, you can say "yes."



APPENDIX G

PARENTAL PERMISSION FORM

**Effects of Different Types of Play on Preschoolers' Receptive and Expressive Vocabulary Learning**

PARENTAL LETTER OF PERMISSION

Dear Parent:

I am a graduate student in the Mary Lou Fulton Teachers College at Arizona State University, under the direction of Professor James Christie (School of Social and Family Dynamics). I am conducting a research study to examine effects of different play-embedded vocabulary instruction on children's receptive and expressive vocabulary learning.

I am inviting your child's participation, which will involve three 15 minutes vocabulary lesson and three 5 minute assessment. A total of 60 minutes of participation will be involved. Your child's participation in this study is voluntary. If you choose not to have your child participate or choose to withdraw your child from the study at any time, there will be no penalty (i.e., it will not affect your child's care). Likewise, if your child chooses not to participate or to withdraw from the study at any time, there will be no penalty. The results of the research study may be published, but your child's name will not be used.

There may be a direct benefit to your child. He or she will be read three children's picture books and engage in a vocabulary learning opportunities. There are no foreseeable risks or discomforts to your child's participation.

Children's name will not be used in the study because pseudonyms will be used. Responses will be confidential. The results of this study may be used in reports, presentations, or publications but your child's name will not be used.

If you have any questions concerning the research study or your child's participation in this study, please call me at (480) 686 - 0879.

Sincerely,

Mi-Jung Song

By signing below, you are giving consent for your child \_\_\_\_\_ (Child's name) to participate in the above study.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

If you have any questions about you or your child's rights as a subject/participant in this research, or if you feel you or your child have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.


ASU IRB  
Approved  
for Mark W...  
Date 2/21/2012 - 2/16/2013

APPEDIX H

INSTRUCTIONAL REVIEW BOARD APPROVAL FORM



**To:** James Christie  
SS

**From:** Mark Roosa, Chair   
Soc Beh IRB

**Date:** 02/07/2012

**Committee Action:** Expedited Approval

**Approval Date:** 02/07/2012

**Review Type:** Expedited F7

**IRB Protocol #:** 1201007250

**Study Title:** Effects of different type of play on preschoolers' Receptive and Expressive vocabulary learning

**Expiration Date:** 02/06/2013

The above-referenced protocol was approved following expedited review by the Institutional Review Board.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date. You may not continue any research activity beyond the expiration date without approval by the Institutional Review Board.

**Adverse Reactions:** If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

**Amendments:** If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.