DEVELOPING NARRATIVE LANGUAGE THROUGH THE USE OF DRAMATIC PLAY IN PRESCHOOLERS

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF PROFESSIONAL EDUCATION

BY

CHRISTINE NEIR WILSON, B.S., M.Ed.

DENTON, TEXAS

MAY 2007

Copyright © <u>Christine Neir Wilson</u>, <u>2007</u> All rights reserved.

DEDICATION

To my husband, Allan Wilson, thank you for your unwavering support, patience, and unconditional love.

To my princesses, Allyson and Anelise, may your desire to imagine and create remain strong, even after the Cinderella dresses and the magic wands go away.

ACKNOWLEDGEMENTS

I gratefully acknowledge the many individuals who guided and supported me through this process. I would like to express special appreciation for Dr. Lloyd Kinnison, my committee chair. His support encouraged me to finish this project. Thank you for your leadership and time.

To Dwane Allen, thank you for all of your support and patience as I worked through the statistics. I appreciate the interest you took in my research and success.

To Marion Smalley, thank you for your expertise in the area of editing. Your keen eye and perfectionism was appreciated.

In addition, Dr. Michael Wiebe, Dr. Ronald Fritsch and Dr. David Marshall, I offer my appreciation for serving on my committee. Your input made this project better.

To Little Sprouts, I would like to thank the parents who allowed me the privilege of working with their wonderful children. You are a constant source of inspiration!

To my wonderful husband Allan, thank you for everything. You sacrificed so much to allow me to follow my dream.

Most of all, I would like to express my sincere appreciation to my family and friends. You constantly encouraged me to press on and never wavered in believing this project would get finished. Thank you for the countless hours you spent taking care of my wonderful little girls.

ABSTRACT

CHRISTINE NEIR WILSON

DEVELOPING NARRATIVE LANGUAGE THROUGH THE USE OF DRAMATIC PLAY IN PRESCHOOLERS

MAY 2007

The purpose of this study was to investigate the affect dramatic play had on language development. More specifically, the study sought to measure if the addition of a dramatic play center would stimulate both oral and written language. Therefore, four questions guided the study: (a) Does dramatic play positively influence overall language ability? (b) Does dramatic play increase the production of oral narratives? (c) Does dramatic play increase the complexity of the child's narrative? (d) Does dramatic play increase a child's written narrative?

The study involved a mixed design that measured the participant's standardized scores both before and after intervention. A portion of the study utilized authentic writing samples to analysis growth using a qualitative approach. A matrix of story elements dictated or written in their journals was completed and then analyzed to determine common themes.

The findings of this study reveal that oral language is improved through play.

The receptive language of children receiving the intervention, as measured by the CELF
Preschool, increased significantly within the time frame of the study. In addition, the

complexity of the narratives written by the children increased. This was demonstrated in

their journal entries through the mastery of story elements that were absent or sporadic at the beginning of the study. Most notable, the children's ability to provide a coherent, logical thought in relation to the literature improved.

TABLE OF CONTENTS

Pag
COPYRIGHTiii
DEDICATIONiv
ACKNOWLEDGEMENTSv
ABSTRACTvi
LIST OF TABLESxii
LIST OF FIGURESxiii
CHAPTERS
I. RATIONALE1
No Child Left Behind 1 Statement of Problem 4 Purpose of the Study 5 Research Questions 5 Definitions of Terms 5 Assumptions 6 Limitations 7 Significance of the Study 7 Summary 7
II. REVIEW OF LITERATURE
Introduction 9 Play 10 Characteristics of Play 10 Types of Play 11 Symbolic Play 12 Teacher Facilitated Play 14 Accomplishments of Play 15

	Theories Behind Play	1′
	Constructivist Theory	. 17
	Jean Piaget	. 18
	Lev Vygotsky	. 18
	Summary	
	Language	
	Oral Language	. 20
	Environments that Facilitate Language	
	Narratives	
	Literacy	
	Early Intervention	. 26
	Emergent Literacy	
	Reading Comprehension	
	Summary	
	,	
III.	METHODOLOGY	. 32
	Purpose of the Study	. 32
	Participants	. 32
	Setting	
	Population and Sample	
	Teacher Training	
	Measures	
	Instrumentation	
	Observations	
	Journals	
	Design and Procedure	
	School and Parent Permission	
	Questionnaire	
	Testing	
	Teacher Training and Sample Lesson	
	Books/Props	
	Videotaping	
	Journaling	
	Duration of the Experiment	
	Posttest	
	Data Collection	
IV.	RESULTS	43
	Purpose of the Study	43
	Research Question One	
	Research Question Two	49
		1)

	Research Question Three	53
	Research Question Four	
	Classroom A-Participant 2	
	Classroom A-Participant 9	
	Classroom B-Participant 10	
	Classroom B-Participant 4	
	Summary	. 64
	and a second control of the control	
1.	DISCUSSION OF RESULTS, CONCLUSIONS, AND IMPLICATIONS FOR	3
	RESEARCH	
	Discussion of Results	. 69
	Conclusions	. 72
	Implications	. 73
	REFERENCES	. 74
	APPENDICES	
	A. Sample Parent Consent	. 81
	B. Demographics Questionnaire	
	C. List of Thematic Literature Used	
	D. Observational Codings	
	E. Consent From Little Sprouts Preschool Administration	
	F. Number of Words Dictated on Journal Entries	
	G. Work Samples of Participant #2-Classroom A	
	H. Work Samples of Participant #9-Classroom A	
	I. Work Samples of Participant #10-Classroom B	
	J. Work Samples of Participant #4-Classroom B	
	K. Number of Letters Recorded in Journal Entries 1	11

LIST OF TABLES

TABLE

1.	Demographics of Participant35
2.	Receptive Subtest Standard Scores-Classroom A, Control
3.	Receptive Subtest Standard Scores-Classroom B, Experimental
4.	Expressive Subtest Standard Scores-Classroom A, Control
5.	Expressive Subtest Standard Scores-Classroom B, Experimental
6.	Mean Scores of Overall Receptive and Expressive Language on the CELF 49
7.	Analysis of Variance for Within Subjects Design for Receptive and Expressive CELF-Preschool Subtests
8.	Analysis of Variance for Within Subjects Design on the CELF-Preschool Subtests
9.	Mean Number of Words Analysis for Classroom A vs. Classroom B 54
10.	Significance Scores for the Number of Words Dictated in Journal Entries 56
11.	Number of Letters Recorded Each Week by the Participants
12.	Significance Scores for the Number of Words Dictated in Journal Entries 59
13.	Mean Variables Used on Coding Matrix
4.	Mean Scores for the Story Elements for Classroom A and Classroom B 62

LIST OF FIGURES

FIGURE

1.	Average Number of Words in Journal Entries	. 55
2.	Mean Score of Story Elements	. 63

CHAPTER I

RATIONALE

"There was a time when play was king and early childhood was its domain."

(Paley, 2004, p.4). Play has lost its standing in many of today's classrooms (Isenbery & Quisenberry, 2002). Young children no longer have the luxury of learning through fantasy. Instead, workbooks have replaced the dress up clothes and rote drills have replaced exploration. Have we learned that play doesn't work? It is a widely held belief that if children are not achieving at levels beyond developmental ideals children will miss out on the opportunity to experience life.

No Child Left Behind

Over 40 years ago, in 1965, Lyndon B. Johnson signed into law the Elementary and Secondary Act (ESEA) (U.S. Department of Education, 2002). This legislation was one of the federal government's initial steps into public education. It was aimed at helping children who were less fortunate through the creation of Title 1. In doing this, ESEA also was charged with ensuring desegregation. The bill and those responsible for it transformed the office of education from a statistics collecting office to one of great power and political debate (Hanna, 2005). Government involvement is now an expected part of education. This legislation has been reauthorized every 5 to 7 years and each revision has steadily increased federal power. During 2001 revision, sweeping changes were made to the bill. The legislative bill numbered over 1,000 pages and brought in

tight control to the federal government. President George Bush renamed the bill the No Child Left Behind Act (NCLB). The intent of this legislation was to ensure quality education for all children (U.S. Department of Education, 2002). No Child Left Behind was meant to "ensure public schools are teaching children what they need to have children be successful in life" (U.S. Department of Education, 2002, page 2) The legislative bodies of the United States said it was no longer acceptable to not properly educate children, regardless of their needs, background, or experience. No Child Left Behind assumed that through education schools alone could make this dramatic shift (Sunderman & Kim, 2004). The success of education is now defined in proficiency on test scores, with the primary focus on the disciplines of reading and math. Education would then not just begin at the age of "school". There is agreement that children experience a critical period of development before beginning kindergarten that will help determine their future successes. The government's own studies, such as the Coleman report, verify this fact. After studying 600,000 children, the Coleman report concluded that "early years at home had a significant impact" and, despite teacher training, pay or curriculum, a gap still existed between blacks and whites. Educational inequality was still present (Coleman, J., 1966, as quoted in Hanna, 2005). Therefore, programs such as Good Start, Grow Smart and Early Reading First are being advocated by the No Child Left Behind Legislation (U.S. Department of Education, 2002). Yet, their support comes at a price. Now, accountability and testing have reached our preschools. The inability to separate from a system that is accomplishing objectives appropriate for older children is a legitimate fallacy in the law. This has manifest itself in

the continual testing of young children, as well as rewards or punishments based upon the performance of students. While few would disagree with the optimism and ideals of the bill, it has been met with unintended consequences (Sunderman & Kim, 2004).

Educators now feel extreme pressure to quantify every piece of growth in students. In an attempt to check off skills, exploration and discovery have been lost.

Serving Preschool Children Under Title 1, a document published by the United States

Department of Education (U.S. Department of Education, 2004) to clarify NCLB states that foundational skills should be established through enjoyable and constructive play.

Yet, pressure to achieve at a higher level often pushes this statement aside. Pieces of knowledge are gained. But, the pieces do not fit back together to make a greater whole picture.

Through play, children once gained the emergent literacy essential for success in our society (Paley, 2004). NCLB mandates that reading programs must be "scientifically- based," and students must be assessed to achieve at a pre-determined level. This mandate has led to the promotion of literacy programs that are inappropriate for young children. This places many of the commercial programs at odds with child development experts. Curriculum is fragmented and a heavy reliance upon a "hierarchy of skills" seems to de-contextualize literacy. Increasing scores have come at the expense of looking towards text for something meaningful. It disregards all other intelligences and seems especially harmful to the children who are "literacy deprived;" the same children the NCLB is intended to help the most (Whitfield, 2005). Those educators who teach children at even the youngest age feel more and more pressure; the amount of

emergent literacy in the form of oral language in the classroom decreases. Time is spent on academic concepts instead of building and facilitating language growth (Kirkland & Patterson, 2005). Even assessments measuring young children's language are confined to vocabulary and letter names (NICHD, 2005).

In literacy education, it has been recognized that early intervention provides the most effective and efficient means of ensuring literacy success (Justice & Pullen, 2003; Snow, Burns, & Griffin, 1998; U.S. Department of Education, 2002). Oral language skills are a critical aspect of emergent literacy (Poe, Burchinal, & Roberts, 2004; Polloway, Smith, & Miller, 2004) Children who have a well developed sense of narrative are better able to make the shift between oral language and print (Gerber, 1993; Polloway et al., 2004). From the moment they engage in dramatic play, story development also begins (Fahey & Reid, 2000; McCarthey, 2003). Piaget's work supported the use of play as he recognized the importance of learners "using their sensory experiences, object manipulations, and physical props to make sense of their worlds." (1962, page 215) Yet, as a result of the increase in high stakes testing and the narrowing of curriculum, dramatic play has been eliminated from many classrooms (Kirkland & Patterson, 2005; Neuman & Roskos, 2005) Although research has examined the relationship between play and language, the potential impact upon classroom instruction has not yet been adequately explored.

Statement of Problem

Children develop language through interaction. Narratives are one type of language. Developing narratives, the ability to tell a story containing common story

grammar, is an essential aspect of oral language development (Fahey & Reid, 2000; Poe et al., 2004; Polloway et al., 2004). Oral language development, as represented through dramatic play, is speculated to increase literacy (Justice & Pullen, 2003; Kaderavek & Sulzby, 2000). The primary focus of these investigations was a comparison of the measure of overall language ability at the pretest and posttest stage. The means of the groups also were quantitatively analyzed for differences. Comparisons of the qualitative aspects, including the occurrence of specific narrative factors, also were explored. If narratives and dramatic play affect language ability, a difference will occur between the two groups.

Purpose of the Study

The purpose of this study was to explore and evaluate the performance of oral language and narrative ability as a result of play. A group of 20 students participated in two comparable 4 year old classrooms.

Research Questions

For the purposes of this study, the following research questions were explored:

- 1. Does dramatic play positively influence overall language ability?
- 2. Does dramatic play increase the production of oral narratives?
- 3. Does dramatic play increase a child's narrative language ability?
- 4. Does dramatic ability increase the complexity of narrative?

Definition of Terms

For the purposes of this study, the following definitions were used:

- 1. *Language*-a tool of communication, telling information and intentions (Nilsen & Nilsen, 1978).
- 2. Emergent Literacy-precursor knowledge about reading and writing that children acquire prior to conventional literacy instruction (Justice & Pullen, 2003).
- 3. *Play*-a universal activity that provides satisfaction while giving opportunities for sensory experiences and manipulation (Tee, 2004).
- 4. *Dramatic Play*-pretend play that uses toys or other materials to stand for something that is not present (Pugmire-Stoy, 1992).
- 5. *Narrative*-a way of understanding and organizing through describing events or telling stories (Fahey & Reid, 2000).
- 6. *Discourse*-two or more organized sentences in the form of conversation, narrative or exposition (Fahey & Reid, 2000).
- 7. *Story grammar*-tool for organizing story structure including characters, events, setting, problem resolution (Allington, 2001).
 - 8. Journal-children's written interpretation and drawing of the story.

Assumptions

The participants chosen for this study were assumed to be representative of the general population for the category they represented. The tasks administered and behaviors observed were assumed to be representative of the language abilities and the dramatic play behaviors in young children, ages 4 and 5.

Limitations

Due to the (a) small sample size and (b) the length of the study, generalizations of the results of this investigation to a larger preschool population must be guarded.

Significance of the Study

This study was undertaken to strengthen the knowledge base in the relationship between dramatic play and literacy. Should dramatic play effect oral language ability, children that had this element added to their classroom would have higher language scores. The children's ability to recall story grammar also would increase. Information gained through both quantitative and qualitative measure of language may lead to significant implications for the use of dramatic play as a literacy tool in the classroom.

Summary

Literacy and play are both widely researched topics. However, the role oral language development plays in literacy is becoming increasingly recognized. Therefore, exploring the relationship between the variables through both quantitative and qualitative measures may provide greater insight into their relationship.

The objective of this study was to closely compare and analyze the qualitative and quantitative aspects of narrative language and dramatic play in a sample of 20 children ages 4 and 5. Information gained through this study may have implications for the use of dramatic play as a means to increase narrative ability and, thereby, literacy success.

In Chapter I, the study was introduced, initially by providing a rationale and a statement of the problem. Then, the purpose of the study and the research questions were

identified, followed by sections on limitations, assumptions, and the definitions of the		
terms used.		
	the second mathematical appearance of the attribute of the second	
	the fill first in this popular because it is the real or heat in but in	
	The state of the companies of the state of t	
	and the second distriction of the second of the second sec	

CHAPTER II

REVIEW OF LITERATURE

Introduction

Chapter II is a review of the literature related to dramatic play and language development. The first section discusses play. It details a definition of the characteristics of play. The review of literature briefly details types of play. Play, more specifically symbolic play, is introduced first in this paper because it is the factor that is being manipulated. For the purposes of this research symbolic and dramatic play are terms used interchangeably. A brief section lists the numerous developmental benefits of play. Following play, information is presented on the theories relevant to early childhood. The next section discusses language; language is the basis of literacy. These aspects of language include oral language and narratives. The final section is a review of the components that support literacy. This includes early intervention, emergent literacy, and reading comprehension.

For this review of literature on the effect of dramatic play upon children's narratives, searches were conducted through the Educational Resources Information

Center (ERIC), through Psyc INFO, and internet articles and journals obtained through

Texas Woman's University and local libraries. This review of literature includes studies and seminars dating back from 1960 to the present. The keywords utilized for searches in

this review included, but are not limited to: (a) play, (b) literacy, (c) early intervention, (d) narratives, (e) young children, (f) NCLB, (g) story grammar, (h) language, (i) reading, (j) dramatic play, and (k) symbolic play. These terms also were used in combination to narrow the search and ensure the inclusion of information relevant to this review.

Play

Characteristics of Play

Learning is not linear. It is largely determined by what children want to know and when (VanHoorn, Scales, Nourot, & Alward, 1999). Play is a laboratory where young children can experience increases in intellect, language, and their social abilities (Paley, 2004). Through the active interaction, children reach optimal learning. Play has an important role in child development and should remain a standard feature of programs for young children (Enz & Christie, 1993). According to Isenberg and Jalongo (2001), play contains five essential elements. These elements listed form the foundational definition of play used in this study.

Play is voluntary and intrinsically motivated. A child's instinct is to play, and, upon entering a situation, it is their natural response. Play does not need to be forced nor does it require coercion. The children had the option of participation and could move in and out of the center freely.

The second element states that play is symbolic and meaningful. Children utilize objects to represent other things during their play. For example, a block could be telephone or a piece of food. This symbolic representation is the same skills necessary to reading-knowing symbols represent sounds and words. During this study, children

directed and initiated the activity. The third element defines play as actively involving its players. Children are able to explore and investigate. They construct their story line and become engaged.

Play is rule bound. These rules, whether stated or implied, govern behavior.

Children assign and accept roles. For example, "you be the mom and I'll be the dad."

The rules may change in mid-play, but they always exist in some form.

The final element states the play is pleasurable. Children enjoy play. Children receive a positive, intrinsic reward. Defined as an "eager engagement in pleasurable effort" (Pugmire-Stoy, 1992, p. 4), play is positive.

Play is universal. Most creatures engage in some form of play. However, no other creature participates in play at the level humans uniquely approach this activity (VanHoorn et al., 1999). Children in every culture and geographical location engage in play. Only the culturally specific details distinguish one child's play from another. *Types of Play*

Play evolves in many different forms. Piaget (1962) lists four types of cognitive play. These are functional play from birth, where new skills are acquired through repetition of movements. One example of this play would include the game of peek-a-boo where a child will repeatedly pull the blanket off an adult and laugh as he or she is learning about object permanence. The second type of play is symbolic. Other terms for this play include pretend, dramatic, socio-dramatic, and/or fantasy play. This lasts from

approximately 2 to 7 years of age. Dramatic play is the primary focus of the current research. The other two types of play include constructive play where children make their own creations and games with rules, where activities are pre-determined. *Symbolic Play*

This study focuses on symbolic play. Symbolic play involves mental representation, to pretend one object is another or to take on make-believe. More specifically, dramatic play, a highly developed form of symbolic play, usually becomes more prominent between 3 to 5 years of age (Musthafa, 2001). This form of symbolic play contains all the elements described by Isenberg and Jalongo (2001). It also has props, a plot, and roles. Dramatic play involves the pretend themes and the negotiation of roles together. This research utilized a socio-dramatic play center developed based upon the literacy theme.

Research supports the benefits of this type of symbolic play. Saltz, Dixon, and Johnson (1977) completed a 3-year-study of children from low socioeconomic backgrounds. There were 54, 45, and 47 children, respectively, each of the 3 years. The children ranged in age from 3 to 4 ½ years. These participants were equally distributed by age and scores on the Peabody Picture Vocabulary Test (PPVT). Then, they were assigned to one of four different play groups. One classroom used thematic-fantasy play where there was both fantasy and play. One room had fantasy discussion in which they discussed the fairy tale but did not re-enact it. Another had socio-dramatic play where they used play without fantasy. The fourth was a control group with typical preschool

activities such as cutting, categorizing, etc. Children received 15 minutes a day, Monday, Wednesday, and Friday being trained in their play condition. Multiple assessments were given including the PPVT, pretest and posttest. Another assessment included the Story Interpretation Test (SIT) designed specifically for this research. This test asked children to tell a story based on picture cards. Other subtests included fantasy judgment, sequential memory, and measures of impulse control. Children participating in the thematic play had mean scores substantially higher in all areas, while those trained in the socio-dramatic play saw the second greatest improvement. Scores indicated that experimental children had greater sequencing, story comprehension, and impulse control.

Jeffrey Dansky (1980) followed this study by researching socio-dramatic play in relation to exploratory training or free play. He studied 36 low-SES preschoolers and found that socio-dramatic play training increased activity, comprehension, and imaginativeness. These were multiple assessment measures including story sequencing, narrative verbalization, and vocabulary. The quality and quantity of socio-dramatic play increased. This effect was not felt in the free play group. One possible explanation supported the theory that disadvantaged children do not know how to play, and, therefore, their free play is not playful. However, when children without the experience of play are trained in "how to play," the effects are felt.

It is important to note the impact of teacher facilitated play. Not all children have the life experiences which translate into understanding how to play. Teachers can serve a critical role in furthering a child's play.

Raban and Coates (2004) studied a Preschool Literacy Project in an Australian state. This study focused heavily on the teachers but also had over 901 student participants. There were three stages in the research study, the first included gathering information about the teacher's early literacy experiences. In the second stage, teachers were trained, goals were set and they were evaluated. At stage three, teachers were surveyed again for their understanding of early literacy. The children also were followed into the primary school and assessments were collected. Results indicated that the children who had attended a literacy preschool had higher scores on all assessments including the Record of Oral Language, Letter Identification, Concepts About Print, Dictation Task, Word Test, Writing Vocabulary, and Text Level. They concluded that two assumptions were necessary for literacy success. The first is access to appropriate literacy materials. The second assumption is that adults can interact effectively with the children to facilitate authentic reading and writing. These are necessary for play to be the most effective.

Christie and Enz (1992) assumed literacy play would assist in the development of reading and pre-reading skills in young children. Their research focused on distinguishing between the effects of literacy materials and that of adult interaction. The

participants in this study included seven preschool children as well as a lead teacher, two regular teachers, and a teacher assistant. These participants were videotaped during two 1 hour play settings. Information was transcribed and coded based upon the types of interactions the children and teachers had. While the materials alone did produce more occurrences of literacy play, the greatest effect was found when adults became involved in assisting children with these materials, thereby providing further evidence for the impact adults have on children's play.

Accomplishments of Play

Play has an important role in development. Historically, it has been a standard feature of preschool and kindergarten programs for years (Enz & Christie, 1993). First, play provides the opportunity for children to explore their world. Play also allows children to negotiate their world. Finally, play enables children to add meaning to their world.

According to the position statement from the National Association for the Education of Young Children (NAEYC), children explore their world through play. Play assists in and mirrors normal child development. As this occurs, growth in motor skills and communication increase (Pugmire-Stoy, 1992). Play does this by allowing children to utilize their senses to investigate the world. They can pretend to stir and smell food or sweep the floor. It is the critical groundwork for later development (Tee, 2004). When children are at play, they may take note of the multiple aspects of their surroundings. The child could be sitting in a tent in the camping center pretending to hear the sound of the

rain and the smell the dampness of the wet leaves. They see the object, hear it, attempt to taste it, and smell the object; it is all to take in information regarding it. The information they perceive then processes in their brain connecting what they know to what they are currently experiencing. This teaches routines that maybe typical within the environment, helping the children make generalizations (Hanline, 1999).

Play also allows children to negotiate their world. During play, children take in great amounts of information. Paley (2004) contends that play enables children to ask "what-if" with information. The children are able to enter into a fantasy world that allows them to negotiate multiple roles (Pugmire-Stoy, 1992). Through taking risks and practicing roles, children "mediate their learning" by using play (Vygotsky, p. 228 as cited in Moll, 1990). Children can practice in hypothetical situations; this agrees well with Bruner (1983). He thought stating language mastered in playful activities is devoid of the consequences of errors. Therefore, children explore without fear of recourse.

As children are able to use play to explore and negotiate their world, they are adding meaning to it. Children make sense of complicated activities and interactions through play. Play is a scaffold by which neural development in increased (Enz & Christie, 1993). Play allows for choices that interest the child and, therefore, provides them with meaningful curriculum (VanHoorn et al., 1999). Through the interaction and repetition, language and literacy develop (Neuman & Roskos, 2005). As this development occurs, children create and manipulate symbols. As this symbolic play is transferred, children may begin by using objects similar to what they are representing or

move on to those more abstract (Hanline, 1999). Symbolic play lends itself to flexibility in thinking.

Theories Behind Play

The following section will discuss the theoretical basis for this research. The framework for this study falls under constructivist theory. The first section will give general information regarding constructivism. Then, two developmental theorists, Jean Piaget and Lev Vygotsky, will be compared as to their similarities and differences regarding play.

Constructivist Theory

Historical figures in the field of constructivist theory include John Dewey, Jerome Bruner, and Jean Piaget. The constructivist's premise is that learning is an active process. Learners construct new ideas based upon their past knowledge (Bruner, 1983). Knowledge is not simply acquiring information, but is based upon what the child brings to the situation (VanHoorn et al., 1999). Conflict and problem solving are essential to learning. These allow for children to modify their current schemas to fit new ideas.

Constructivists and all developmental psychologists agree that play is necessary for cognitive growth (Poe et al., 2004). Play facilitates the accumulation of information. Knowledge comes from the information and background an individual brings to a situation. Play, or the lack thereof, not only has influences upon the culture, but also upon the individual child. The necessity of play to learning and literacy forms the design of this study.

The same is true of language development. Language is built upon prior knowledge and increases through the active process of utilizing it. Therefore, this research design provided an environment for students to use their prior knowledge to retell and build upon their stories. Through practice and the expansion of current schemas their language development will increase.

Jean Piaget

Piaget was a cognitive theorist who focused on the internal development of the child. He believed that through the process of assimilation and accommodation children create their own knowledge. Assimilation is the process of adding new elements to existing thought patterns. This is fitting practice into theory as it exists. Accommodation is when thinking structures or patterns are changed to make new experiences fit (Piaget, 1962). Therefore, accommodation is fitting theory into practice. Growth occurs as there is tension between accommodation and assimilation. One example where play does this is through pretend, which imposes a schema; however, what they are imitating may be accommodation. Play helps young children organize their learning. Imitation and pretend play are critical aspects of cognitive development Piaget divided play into four separate categories; one of which is make believe or pretend play. This involves dramatic, fantasy, and superhero play (Pugmire-Stoy, 1992).

Lev Vygotsky

Lev Vygotsky was a lecturer for teacher training who never received formal training in psychology. Yet, he worked during a time period when opportunities for

change were abundant. Vygotsky's key was social interactions. Conceptual understanding was shaped by knowledge gained in the social world. "Children grow into the intellectual life" (p. 48) through experiences, and they internalize self-regulatory speech through play (Vygotsky as cited in Whitfield, 2005). Play is able to merge objects with the meaning of the objects. "Play mediates children's learning" (Vygotsky as cited in Moll, 1990, p.228). It allows for transition between both the concrete and abstract worlds. Vygotsky established the term "Zone of Proximal Development" in regards to cognitive development and play. This assumes there are levels at which children can function independently, and others where children can be successful with adult participation. The zone of proximal development implies that one establishes not only what children can do successfully, but also where their needs are. It becomes a leading factor in development as a result of the connections made and the ability of children to go beyond themselves with assistance. This allows children to safely build knowledge and skills (Vygotsky, as cited in Moll, 1990).

Language plays a central role in learning. As children play and interact, the social experience is internalized. Then, the social language shapes the language of individual (Vygotsky as cited in Moll, 1990). This research utilizes a story theme that incorporates props into the dramatic play center to facilitate language development and social interactions.

Although Piaget and Vygotsky were both cognitive theorists, their focus differed. While Piaget was primarily interested in the cognitive development, Vygotsky focused on the social aspect. Both agreed that adults think differently than children. Each theorist agreed that play was essential for cognitive development and language was a critical aspect for both cognitive and social development. These ideas form the basis of this research.

Language

Oral Language

National Institute of Child Health and Human Development Study of Early Child Care and Youth Development (NICHD) seeks to clarify the term language. A team from the NICHD studied 1,137 children from age 3 through third grade. These researchers designed a longitudinal model to distinguish between vocabulary and more comprehensive language, as well as to determine the role oral language has in reading. At the age of 36 months, children were given the Reynell Developmental Language Scale. This test measured both expressive language and verbal comprehension; the scores were averaged for this study. Then, at 54 months, children were given multiple assessments including the Preschool Language Scale (PLS), a broad measure of language, the Woodcock- Johnson Picture Vocabulary (W-J, PV), studying vocabulary, the WJ test of Incomplete Words, measuring phonological awareness and, finally, the WJ letter-word subtest, providing a general understanding of reading readiness. At first

grade, the same assessments were given with the exception of the Preschool Language Scale. The final assessment in third grade included the passage comprehension of the Woodcock Johnson Achievement. Through these various assessments, the research sought to delineate between aspects of reading, mainly word recognition and reading comprehension, and aspects of oral language, broad vocabulary, and a more comprehensive view.

Researchers found that oral language, at 36 months, directly related to reading in third grade, independent of phonological skills and vocabulary. Oral language skills at 54 months accurately predict reading comprehension. Building oral language and language proficiency is one of the best predictors of success (Pugmire-Stoy, 1992). Although oral language and language proficiency are connected to literacy, this research indicated that the broad definition of oral language was more indicative of reading achievement than vocabulary alone (NICHD, 2005).

Oral language is the foundation for the development of literacy. Children progress through relatively the same stages to acquire language. A child begins babbling, uttering syllables, then single words, and the discourse then begins to lengthen. The cognitive theory of language acquisition relies on the child to construct cognitive operations which then cause language to emerge. The development of these operations begins shortly after birth as children explore and interact with their environment (Gerber, 1993).

Children who have inadequate oral language skills may be unprepared for school. Therefore, their risk of reading difficulties or language delays as they encounter formal literacy instruction is high (Justice, Invernizzi, & Meier, 2002). Failure to address the poor language skills can result in an increasing number of obstacles as the child becomes older.

Oral language skills are critical in emergent literacy (Poe, et al., 2004; Polloway, et al., 2004). Children need the repetition and the practice in conversation that leads them to understand how to tell a story and its necessary elements. The cost of eliminating oral language from the classroom is significant (Kirland & Patterson, 2005). As the relationship between language and literacy is reciprocal, the ability and knowledge in one increases, the other benefits also (Justice et al., 2002)

Play stimulates language development and provides purposeful practice which is the key to proficiency in language. In an effort to document the value of play, a classroom teacher completed a study in 1992 of 22 children, ages 6 and 7. These children were videotaped during the self-selection portion, or choice centers, part of their day. This occurred each school day from October through March. Results confirmed that play provided a low risk way to practice concepts and their oral language amongst the children flourished (Pickett, 2002).

Environments that Facilitate Language

Based on the assimilation theory by Piaget, children take new information and link it to information or knowledge that they already have. They gain this new

information through sensory experiences and props as they try to gain meaning from the world. Therefore, their classroom environment is critical. A print rich classroom with activities that provide opportunities for retelling and language manipulation such as flannel boards, puppets, and dress up clothes facilitates language. These props are critical in making play not only more purposeful but also more connected (Davies, Shanks, & Davies, 2004; Neuman & Roskos, 1990). When children are connected into a task, they are engaged. Seidel (2002) found that children choose centers that have more hands-on activities, such as math and science centers. Seidel increased the frequency of visits to the dramatic play center by adding props.

In 2004, five kindergarten teachers were studied over a period of 5 months. Their interactions were videotaped and transcribed. The teachers' interactions were coded to determine themes for their "literacy style." Their interactions were categorized and conclusions were drawn regarding the data. Some of the roles teachers assumed included storyteller, monitor, discussion leader, and instructional guide. All of these roles could have some element of literacy within them. It was found that the opportunities for promoting literacy within the context of play were innumerable (Saracho, 2004).

Neuman and Roskos (1990) believed the environment impacted literacy. In their study, 37 children, ages 4 and 5, were divided into two classrooms. These classrooms were redesigned to enrich the play environment with literacy. Those who were exposed to a play environment using authentic print made gains in the area of literacy. Their

conclusion was that those children exposed to print during play seemed to have an advantage in literacy.

Narratives

Language is a tool which is used to communicate both information and intention (Nilsen & Nilsen, 1978). Children use language for this purpose during play. Meaning is given to actions and events through narratives. Narratives require a cognitive organization of content and predict literacy. Narratives are stories. Children progress through various stages of narrative. Initially, they simply label events. By the age of 2 years, many children can take on the role of the narrator (Gerber, 1993). Then, they learn to sequence or provide the sense of order a story should contain. Finally, children learn to chain these aspects together (Gerber, 1993). These three stages have been described by others as (a)thoughtful units, (b)coherence, and (c)cohesion.

Yet their ability to move through these stages is not straightforward, as McCarthey (2003) documented in a 3-year case study of her own son. Background information, familiarity, and interest all play a role in his stage on the narrative scale. He may have mastered one element while another was slowed in development. A "true" narrative, as defined by Polloway et al., (2004), contains a central theme, character, plot, setting, and a complete episode.

Children who have a well developed sense of narrative are better able to make the shift between oral language and print (Gerber, 1993; Polloway et al., 2004). Justice et al., (2002) studied children characterized as poor readers as of second grade. Almost one

half of these children were found to have deficits in their narrative comprehension. Their ability to understand a story as a complete unit containing different elements was compromised. The act of actively composing stories about life experiences is a significant step in the literacy process that is not fully understood (Gibson, 1989). The relationship between literacy and play is reciprocal. Books appear everywhere in play as children act upon familiar stories.

A qualitative study of five kindergarten classes found that the role of storyteller was one of the most prominent roles that teachers of young children have (Saracho, 2004). Stories lead to spontaneous play and often unintended retellings of the literature. Play is the precursor to grasping the concept of a story. Children may act out the steps necessary in making a cake, and, therefore, when they go to write or tell a story they understand the sequence of events (VanHoorn et al., 1999). On the same note, story dictation evolves naturally if the words are chosen by the child to reflect their life events or experiences and those words become their journal writing (Paley, 2004).

For young children, their pictures often tell their stories (Vygotsky as cited in Moll, 1990). A study was conducted with a group of 20 African American students in an urban community day care. These children were read different genres of stories and then asked to talk about the story. After this, the children were encouraged to write their own narratives and share them with the class. This occurred twice a week. Both video and audio taping were taken and examined for accuracy. The content of the storytelling events were analyzed for common themes. The researchers found these cultural

narratives were powerful and emergent literacy was enhanced in African American children through this process (Champion, Katz, Muldrow, & Dail, 1999).

Ashton-Warner (1963) stated "children's interest in each other is an enemy to education when we don't use it" (as quoted in Pickett, 2002, p. 19). This is especially true in the area of narrative language development. Stone and Christie (1996) studied 15 hours of free play in the home center of a kindergarten through second grade multi-age classroom. During this research, children spent 40% of the play engaged in literacy behaviors. Results indicated that the socio-dramatic play center facilitated literacy behaviors and literacy collaboration. The research showed informal social contexts are effective in developing these behaviors.

From the moment children begin to engage in dramatic play, story development has also begun (Fahey & Reid, 2000; McCarthey, 2003). In a study comparing non-play, play and pretend play, 27 children, grades kindergarten through second, had the greatest amount of narrative in their pretend play. The data were collected in 15 hours of videotape over an 8 week period (Stone & Christie, 1996). Play leads to the development of narrative or a child's concept of story. In turn, narrative is necessary for literacy.

Literacy

Early Intervention

In literacy education, it has been recognized that early intervention provides the most effective and efficient means of ensuring literacy success (Justice & Pullen, 2003; Snow et al., 1998; U.S. Department of Education, 2002). Scarborough, Dobrich and

Hager (2001) found children who had received fewer literacy-related experiences scored poorer in reading achievement in second grade than the children who had literacy experiences. These literacy experiences included parents who engaged in less pleasure reading, less reading to and with their children. It also may include children choosing less solitary reading themselves. Children who are behind in third grade are likely never to catch up with their peers (Allington, 2001; Justice et al., 2002; Poe et al., 2004). Children who are behind in literacy are automatically marginalized by both peers and instructors (Pickett, 2002). There is a strangle hold on their learning. The "rich get richer" as those who are able to read gain more knowledge and information from the literature, and those who are cannot gain as much knowledge. Therefore, the gap becomes larger instead of smaller.

Emergent Literacy

The preschool years reveal a literacy that powerfully affects later instruction (NICHD, 2005). This has been termed "emergent literacy." Emergent literacy is what the child brings to the task of learning to read (Justice & Pullen, 2003). Emergent literacy recognizes that certain behaviors proceed and provide support for the development of conventional literacy. Some of these behaviors include background knowledge, understanding narratives, and recognizing print has meaning. It is the act of purposefully "making, interpreting and communicating meaning" that encompasses emergent literacy (Neuman & Roskos, 2005, p. 3).

In a longitudinal study of 77 African American children, Poe et al., (2004) sought to examine the relationship between literacy and language. The children were selected from nine center based childcare programs; children entered the study as infants at a mean age of 8.2 months. Children were tracked and parents were surveyed during the first couple of years. Then, children were administered the Clinical Evaluation of Language Fundamentals (CELF) as a measure of language on three separate occasions. These language assessments were administered in pre-K, at the end of kindergarten and at the end of second grade. During these same time periods, tests of phonemic knowledge and literacy also were conducted. This study suggests a direct relationship between language and reading at pre-kindergarten and second grade, independent of phonemic awareness. The results indicated that both language and phonemic knowledge are related to emergent literacy. Through focusing on children in childcare centers and following them across a multi-year time span, generalizations can be made. Children who participate in literacy rich environments in early childhood begin school with more advanced language skills; these skills predict better reading skills and are therefore critical. These children are able to read for meaning as well as decoding. Reading Comprehension

Children read for meaning. They appreciate and develop connections among themselves and the world (Allington, 2001). Children use their sensory experiences to add to their intellectual development (Tee, 2004). Reading comprehension is aided through the natural sequencing and problem solving that occurs in play (VanHoorn et al., 1999). For example, children may pretend to play doctor. They may check the symptoms of their "patient" and come up with a diagnosis. This may be a reenactment of literature they have been read about a doctor visit or about their own experiences at the doctor. Despite its source, this process enables children to solve problems, and to sequence events. Through dramatic play, mental reconstructions are made. This aids in comprehension and builds general cognitive skills (Rowe, 1996).

Play allows children to internalize conversations. They can problem solve and negotiate relationships (Whitfield, 2005). Vygotsky focused upon this aspect of play. Young children are not able to think abstractly, yet play allows them to practice hypothetical situations and "try" ideas. They merge meaning of objects with the objects themselves. Children often interact with one another reinacting life experiences. This type of peer play also facilitates friendships (Paley, 2004).

Rowe (1996) discussed how a shifted focus can lend theorists to view literacy research in ways that bring differing perspectives to the surface. An educational focus would study the emergent literacy, while the psychological focus would examine literacy processes, and the cognitive psychologist would lean towards comprehension. Rowe found that there was a direct link between book and play experiences. She completed two studies both focused on how preschoolers use literacy in their everyday lives. One study involved 16 children's preschool literacy experiences, and the other involved 4 years of her son's literacy learning. Children were videotaped and multiple pieces of data were collected and themes were established using a constant comparative method of

analysis. Children create linkages between dramatic play and literacy through play as they use their whole body to express feelings.

Reading is distinguishing symbols. Play is tied to the representational, symbolic thought that can occur as early as 18 months. The symbols used in play parallel the language development that occurs in literacy (Pellegrini & Galda, 1993). Play allows for children to transform objects into make believe people or events (Hanline, 1999). Saltz et al. (1977) established four experimental conditions. Disadvantaged preschool children were provided training in various levels of play 15 minutes a day, 3 days a week, for the majority of the school year. Results indicated a positive effect on IQ, especially in the area of story interpretation and sequential memory. Children began to see relationships between events instead of viewing events as unrelated.

Summary

For children there is a natural link created between literacy and dramatic play.

Book and play experiences are directly connected (Rowe, 1996). Play has certain constant characteristics including being symbolic, pleasurable, and universal. Dramatic play was the focus of this research. This "pretend play" impacts literacy learning.

Meaning proceeds language. Oral language proceeds written language. Play adds to each of these areas. Play increases utterances in conversation. The movement of play aids in memory. Children who have experience in dramatic play are better able to tell a story. They emerge with better general representational skills. Through repetition and

CHAPTER III

METHODOLOGY

Purpose of the Study

The purpose of this study was to compare the performance of two classes of children, one receiving quality instruction and the other receiving the same quality instruct with an added variable of socio-dramatic play. Three major components were compared: (a) increase in overall language development using the Clinical Evaluation of Language Fundamentals-Preschool (CELF-Preschool), (b) frequency of story elements uttered within the dramatic play sessions, and (c) the frequency of story elements dictated through journaling. The study was both qualitative and quantitative in nature and is primarily designed to compare how socio-dramatic play, as the independent variable, effects language development.

Participants

The participants in this study included 20 children. These children reside in the greater Fort Worth area and are attending Little Sprouts Preschool during the 2005-2006 school year. Little Sprouts is a private, Christian school located in Keller, Texas and serving children ages 1 through Kindergarten. The children participating in the study ranged from age 4 to 5 with the mean age for each class being 4 years 8 months of age for class A and 4 years 8 months of age for class B. This age was determined at the Initial

assessment. One of the classrooms (A) had 10 children, including 6 boys and 4 girls.

The other classroom (B) contained 10 children, including 6 boys and 4 girls. All of the children's home language was English with one child in each class speaking or hearing a second language a small portion of the day at home.

There was one teacher in each classroom. The teacher in classroom A was a certified teacher for first through eighth grade. She had 3 years of classroom experience outside of the state of Texas. She has two children of her own, but had never been employed in a classroom of 4 year olds. She received 8 hours of preservice training.

The teacher in classroom B was not a certified teacher. This teacher had 3 full years of experience working as an assistant to a certified teacher in a 4 year old classroom. This experience occurred in a setting approximately 30 minutes from Little Sprouts Preschool. The teacher in classroom B has two children of her own. She was exempt from pre-service training but completed 15 hours of training throughout the 2005-2006 school year.

Setting

This study was conducted at Little Sprouts Preschool in Keller, Texas. Keller is a newly developed and continually growing area. Approximately 300 new families relocate within 3 miles of the school's location each month. Little Sprouts is a private, Christian school. Formal assessment to determine language was conducted in a small, quiet room. The remaining instruction and assessment took place in the child's existing pre-kindergarten classroom. Each classroom had 10 children participating in the study.

There was one teacher in each classroom full time and an assistant who came in to assist in the journal writing. Both classrooms were located in portable buildings. One room was significantly larger than the other, but this did not seem to be a factor within the study.

Population and Sample

All the participants were selected from Little Sprouts Preschool. This was a sample of convenience. A letter explaining the study and asking for consent was provided to the parents of all the participants (see Appendix A). The parents were then given a demographic questionnaire (see Appendix B). This questionnaire was used to assess age. Parents were asked to choose whether their child was 4 or 5 years of age. In class A, 8 children were 4 years of age and two were 5 years of age. In classroom B, seven children were 4 years of age and three children were five years of age. Table 1 gives a summary of these results.

Table 1

Demographics of Participant

1.5	Classroom A	Classroom B
Gender		
Female	4	4
Male	6	6
Ethnicity		
European American	8	8
Hispanic American	0	2
African American	0	0
Other	2	0
	of the state? The parties	
Age (in years)	e:	
4-3 to 4-6	in a minute 1 and only	2
4-7 to 4-10	6	3
4-11 to 5-2	2	aldren 4 mense
5-3 to 5-7	1	1
1900	mini University in collection of	

Both of the rooms had the same gender demographic. Both classroom A and B contained four girls and six boys.

The ethnicity of the classrooms was similar. Eight of the children in each class were self-reported European American. Classroom A had two children listed as other, one Asian and one Pacific American. Classroom B had two children listed as Hispanic American.

All the children spoke English in their homes. None of the children were reported to speak a second language, although some may have heard another language. One child in classroom A was currently enrolled in a speech therapy program at the time of the research. Past experience and involvement in language or other therapeutic programs

was elicited. One of child in classroom A had been released from a speech and language program for mastering the necessary age appropriate skills. Each of the classrooms reported multiple siblings. Classroom A had four younger and six older siblings. Classroom B had four younger and 11 older siblings.

Teacher Training

This study involved the use of two classroom teachers. Both teachers were experienced in working with children. These individuals met with the primary investigator to discuss the design of the study. The primary purpose of the meeting was to discuss procedures. Both teachers connected the story to prior knowledge for their children. They ask the children questions and elicit the children's background knowledge. Then, both teachers read the same book to their students. Each was provided with a list of the literature for each week of the study (see appendix C). An example of a story grammar lesson by Richard Allington was shown to the teachers. It visually asks the children to remember the characters, setting, plot, and conclusion.

Individually, one of the teachers was given the props to go in the fantasy-theme play centers and instructions on how to initially facilitate their use. The children attended school from 9 a.m. to 2:30 p.m. They had a language arts and centers block which lasted approximately 90 minutes in the morning. This was the time the dramatic play center was open and the videotaping occurred.

At the end of the school day, each classroom completed a journal writing about the story. The teachers in each class asked each child to tell about their story after they have completed it. Teachers were instructed to record the child's answer verbatim on the journal page. After this training is completed, the examiner will carry out an entire sample lesson in each of the classrooms with the teacher observing and answering any questions that are still unclear.

Measures

Instrumentation

The Clinical Evaluation of Language Fundamentals-Preschool (CELF-Preschool) was administered to all participants. This test is an untimed, individually administered multiple item test designed to "measure a broad range of expressive and receptive language skills in preschool children" (p. 6). It contained six subtests, three measuring receptive language including linguistic concepts, sentence structure, and basic concepts, as well as three measuring expressive language including recalling sentences in context, formulating labels, and word structure.

The CELF-Preschool was standardized on children ages 3 years to 6 years 11 months. The normative sample on which the standard scores were derived was representative of preschool students in the United States. Bias was minimalized. The sample of 800 children was stratified for age with 12.5% of the sample coming from each age range from 3 years to 6 years 11 months. The normative sample had an equal sample of male and female students 400 of each. The geographic region included 19.2% from the northeast, 24.5% from the north central, 33% from the south, and 23.3% from the west. and used mothers' educational levels as the socio-economic variable.

Administration time for CELF-Preschool ranges from 30-45 minutes, depending on the child's age and cooperation level. Administration was completed by a certified diagnostician familiar with the test. All subtests have trial items that allow the examiner to teach the task. Scoring is sufficiently explained in the examiner's booklet.

Internal consistency, test-retest reliability and interrater reliability are acceptable, ranging from r = .30 to r = .97. Correlations between the CELF-Preschool and the Preschool Language Scale-3 are robust, from r = .73 to r = .90 (Mental Measurement Yearbook, 2005)

For the purposes of this study, this test was used to provide a standardized baseline score to determine discrepancies between the two groups' performance at the beginning of the study. It was then repeated at the end of the study to determine growth and comparison between groups.

Observations

The verbal statements made by the children receiving the dramatic play intervention were recorded using a video camera (Sony HandyCam 560x). The videos were reviewed and coded using a matrix (see appendix D), containing common elements of story grammar. This matrix was developed through a revision of work done by several researchers. Allington's (2001) work in *What Struggling Readers Need* was taken and compared to the work on story grammar by Fahey and Reid (2000) as well as stages of narrative development by Gerber (1993). This matrix was then reviewed by peers knowledgeable in literacy development and testing, revised, and reviewed again. The

categories were as follows: character, setting, beginning, middle, end, sequence, and connectedness. A distinction was made between basic story structure and any elaboration given for each of the various elements.

Journals

Every child in each classroom also was asked to journal about each story at the end of the school day. Each child then individually dictated to the teacher what his or her journal was about. The teacher recorded these statements verbatim. These journal entries also were coded using the same method and form as in the observations.

Design and Procedure

School and Parent Permission

The Little Sprouts Preschool administrator was contacted to ensure permission to collect data and provided with forms that included a description of purpose, procedures, possible risks, and methods taken to ensure confidentiality (see Appendix E). Parents of the participants in the study also were asked to sign a consent form. This form included information regarding the purpose, procedures, possible risks of the study as well as methods taken to ensure confidentiality.

Questionnaire

Upon receiving the parental consent forms, a questionnaire was sent home with all participating students. Parents were asked to complete and return this form, containing demographic information, within 3 days. Upon return of this questionnaire

the participants were assigned a number and all their work was then coded with that number to protect confidentiality.

Testing

Formal testing was individually administered to each participant in the study using the CELF-Preschool. Each test administration took between 30-45 minutes and provided the examiner with a baseline language score. The CELF-Preschool was administered to each participant at the conclusion of this study. Mean scores for classes were compared to determine if the addition of dramatic play had increased language scores in relation to those who only received instruction in story grammar. Individual growth among participants in each class was also compared.

Teacher Training and Sample Lesson

Both teachers participating in the study met for formal training with the examiner. This training included all the elements that needed to be included in each classroom. The examiner later met separately with the teacher implementing the dramatic play to explain the procedures for this center, as well as to provide the materials needed. In addition, the examiner went into each classroom and taught a sample lesson. This included reading the story, completing the story grammar chart, and then having the children journal about the story. In the experimental group, it also included facilitating the introduction of the dramatic play center.

Teachers were given authentic literature that contained a well developed story structure and could be easily integrated into their thematic instruction. The experimental group also was given a box containing story props to go along with the book each week. *Videotaping*

A video camera was set up to record the actions in the dramatic play center.

These tapes were then transcribed and coded along with the observational matrix (see Appendix D). This was done once a week for each week of the study, providing approximately 12 hours of video. Three sessions of journal interactions also were taped to ensure accuracy in coding.

Journaling

Each participant completed a journal entry for every lesson. The participants dictated their thoughts, pictures, or words to their respective teacher. The teacher was asked to write the participant's thoughts verbatim. These were also coded using the same measure as the videotapes.

Duration of the Experiment

Research varies upon the amount of time necessary to see results from the intervention. Study ranged from 15 weeks to 25 weeks including Neuman and Roskos (1993) and Vukelich (1994). These studies, however, measured literacy and play in regards to print and print writing. Walker (1999) and Branscombe and Taylor (2000) both investigated play in terms of narrative development. Walker's (1999) study, was

carried out in a Head Start classroom, lasted 8 weeks; while Branscombe and Taylor's (2000) study, carried out in a kindergarten classroom, and lasted 8 months. This study was completed over a 9 week period. Dansky (1980) completed a study similar to the one the examiner has put forth. This study lasted 3 days a week for 3 weeks and showed positive effects for sequential memory and story recall.

Posttest

The CELF-Preschool was administered to each child at the conclusion of this study. Mean scores for classes were compared to determine if the addition of dramatic play had increased language scores in relation to those who only received instruction in story grammar. Individual growth among participants in each class was also compared.

Data Collection

Responses to formal assessments were recorded for each subject on an individual protocol according to their number. Scoring of the responses was done by the examiner according to standard procedures of each instrument administered.

The informal assessment data were collected through tape recordings and journal entries. These were each scored by the examiner using the observational matrix revised for this study and check using the video tape for accuracy. Commonalities among categories, groups, and scores were then handled descriptively.

CHAPTER IV

RESULTS

Purpose of the Study

The purpose of this study was to investigate the effect dramatic play had on language development. Grounded in constructivism, the theoretical framework for this study asserts that children actively build their own knowledge. Using a mixed design, this study was both qualitative and quantitative in nature. The research questions for this study specifically targeted various elements of language and comprehension measurable in 4-year-old and 5-year-old participants. Formal testing was conducted in a one-on-one setting. All the remaining data were collected from the participants, within their normal classroom activities. Only students within these two classrooms were invited to participate. For the purpose of this study, classroom A was the control class and classroom B was the experimental class. The findings focus on growth made among the participants as individuals as well as a comparison of growth between the groups. This chapter is organized by research questions. Each question is investigated and results are communicated.

Research Question One

1. Does dramatic play positively influence overall language ability?

This research question was measured using the Clinical Evaluation of Language Fundamentals for Preschool (CELF-Preschool). This assessment provides both a

receptive language score and an expressive language score. In addition, standard scores are given for each of the six subtests. Table 1 provides both the pretest and posttest standard scores for each of the receptive language subtests in classroom A. Table 2 provides both the pretest and posttest standard scores for each of the receptive language subtests in classroom B. Table 3 provides the expressive language pretest and posttest scores for classroom A and Table 4 provides the expressive scores for classroom B.

The data from the CELF-Preschool were analyzed using a one-way repeated measure analysis of variance (ANOVA) to compare scores prior to the intervention and following the intervention. Comparisons were made within the each of the groups over time. The means and standard deviations are presented in table 6. There was a significant effect for time in the experimental group [Wilks' Lambda= .95, F(1, 9)=.474, p<.05, a multivariate partial eta squared = .75]. The Wilks' Lambda was utilized as one of the most conservative and common effect groups.

Table 2

Receptive Subtest Standard Scores for Classroom A - Control

Participant Number	Linguistic Concepts	Linguistic Concepts Post-test	Basic Concepts	Basic Concepts Post-test	Sentence Structure	Sentence Structure Post-test	Total Receptive	Total Receptive Post-test
1	13	12	12	10	10	9	110	102
2	12	10	8	7	5	5	93	87
3	15	14	15	14	13	14	127	124
4	12	12	10	12	8	8	100	104
5	10	10	13	9	10	10	106	98
6	7	8	10	8	6	7	89	89
7	11	11	14	10	8	10	106	102
8	13	13	10	10	13	13	112	112
9	9	9	7	9	14	16	100	108
10	10	11	12	12	14	12	112	110

Table 3

Recentive Subtest Standard Scores for Classroom B - Experimental

Participant Number	Linguistic Concepts	Linguistic Concepts Post-test	Basic Concepts	Basic Concepts Post-test	Sentence Structure	Sentence Structure Post-test	Total Receptive	Total Recept Post-to	
1B	12	13	14	14	14	13	120		120
2B	17	17	13	15	13	13	127		134
3B	8	9	5	6	3	3	75		79
4B	9	9	10	10	7	7	95		95
5B	12	12	14	13	11	12	114		114
6B	12	12	10	14	13	13	110		118
7B	10	11	10	10	7	6	96		96
8B	10	11	14	14	8	8	104		106
9B	11	11	12	12	12	12	110		110
10B	3	4	5	5	5	5	69		71

The second state of the se

Table 4

Expressive Subtest Standard Scores for Classroom A -Control

Expressive S	ubtest Standar	d Scores for Cl	assroom A -Co	ontrol					
Participant Number	Recalling Concepts	Recalling Concepts Post-test	Labeling	Labeling Post-test	Word Structure	Word Structure Post-test	Total Expressive	Total Expressi Post-test	
1	12	12	13	12	10	9	110	106	
2	5	4	8	7	3	3	75	71	
3	15	16	13	12	12	13	120	122	
4	7	7	12	12	6	6	90	90	**
5	9	9	10	8	7	4	92	84	
6	11	11	9	10	7	7	94	96	
7	10	11	10	12	10	10	100	106	
8	10	10	14	14	10	10	108	108	
9 .	9	9	11	11	11	12	102	104	
10	10	10	8	8	7	7	90	90	

Table 5

Expressive Subtest Standard Scores for Classroom B - Experimenta

Participant Number	Recalling Sentences	Recall Senter Post-t	nces	Formulating Labels	Formul Labels Post-tes		Word Structure	Word Structure Post-test	Total Expressive	Total Expressive Post-test
1B	15	15		10	10	10	10		110	110
2B	16	16		15	15	14	14	2	130	130
3B	6	7		6	6	3	3		73	75
4B	6	7		7	7	3	3		75	77
5B	15	14		11	11	8	9		108	108
6B	8	10		13	13	10	12	,	102	110
7B	8	8		10	10	7	7		90	90
8B	8	8		12	12	8	8		96	96
9B	11	11		10	10	7	7		96	96
10B	5	6		4	4	3	3		67	69

Table 6

Mean Scores of Overall Receptive and Expressive Language on the CELF

	Classroom	A-control	Classroom B-ex	Classroom B-experimental		
	Mean	SD	Mean	SD		
			<u> </u>	-		
Receptive Language:						
Pretest	105.5	10.835	102	18.64		
Posttest	103.6	10.916	104.3	19.29		
Expressive Language:						
Pretest	98.1	12.72	94.7	19.33		
Posttest	97.7	14.52	96.1	19.03		

The CELF-Preschool provides both a receptive and an expressive language score. No significant difference was found in the receptive language scores of classroom A. The mean of the pretest was 105.5 and the mean of the posttest was 103.6 with an SD of 10.84 and 10.92. Classroom B did show significance in the overall receptive language scores with p = .041. The mean scores were 102 for the pretest with a standard deviation of 18.64, and 104.3 for the posttest with a standard deviation of 19.3. Their was a significant effect for time [Wilks Lambda=.614, F(1,9)=5.661, p<.041, a multivariate partial eta squared=.386].

Effect size is the name given to a group of statistics that measure the magnitude of a treatment effect. In many cases, effect size is a better measure of outcomes than a significance level. Unlike significance tests, effect size indices are independent of sample size (Cohen, 1988).

The expressive language scores for classroom A did not show significance with a p = .758. The mean for the pretest was 98.1 (SD = 12.7) and the posttest mean was 97.7 (SD = 14.5). While gain was noted in classroom B, the results were not statistically significant with p = .11. The mean scores for classroom B did increase from 94.7 to 96.1 and the SD was similar at 19.33 and 19.03. The significance and the effect size of the scores are shown in table 7.

Table 7

Analysis of Variance for Within Subjects Design for Receptive and Expressive CELFPreschool Scores

	Value	F	Hypothesis df	Error df	Significance	Parital Eta squared
Classroom A						
Receptive	.868	1.371	1	9	.272	.132
Expressive	.989	0.101	1	9	.758	.011
Classroom B						
Receptive	.614	5.661	1	9	.041	.386
Expressive	.742	3.128	1	9	.111	.258

The first subtest for classroom A was the linguistic subtest. No significance was found in this subtest as the p=.509 was not < .05. The mean scores were similar with the pretest score being 11.2 (SD = 2.3) and the posttest score being 11 (SD = 1.83). Classroom B did show significant gain on the linguistic subtest with a p = .015. The mean increase was from 10.4 (S.D. 3.57) to 10.9 (S.D. 3.32). There was a significant

effect for time [Wilks Lambda=.50, F(1,9)=9, p<.015, a multivariate partial eta squared=.50].

The basic concepts subtest for classroom A was another receptive measure of language administered. The p=.168 was not less than .05 and, therefore, not significant. The mean score decreased by 1 point from 11.1 (SD = 2.558) to 10.1 (SD = 2.079). No significance was observed in classroom B with a p=.217. The mean did increase from 10.7 to 11.3. The standard deviation was almost identical with a score of 3.4 and 3.5 for the pretest and posttest.

The sentence structure subtest measures the child's ability to comprehend oral directions and follow through with them. The significance level was p = .468. The mean score did increase from 10.1 (SD = 3.32) to 10.4 (SD = 3.37). In classroom B, p = .59 and was not significant. The mean scores were similar at 9.3 for the pretest score and 9.2 for the posttest score.

The recall subtest for classroom A showed no significance with a p value of .591. However, the mean score did increase from 9.8 (SD = 2.7) to 9.9 (SD = 3.14). In classroom B, the scores were not significant with a p = .168 but the mean did increase from 9.8 with an SD of 4.16 to 10.2 with an SD of 3.66.

Another expressive subtest measure is the labels subtest. No significance was found with a p = .591. The mean score decreased from 10.8 (SD = 2.15) to 10.6 (SD = 2.271) for classroom A. Classroom B had identical data points for the pretest and the posttest and could not be analyzed.

The final expressive subtest measured word structure. No significance was shown in classroom A with a p = .591. The mean scores decreased from 8.3 (SD = 2.75) and 8.1 (SD = 3.28). In classroom B the mean scores did increase from 7.3 (SD = 3.592) to 7.6 (SD = 3.836). No significance was noted with a p = .193.

Table 8 provides the statistics for each of the subtests using the Wilks' Lambda multivariate test for within subjects design.

Table 8

Analysis of Variance for Within Subjects Design on the CELF-Preschool Subtests

	Value	F	Hypothesis	Error	Significance	Partial
			df	df		Eta
						Squared
Classroom A						
Linguistic	.950	.47	1	9	.509	.050
Basic	.800	2.25	1	9	.168	.200
Sent. Structure	.940	.57	1	9	.468	.060
Recall	.967	.31	1	9	.591	.033
Labels	.967	.31	1	9	.591	.033
Word Structure	.967	.31	1	9	.591	.033
Classroom B	ir.					
Linguistic	.500	9.00	1	9	.015	.500
Basic	.836	1.76	1	9	.217	.164
Sent. Structure	.967	0.31	1	9	.591	.033
Recall	.800	2.25	1	9	.168	.200
Labels*						
Word Structure	.820	1.98	1	9	.193	.180

^{*}data points identical; no analysis could be run

Research Question Two

2. Does dramatic play increase the production of oral narratives?

The number of words each participant gave was recorded each week of the study for the entire 9 week period (see Appendix F). Table 9 provides the mean scores for both classroom A and classroom B.

Table 9

Mean Number of Words Analysis for Class A vs. Class B

	Class	N	Mean	Standard Deviation
Week 1	Class A	9	6.33	3.937
WCCK 1	Class B	10	6.50	5.855
Week 2	Class A	9	10.22	7.855
	Class B	10	6.20	3.584
Week 3	Class A	9	12.11	10.79
	Class B	9	5.22	2.167
Week 4	Class A	8	9.88	6.312
	Class B	10	6.80	3.584
Week 5	Class A	9	11.11	5.711
	Class B	10	5.70	2.751
Week 6	Class A	10	13.80	6.529
	Class B	9	4.33	2.062
Week 7	Class A	10	12.80	6.161
	Class B	10	6.30	2.751
Week 8	Class A	9	10.33	5.895
	Class B	10	8.50	3.567
Week 9	Class A	10	8.60	3.806
	Class B	10	10.70	4.923

These results shown in Table 9 are displayed graphically in Figure 1.

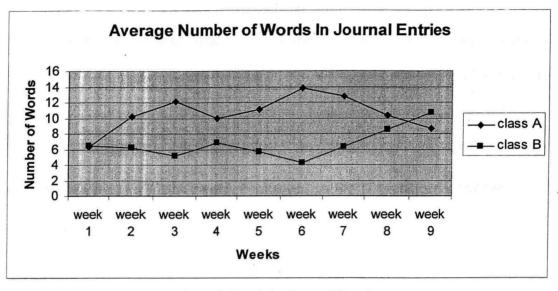


Figure 1. Average Number of Words in Journal Entries

A one-way between-group analysis of variance was conducted to explore the impact of play on the number of words dictated, as measured in the participant's journal entries. Subjects were divided into two groups, Classroom A and Classroom B. There was a statistical difference at the p < .05 level at week 3, week 5, week 6, and week 7. In week 3 the means were 12.11 and 5.22. During week 5, the means were 11.11 and 5.70. In week 6, the means were 13.80 and 4.33 and week 7 the means were 12.80 and 6.30. The effect size, calculated using a partial eta squared was large for each of the weeks also. Table 10 illustrates the mean scores, the significance, and the partial eta squared.

During week 1, the average number of words in journal entries was p = .944 and was not significant. In week 2, p = .162 and was not statistically significant at the p < .05 level. There was a significant when comparing the number of words in week 3, F(1,17)=3.528, p<.079, a multivariate partial eta squared=.181. In week 4,

p=.21 and was not significant. In each of the following 3 weeks, week 5, week 6 and week 7, the score p was significant. In week 5, F(1,17)=7.167, p<.016, a multivariate eta squared=.2966. Week 6, F(1,17)=17.281, p<.001, a multivariate eta squared=.504. Week 7 was significant a F(1,17)=9.281, p<.007, a multivariate eta squared=.34. Week 8 was not significant at p=.418 and week 9 average number of words in journals was not significant at p=.3.

Table 10
Significance Scores for the Number of Words Dictated in Journal Entries

	Mean Square	F	Significance	Partial Eta Squared
Week 1	.132	0.005	.944	.000
Week 2	76.634	2.139	.162	.112
Week 3	213.556	3.528	.079	.181
Week 4	42.025	1.705	.210	.096
Week 5	138.695	7.167	.016	.300
Week 6	424.505	17.281	.001	.504
Week 7	211.250	9.281	.007	.340
Week 8	15.921	0.690	.418	.039
Veek 9	22.050	1.139	.300	.060

3. Does dramatic play increase a child's written narrative?

This research question was examined using the journal entries. During their journaling the participants were asked to write about their stories. These developmental "field notes" provided information about the number of letters the children wrote independently. Appendix K shows the number of letters recorded by each child each week.

Table 11 provides the means and the standard deviation for each of the 9 weeks of the study.

Table 11

Number of Letters Recorded Each Week by the Participants

Week	Class	Mean	Standard Deviation	N
*** 1 4	CI.		2.1.10	
Week 1	Class A	3.11	3.140	9
	Class B	10.80	7.068	10
Week 2	Class A	10.33	9.937	9
	Class B	9.50	9.536	10
Week 3	Class A	8.22	8.318	. 9
W cok 5	Class B	9.78	8.363	9
Week 4	Class A	8.88	4.224	8
	Class B	17.50	15.780	10
Week 5	Class A	8.78	7.293	9
	Class B	14.60	7.560	10
Week 6	Class A	2.80	4.264	10
Week o	Class B	9.56	6.464	9
Week 7	Class A	11.00	11.790	10
WCCK /	Class B	11.60	6.132	10
	Class B	11.00	0.152	10
Week 8	Class A	10.11	11.240	. 9
	Class B	12.90	10.700	10
Week 9	Class A	12.70	17.190	10
	Class B	15.10	11.570	10

A one-way between-group analysis of variance was conducted to explore the impact of play on the number of letters written, as measured in the participant's journal entries. Subjects were divided into two groups, Classroom A and Classroom B. There

was a statistical difference at the p < .05 level at week 1 and week 6. During week 1 the means were 3.11 for classroom A and 10.80 for classroom B, week 6 has a mean of 2.80 and 9.56. The effect size is large using Cohen (1988) definition of large effect equaling to .14 or larger. Table 12 shows the mean scores, the significance and the partial eta squared.

Table 12
Significance Scores for the Number of Words Dictated in Journal Entries

Week	Mean Square	F	Significance	Partial Eta Squared
Week 1	280.040	9.008	.008	.350
Week 2	3.289	.035	.854	.002
Week 3	10.889	.157	.698	.010
Week 4	330.630	2.236	.154	.120
Week 5	160.570	2.904	.107	.150
Week 6	216.180	7.382	.015	.300
Week 7	1.800	.020	.888	.001
Week 8	36.843	.307	.587	.020
Week 9	28.800	.134	.718	.007

During week 1 there was a significant difference in the number of words dictated shown by F(1,17)=9.008, p<.008, a multivariate eta squared=.35. In week 2, p=.854 and was not statistically significant at the p<.05 level. During week 3 p=.698 and was

not significant. In week 4, p = .154 and was not significant. Week 5, p = .107 and also not significant. Week 6 was significant F(1,17)=7.382, p<.015, a multivariate eta squared=.303. Week 7 was not significant at p = .888. Week 8 was not significant at p = .587 and week 9 was not significant at p = .718.

Research Question Four

4. Does dramatic play increase the complexity of the child's narrative?

This research question was explored in two distinct parts. The first was to develop a matrix that contained common story elements and record each child's journal entry (see Appendix D). The four variables were compared. Table 13 provides the mean and the standard deviation for each of the four variables.

Table 13

Mean Variables Used on Coding Matrix

Variable	Group	Mean	Standard Deviation
Character	Class A	8.0	0.943
	Class B	7.4	1.578
Setting	Class A	2.3	1.767
	Class B	1.2	1.033
Sequence	Class A	3.3	1.494
	Class B	1.2	1.033
Connectedness	Class A	5.3	1.252
	Class B	6.2	2.348

Table 14 provides the means and the standard deviations for the story elements recorded in the journals each week for both classroom A and classroom B. There was significance between these variable [Wilks' Lambda=.035, F(3,16)=148.354, p<.001]. No significance was found between the two groups with p=.415. However, as noted in Figure 2, there was overall growth in both classrooms during the duration of the study.

Table 14

Mean Scores for the Story Elements for Classroom A and Classroom B

Week	Class	Mean	Standard Deviation	N
Week 1	Class A	1.67	1.211	6
TOOK 1	Class B	1.60	0.548	-+ - 5
Week 2	Class A	1.67	1.033	6
	Class B	1.60	1.140	5
Week 3	Class A	2.83	1.472	6
	Class B	1.80	0.837	5
Week 4	Class A	2.33	1.211	6
	Class B	2.00	0.707	5
Week 5	Class A	2.17	0.983	6
	Class B	2.60	1.140	5
Week 6	Class A	2.50	0.837	6
	Class B	2.00	0.707	5
Week 7	Class A	2.33	0.816	6
	Class B	2.60	0.548	5
Week 8	Class A	3.00	0.632	6
	Class B	2.20	0.447	5
Week 9	Class A	2.33	1.033	6
	Class B	2.80	0.837	5

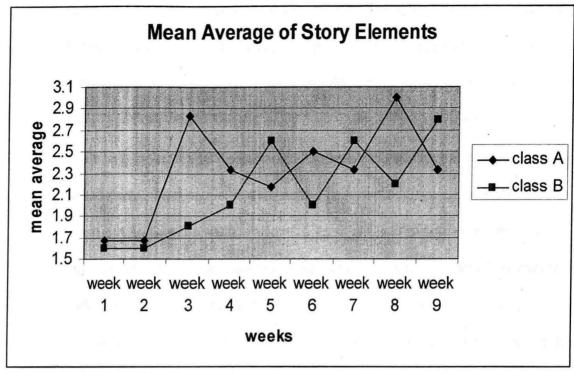


Figure 2. Mean Average of Story Elements

The second part of this research question provides qualitative information regarding the journal entries. Two children from each class, both the experimental and the control groups, were selected. These children were selected due to their effect upon the standardized data as recorded using the CELF-Preschool. The journal entries written by each of these students were analyzed to show development and themes common in early childhood writing.

Classroom A-Participant 2

Participant number 2 in classroom A was an outlier in the standardized data. The pretest scores provided a receptive language score of 93 and an expressive language score of 75. The posttest scores gave a receptive language score of 87 and an expressive

language score of 71. The participant was present for all nine journal entries. Using the developed matrix to code each entry, this participant correctly dictated the character throughout the study. The participant never made the setting, either in pictures or dictation, throughout the study. She did sporadically provide a sequence to events, in week 4 and week 8. Growth was measured in the participant's ability to create a logical and complete thought. This occurred consistently from week 5 through week 9.

Appendix G). In week 1 the participant provided an incomplete sentence, "a firefighter named David." She wrote a word, "HAT," unrelated to the dictation taken by the researcher. Another item of note was the string of letters written by the participant in the early weeks that did not relate to her oral story. The number of letters that correlated with sounds in her dictated sentence increased through the journal writing. The letters did, however, have a return sweep that the participant used when reading her story aloud. The participant's ability to dictate a complete thought improved throughout the course of this study. An example is "this is his tic tac toe" in week 2 as opposed to "Arthur got lost and he flicked on his flashlight" in week 8.

Classroom A-Participant 9

Participant number 9 in classroom A was not an outlier in the standardized data.

Yet, the participant showed unusual growth on the standardized measure during the 9

weeks of this study. The pretest scores provided a receptive language score of 100 and
an expressive language score of 102. The posttest scores gave a receptive language score

of 108 and an expressive language score of 104. The participant was present for eight of the nine journal entries.

During the first week of the study, the participant was reluctant to participate and drew a picture completely unrelated to the literature or theme. The participant's picture consisted of two stick people with hearts above them and the dictation read, "A girl wanted to have a boy to be her husband." Using the developed matrix to code each entry, this participant was not given credit for any of the four story elements. After week 1, the participant correctly identified the character from week 2 through week 9. She did sporadically provide a setting, in week 5, mentioning the "bear is sleeping in the chair" and in week 7 where "Emily Elizabeth and Clifford are at the circus." Growth was measured in the participant's ability to create a logical, complete thought. This occurred consistently from week 4 through week 9.

Throughout the 9 week study, various elements of her writing were noted (see Appendix H). This participant was able to orally communicate complete thoughts. Yet, she was very reluctant to match sounds to those thoughts in a written format. Although this continued throughout the study, she displayed the ability to match initial sounds. In week 3 this was demonstrated when the participant dictated, "Mom and me planting three flowers" and she wrote "M E M P 3 (backwards) F." Participant 9 also clearly demonstrated the return sweep when reading the story she had written aloud.

Classroom B-Participant 10

Participant number 10 in classroom B was an outlier in the standardized data.

The pretest scores provided a receptive language score of 69 and an expressive language score of 67. The posttest scores gave a receptive language score of 71 and an expressive language score of 69. The participant was present for eight of nine journal entries.

Using the developed matrix to code each entry, this participant scored a zero through the first 3 weeks of the study. For example, the first journal entry was pencil "scribbles" and when asked to tell about his picture the participant said "thunder". The participant did correctly dictate the character in week 5 through week 9 of the study. The participant provided the setting in week 9 dictating, "Arthur is going to bed in the tent." He never demonstrated an ability to sequence events. Growth was measured in the participant's ability to create a logical, complete thought. This occurred sporadically in week 5 through week 9.

Throughout the 9 week study, various elements of his writing were noted (see Appendix I). In week 1 the participant provided an unrelated, one-word response to the story, even when prompted. The participant demonstrated the ability to utilize initial sounds when prompted. One example of this, is the "G L" for grouchy ladybug, written in week 7. As a result of the writing stage of this participant, particular attention was given to the drawings. Substantial progression was made from the "scribbling" of week 1 and week 2 to simple representational figures seen in the final weeks of the study. The participant drew circles in the grass for the hungry caterpillar. A simple oval with an enormous number of "stick" legs was drawn for the ladybug and a "stick" person along with the sun was drawn for Arthur.

Participant number 4 in classroom B was an outlier in the standardized data. The pretest scores provided a receptive language score of 95 and an expressive language score of 75. The posttest scores gave a receptive language score of 95 and an expressive language score of 77. The participant was chosen to highlight as a result of the 20 point pretest split between her receptive and expressive language scores. The participant was present for all nine journal entries. Using the developed matrix to code each entry, this participant correctly dictated the character throughout every week of the study. The exception came in week 2 where she answered "he" and had to be prompted to give more information. The participant sporadically (at weeks 5, 7 and 9) provided the setting.

Growth was measured in her ability to dictate a sentence that related to the literature as a complete and logical thought. This was done consistently from week 5 through week 9.

Throughout the 9 week study, various elements of her writing were noted (see Appendix J). During week 1 the participant provided a single stick figure with words copied from the story grammar chart. In week 4, growth was noted as she wrote "RBT MA P" and dictated "rabbit made a pile" in relation to the story of *Tops and Bottoms*. Although her drawings did not provide more detail throughout the study, her expressive language utterances increased. In week 9 she dictated, "Arthur said he doesn't want to go to camp. He wanted to stay home." The participant also demonstrated the ability to utilized spacing from week 4 through week 9.

Summary

The analysis of data, from both the quantitative assessments administered to the participants and the qualitative pieces that are a part of their classroom curriculum, revealed some significant findings in terms of language and play. Chapter V discusses these findings and includes recommendations.

CHAPTER V

DISCUSSION OF RESULTS, CONCLUSIONS, AND IMPLICATIONS FOR RESEARCH

Discussion of Results

No Child Left Behind Act of 2001 (NCLB) has led to a renewed commitment to ensuring all children are educated. As a result of this legislation, there has been a substantial increase in attention given to testing and the accountability that comes from those test. Both formalized curriculum and standards are pushed to the younger and younger grades. The environment of play that was once common place among early childhood classrooms is disappearing. The purpose of this study was to investigate the effect dramatic play had on language development. More specifically, the benefits play contributes to learning, especially in the area of language.

Numerous studies have been conducted with preschool education. Experts acknowledge that the preschool age is critical in terms of development. Play and language are both areas that have been studied intensely (Yaden, Rowe, & MacGillivray, 2000). Piaget and Vygotsky both had an interest in play. Piaget focused on the cognitive development he felt it enhanced while Vygotsky was primarily interested in the social value of play. While play was believed to have value, the benefits were not well articulated (Roskos & Christie, 2001). Play benefits language (Isenberg & Jalongo, 2001; Johnson, 1999; Kirkland & Patterson, 2005). Language benefits literacy (Justice &

Pullen, 2003; Poe et al., 2004; Scarborourgh et al., 2001). The amount of research that connects literacy and play with oral language, especially a child's narrative is the basis for this study. Few studies have been published which combine language and dramatic play in a preschool setting. Of those studies that have been completed, most of the participants were minority students or those from a low socio-economic background. The population used in this research differed with most of the students being middle-class Caucasians.

In this study, significant gains, p = .041, were made by the experimental class in their overall receptive language as measured by the CELF-Preschool. Receptive language measures listening, comprehension, and an understanding of spoken words. This increased through play. This study confirms the work of Dansky (1980) which found similar results in children's ability to understand "meaningful, organized information." The literacy rich setting was created by the addition of a dramatic play center. This dramatic play center was connected with the participants' literacy study contributed to the results. This study confirms the environment promoted this increase in literacy (Justice et al., 2002; NICHD, 2005).

The results of this study showed that significant gains were made by the experimental group, classroom B, in the linguistic subtest of the CELF-Preschool. This test measured the child's ability to listen and follow directions, understanding what had been said. Gains were made in the ability to listen to the details of language. Saltz et al. (1977) found this same effect when they researched play and found that children with

physical re-enactment of the stories performed better on tests of impulse control.

Language may have increased as a result of their ability to focus.

Significance differences were found in the four variables chosen for the story elements matrix. A child's ability to state the character and setting, as well as to create a complete thought and sequence events, all relate to language. All of these variables integrated together to improve overall language. These same elements were found to be related to language in several studies prior to the present research (Gerber, 1993; Polloway et al., 2004).

Although no significant results were found between classrooms, overall growth was apparent in both rooms. Raban and Coates (2004) reported that when "conceptual knowledge increased, procedural knowledge increased." Therefore, as a result of the focus and attention spent on literacy in these classrooms the skills of all in this study children should increase. All children in this study, both the control and the experimental group, benefited from this research or procedure.

The complexity of the children's language did increase throughout the study.

This was displayed powerfully in the qualitative data. Children were moving towards being independent readers and writers who had an understanding and grasp of language. Most children knew the importance of character to creating a story. One of the greatest gains was in their ability to provide a complete thought. They began to see relationships between events and tie those events together in a thought. Dansky (1980) used a "storyness" scale similar to the matrix developed for this study. He also found data to support the growth of language using these measures.

In the weekly analysis, significance was experienced in several different weeks of the study for the number of words dictated and the number of letters written. Higher numbers of words or letters were displayed mostly by the control group. This finding showed a major flaw in the study that this researcher did not include or plan for the effect of the teacher. Although the researcher assumed their strengths and abilities balanced, one teacher remained a "monitor" instead of a promoter of learning (Saracho, 2004). This finding was displayed in the children's interactions during journal entries and differences were highlighted on the video through random video checks. Enz and Christie (1993) found style to be a critical factor in the development of language and literacy.

Conclusions

This study revealed that play does have an effect of the language and literacy of young children. Quantitatively, the language scores of the experimental group increased. Qualitatively, both groups showed improvement in the area of literacy development. Play allowed children the ability to rehearse the material presented. This led to an increased ability to provide meaningful information both orally and in written form.

There are several issues appearing in this study that would lend themselves to further review and research. The first and primary issue was the length of the study. The study took place over a 9 week period. This research would be ideal to run the entire school year. Additional time would have enabled the researcher to have a clearer picture of growth rather than the snapshot this study provided. The second reason that lengthening the study would have been beneficial is the use of standardized tests (CELF-

Preschool). The test is scored by age range. Many of the children who had birthdays were held to a higher standard score. This caused standard scores to go down, even though they got the same number of items correct.

In replicating this study, a larger sample size is recommended. The sample size used in this study was one of convenience. A larger sample, including more diversity, would increase external validity and the ability to generalize information.

A final implication found in this study is the effect of the teacher. Although both teachers received the same instructions and the same sample lesson, their interactions within the classroom had a tremendous effect on the research. In replicating this study, it would be critical to minimize the teacher effect. One way of controlling for this would have been to have the same observer present the lessons in both classrooms. The final recommendation would be to rotate the teachers from classroom A to classroom B on a weekly basis.

Implications

Based upon the results of this study, dramatic play may positively impact language and narrative ability in young children. Therefore, allowing children to "play" may be beneficial to later reading ability.

Future research may include the use of play in the development of social skills.

The qualitative elements, as displayed in the journal entries, may also have implications for social skills in preschoolers. Play is a social exercise and another area of research may be the development of pragmatics within the social language setting.

REFERENCES

- Allington, R. L. (2001). What really matters for struggling readers. New York: Longman.
- Branscombe, N. A., & Taylor, J. (2000). "It would be as good as Snow White." Play and prosody. In K. Roskos & J. Christie (Eds.), *Play and literacy in early childhood:*Research from multiple perspectives (pp. 169-188). Mahwah, NJ: Erlbaum.
- Bruner, J. (1983). Children's talk: Learning to use language. New York: Norton.
- Champion, T., Katz, L., Muldrow, R., & Dail, R. (1999). Storytelling and storymaking in an urban preschool classroom: Building bridges from home to school culture.

 Top Language Disorders, 19, 52-67.
- Christie, J., & Enz, B. (1992). The effects of literacy play interventions on preschoolers' play patterns and literacy development. *Early Education and Development*, 3, 205-220.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.).

 Hillsdale, NJ: Laurence Erlbaum Associates.
- Dansky, J. (1980). Cognitive consequences of sociodramatic play and exploration training for economically disadvantaged preschoolers. *Journal of Child Psychology and Psychiatry*, 20, 47-58.
- Davies, P., Shanks, B., & Davies, K. (2004). Improving narrative skills in young children with delayed language development. *Educational Review*, 56, 271-286.

- Enz, B., & Christie, J. (1993, December 1-4). *Teacher play interaction styles and their impact on children's oral language and literacy play*. Presented at Annual Meeting of the National Reading Conference (43rd). Charleston, SC.
- Fahey, K., & Reid, D. K. (2000). Language development: Differences & disorders.

 Austin, TX: Pro-Ed.
- Gerber, A. (1993). Language related learning disabilities. Baltimore: Paulh Brooks.
- Gibson, L. (1989). Literacy learning in the early years: Through children's eyes. New York: Teacher's College Press.
- Grossen, B. (1997). A synthesis of research on reading from the National Institute of Child Health and Human Development. Retrieved January 17, 2006 from www.nrrf.org/synthesis_research.htm
- Hanline, M. (1999). Developing a preschool play-based curriculum. *International Journal of Disability, Development, and Education, 46*, 289-305.
- Hanna, J. (2005). The Elementary and Secondary Act--40 years later. Harvard Graduate

 School of Education. Retrieved November 19, 2006 from

 www.gse.harvard.edu/news_events/features/2005/08/esea0819.html
- Isenberg, J., & Jalongo, M. (2001). *Creative expression and play in early childhood*.

 Upper Saddle River, NJ: Merrill Prentice Hall.
- Isenberg, J., & Quisenberry, N. (2002). Play: Essential for all children: A position paper of the Association for Childhood Education International. Retrieved November 19, 2006 from http://www.acei.org/playpaper.htm

- Johnson, E. (1999, April 7-10). The effect of literacy intervention in preschool children's dramatic play on literacy behaviors. Presented at Annual International Conference of the Association for Childhood Education International, San Antonio, TX.
- Justice, L., Invernizzi, M., & Meier, J. (2002). Designing and implementing an early literacy screening protocol: Suggestions for the speech language pathologist.

 Language, Speech, and Hearing Services in Schools, 33, 84-101.
- Justice, L., & Pullen, P. (2003). Promising interventions for promoting emergent literacy skills: Three evidence-based approaches. *Topics in Early Childhood Special Education*, 23(3), 99-113.
- Kaderavek, J., & Sulzby, E. (2000). Narrative production by children with and without specific language impairments: Oral narratives and emergent readings. *Journal of Speech, Language and Hearing Research*, 43, 34-49.
- Kauerz, K. (2002). *Literacy. No Child Left Behind Policy Brief*. Denver, CO: Education Commission of the States.
- Klecan-Aker, J., & Gill, C. (2005). Teaching language organization to children with pervasive developmental disorder: Case study. *Child Language Teaching and Therapy*, 21, 60-74.
- Kirkland, L., & Patterson, J. (2005). Developing oral language in primary classrooms. *Early Childhood Education Journal*, 32(6), 391-395.
- Mental Measurement Yearbook. (2005). Available from http://ezproxy.twu.edu: 205/c7308

- McCarthey, S. (2003). Bakhtin's dialogism in preschooler's talk. *Literacy Teaching & Learning*, 8(2), 27-62.
- Moll, L. (Ed.). (1990). Vygotsky and education: Instructional implications and applications of sociohistorical psychology. United Kingdom: Cambridge University Press.
- Musthafa, B. (2001). Sociodramatic play and literacy development: instructional perspective. U.S. Department of Education (ERIC document ED 462 138).
- Neuman, S., & Roskos, K. (1990). Play, print, and purpose: Enriching play environments for literacy development. *The Reading Teacher*, 44, 214-221.
- Neuman, S., & Roskos, K. (2003). Access to print for children of poverty: Differential effects of adult mediation and literacy-enriched play settings on environmental and functional print tasks. *American Educational Research Journal*, 30, 95-122.
- Neuman, S., & Roskos, K. (2005). Whatever happened to developmentally appropriate practice in early literacy? *Journal of National Association for the Education of Young Children*. Retrieved January 7, 2006 from www.journal.naeyc.org/btl/200507/02Neuman.asp
- NICHD. (2005). Pathways to reading: The role of oral language in the transition to reading. *Developmental Psychology*, 41, 428-442.
- Nilsen D., & Nilsen, A. (1978). Language play: An introduction to linguistics. Rowley, MA: Newberry House Publishers.
- Paley, V. (2004). A child's work: The importance of fantasy play. Chicago: University of Chicago Press.

- Pellegrini, A. D., & Galda, L. (1993). Ten years after: A reexamination of symbolic play and literacy research. *Reading Research Quarterly*, 28, 161-175.
- Piaget, J. (1962). Play, dreams and imitation in childhood. New York: W. W. Norton.
- Pickett, L. (2002, June 26-29). Literacy learning through play in a primary classroom.

 Presented at Sixth Annual Head Start National Research Conference. Washington,

 DC.
- Poe, M. D., Burchinal, M., & Roberts, J. (2004). Early language and development of children's reading skills. *Journal of School Psychology*, 42, 315-332.
- Polloway, E., Smith, T., & Miller, L. (2004). Language instruction for students with disabilities. Denver, CO: Love Publishing.
- Pugmire-Stoy, M. C. (1992). Spontaneous play in early childhood. New York: Delmar .
- Raban, B., & Coates, H. (2004). Literacy in the early years: A follow-up study. *Journal of Research in Reading*, 27, 15-29.
- Rowe, D. (1996). *The literate potentials of book-related dramatic play*. Presented at Forty Fifth Annual Meeting of the National Reading Conference (November 29-December 2, 1995). New Orleans, LA.
- Saltz, E., Dixon, D., & Johnson, J. (1977). Training disadvantaged preschoolers on various fantasy activities: Effects on cognitive functioning and impulse control. Child Development, 48, 367-380.
- Saracho, O. (2004). Supporting literacy-related play: Roles for teachers of young children. *Literacy and Language Development*, 31, 201-206.

- Scales, B., Nourot, P., & Alward, K. (1999). Play at the center of the curriculum.

 Upper Saddle River, NJ: Merrill.
- Scarborough, H., Dobrich, W., & Hager, M. (2001). Preschool literacy experience and later reading achievement. *Journal of Learning Disabilities*, 24, 508-511.
- Seidel, D. (2002). Enhancing the kindergarten language experience using storytelling props. Retrieved January 10, 2006 from www.fcps.k12.va.us./DeerParkES/TR/Storytelling/kindergarten
- Snow, C., Burns, M., & Griffin, P. (1998). Preventing reading difficulties in young children. Washington, DC: National Academy Press.
- Stone, S., & Christie, J. (1996). Collaborative literacy learning during sociodramatic play in a multiage (K-2) primary classroom. *Journal of Research in Childhood Education*, 10, 123-133.
- Sunderman, G., & Kim, J. (2004). Inspiring vision, disappointing results: Four studies on implementing the No Child Left Behind Act. The Civil Rights Project-Harvard University. Retrieved November 19, 2006 from www.civilrightsproject.harvard.edu
- Tee, O. P. (2004). Innovative use of local resources for children's play: A case in Malaysia. Young Children on the Web. Retrieved July 18, 2006 from www.naeyc.org/resources/journal
- U.S. Department of Education. (2001). The No Child Left Behind Act of 2001, Executive Summary. Retrieved October 10, 2006 from
 - http://www.ed.gov/nclb/overview/intro/execsumm.doc

- U.S. Department of Education. (2002). Good start, grow smart: The Bush administration's early childhood initiative. Retrieved October 2, 2006 from www.whitehouse.gov/infocus/early childhood/earlychildhood.html
- U.S. Department of Education. (2002). No Child Left Behind Act of 2001. Retrieved January, 2005 from http://www.ed/gov/legislation/ESEA02/
- U.S. Department of Education. (2004). Serving preschool children under Title 1.

 Retrieved August 20, 2006 from www.ed.gov/legislation/preschool/title1
- VanHoorn, J., Scales, B., Nourot, P., & Alward, K. (1999). Play at the center of curriculum. Upper Saddle River, NJ: Merrill.
- Vukelich, C. (1994). Effects of play interventions on young children's reading of environmental print. *Early Childhood Research Quarterly*, 9, 153-170.
- Walker, C. (1999). Playing a story: Narrative and writing like features of scenes of dramatic play. *Reading Research and Instruction*, 38, 101-401.
- Whitfield, P. (2005). No Child Left Behind: Leaving the arts behind in developing young children's literacy. *Journal of Children& Poverty*, 11, 43-54.
- Zigler, E. F., Singer, D. G., & Bishop-Josef, S. J. (Eds.). (2004). *Children's play: The roots of reading*. Washington, DC: Zero to Three Press.

APPENDIX A

Sample Parent Consent

TEXAS WOMAN'S UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

Title: Developing Narrative Language Through the Use of Dramatic Play in

Preschoolers

Explanation and Purpose of the Research

You are being asked to permit your child to participate in a research study for Mrs. Wilson's dissertation at Texas Woman's University. The purpose of this research is to determine the impact of dramatic play on preschooler's narrative language. In particular, the study will examine the relationship between dramatic play and story grammar frequency.

Research Procedures

For this study, the investigator will obtain permission from both the school and the parents to allow participation in the study. The teachers participating will then receive training to ensure the procedures during the investigation are standardized. Formal assessment will then be individually administered to each child. The test used is a standardized language test often used in schools to determine language ability and gain. This pre-test will provide all participants with a baseline language score.

Throughout the study, each classroom will be presented with a different piece of authentic literature each week. After reading this literature, both classes will be asked to complete a story grammar chart. The researcher will then videotape the dramatic play center that has been filled with items to help facilitate retelling of the story. The purpose of the videotape is to assure the accuracy of the reporting of information. The participants will also be asked to journal regarding each story. This includes drawing pictures about the story and writing words, or parts of words, depended upon their developmental ability. This will all occur in the regular classroom during the school day. It will be a part of the curriculum the participants are already completing. The total time commitment within the classroom will be approximately 2 hours a week for 12 weeks.

Potential Risks

Potential risks related to your child's participation in the study include potential coercion. Your child's participation in this study is completely voluntary. No repercussions will occur for lack of consent. Then, the investigator will be removed from the classroom

Approved by the Texas Woman's University Institutional Review Board April 7, 2006

Page 1 of 2

after one sample lesson in each class. The regular classroom teacher will be working with your child. Therefore, coercion will be minimalized.

A possible risk related to your child's participation in this study may include the release of confidential information. Confidentiality will be protected to the extent that is allowed by law. The study will occur within the child's regular classroom. A code number, rather than your child's real name, will be used on the videotapes and the transcription. Only the investigator and her advisor will have access to the tapes. The tapes will be stored in a locked filing cabinet in the investigator's office. The tapes will be erased and will be shredded within 2 years. It is anticipated that the results of this study will be published in the investigator's dissertation as well as in other research publications. However, no names or other identifying information will be included in any publication.

The researchers will try to prevent any problem that could happen because of this research. You or your child should let the researchers know at once if there is a problem and they will help you or your child. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

April 7, 2008

The only direct benefit of this study you is that at the completion of this study a summary of the results will be mailed you upon request.*

Questions Regarding the Study

If you have any questions about the research study, you may ask the researchers; their phone numbers are at the top of this form. If you have questions about your child's rights as a participant in this research or the way this study has been conducted, you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at IRB@twu.edu You will be given a copy of this signed and dated consent form to keep.

Signature of Participant	Date
Signature of Parent/Guardian	Date
*If you would like to receive a summary of the resulan address to which this summary should be sent:	lts of this study, please provide

APPENDIX B

Demographics Questionnaire

DEMOGRAPHICS QUESTIONNAIRE

Particip	ant Number: Date:
Direction	ons: Please answer the following questions with regards to your child.
1.	What is your child's age? (circle one) 4 5 What is your child's gender? (circle one) Male Female
3.	What is your child's ethnicity? (circle one) European American Hispanic American African American Other (please specify)
4.	What language(s) is spoken at home? (circle one) • English • English and other(s)
5.	Is your child currently involved in speech/language therapy? (circle one) If yes, how often? Yes No
6.	Has your child ever been involved in therapy or therapeutic programs? (If yes please circle all that apply.) • Speech therapy • Language therapy • Play therapy
7.	Child's siblings (please fill in):

APPENDIX C

List of Thematic Literature Used

APPENDIX C

LIST OF THEMATIC LITERATURE USED

WEEK IN	THEME	TITLE & AUTHOR OF LITERATURE
STUDY	CHILDREN	
	WERE	
	STUDYING	
WEEK 1	Community	Bravest of All by: Kate Emery Pogue
	Workers	
WEEK 2	Transportation	Franklin's Bicycle Helmet by: P. Bourgeios &
		Brenda Clark
WEEK 3	Plants	Planting a Rainbow by: Lois Elhert
1		v _a
WEEK 4	Plants	Tops & Bottoms by: Janet Stevens
WEEK 5	Gardening	The Carrot Seed by: Ruth Krauss
		•,
WEEK 6	Insects	The Very Hungry Caterpillar by: Eric Carle
		,
WEEK 7	Insects	The Grouchy Ladybug by: Eric Carle
WEEK 8	Circus	Clifford at the Circus by: Norman Birdwell
		5
WEEK 9	Camping	Arthur's Campout by: Marc Brown
1000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		

APPENDIX D

Observational Codings

89

APPENDIX D

OBSERVATIONAL CODINGS

Participant Number:	Observer:

Codes of Story Grammar Occurrence: Elements:	Elaboration: Scale of 1-5	Notes (Strategies/Nonver bals)
Stating the main character	Character Elaboration Stating multiple characters, or describing those characters	
When the event occurred Where the event occurred	Setting Elaboration • Using multiple adjectives to describe setting	
• Order of the story is correct	Elaboration Including various parts of the story, conflict, resolution	
Connectedness • Story flows & makes sense	Ease of retelling	

APPENDIX E

APPENDIX E

Consent From Little Sprouts Preschool Administration

APPENDIX E

CONSENT FROM LITTLE SPROUTS PRESCHOOL ADMINISTRATION

allow Christy Wilson to co Through the Use of Drama use of Little Sprouts facility This consent will be valid for read the purpose of this pro- discomforts, freedom to with have been explained to me.	, as the co-director of Little Sprouts Preschool consent to induct a study entitled "Developing Narrative Language tic Play in Preschoolers" at the school. I offer consent for the les and assistance from the faculty in completing this research for one year from the date of signature. I also assert that I have ject and the procedures, confidentiality of results, risks and thdraw, use of research data, and approval of this research I further understand that if I have any questions about this will contact one of the following:
	*,
Principal Investigator:	Christy Wilson, M.Ed. TWU Doctoral Student, College of Special Education Phone: 817-741-4958
Faculty Sponsor:	Lloyd Kinnison, Ed.D.

TWU College of Special Education Phone: 940-898-2281

Signature of Little Sprouts Co-director

APPENDIX F

Number of Words Dictated on Journal Entries

Participant	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9
1	9	7	7	8	11	8	13	6	6
2	4	9	7	7	4	9	8	10	5
3	11	6	24	5	18	10	15	22	10
4	3	5	36	23	19	18	20	16	8
5	5	10	4	-	14	27	14	10	5
6	2	5	10	4	8	10	23	6	17
7	-	22	10	12	•	19	4	3	9
8	9	25	7	14	15	18	10	13	5
9	12	•	4	6	7 .	13	16		12
10	2	3	-		4	6	5	7	9

Number of Words Dictated on Journal Entries for Classroom B-Experimental

Participant	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9
1B	5	4	6	6	4	4	5	17	6
2B	5	4	3	5	9	7	8	10	6
3B	5	1	5	3	1	2	3	9	9
4B	2	6	4	6	4	4	5	5	.14
5B	21	7	7	15	7	3	10	8	15
6B	12	10	3	7	8	8	7	6	8
7B	4	6	-	5	5		5	5	20
8B	5	11	9	10	10	5	10	10 ,	15
9B	5	11	7	8	4	4	8	9	6
10B	1	2	3	3	5	2	2	6	8

APPENDIX G

Work Samples of Participant #2-Classroom A

Week 1 Participant 2 - Class A

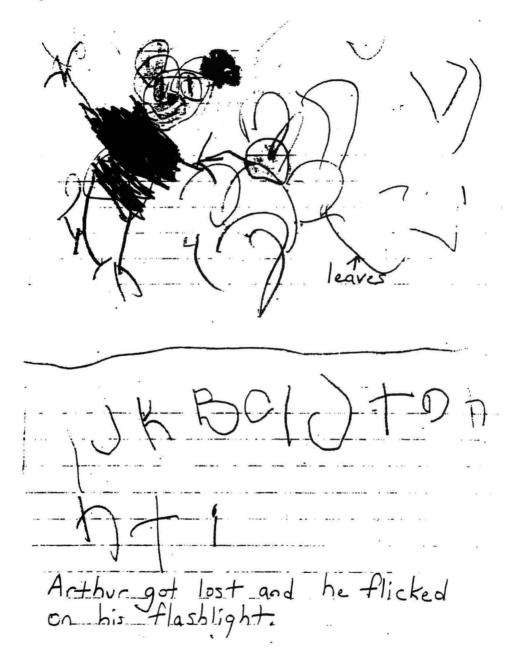


Week 5 Participant 2 - Class A



The monster eating a very big carly

Week 8 Participant 2 - Class A

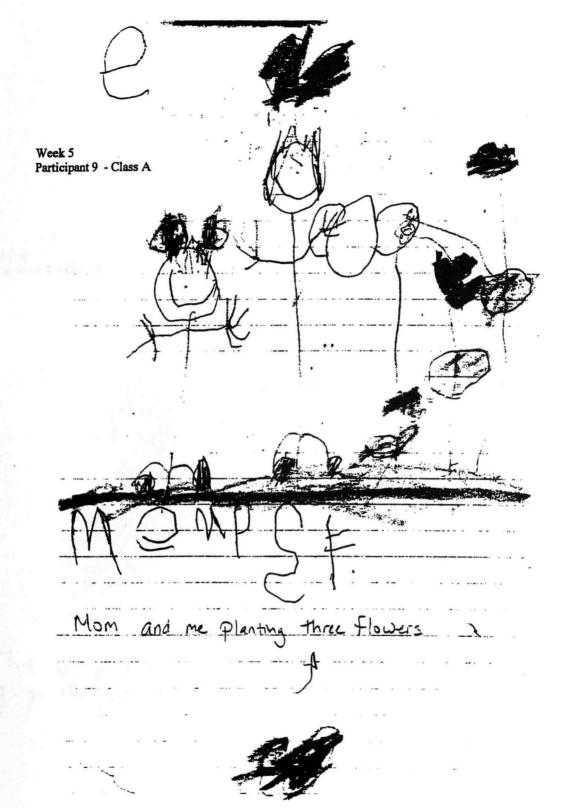


APPENDIX H

Work Samples of Participant #9-Classroom A

Week 1 Participant 9 - Class A





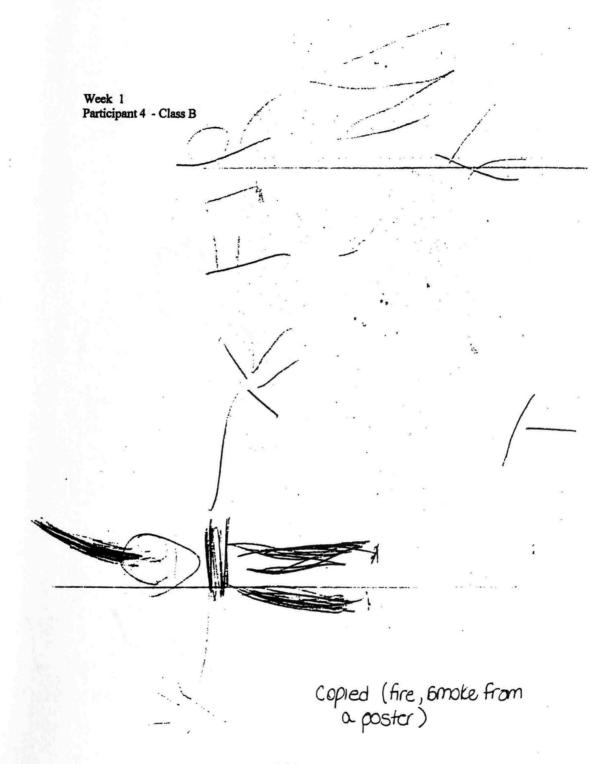
Week 8 Participant 9 - Class A



This is fal and this is the guy. He got a ribbon.

APPENDIX I

Work Samples of Participant #10-Classroom B



Week 5 Participant 4 - Class B





The rabbit made

Week 8 Participant 4 - Class B

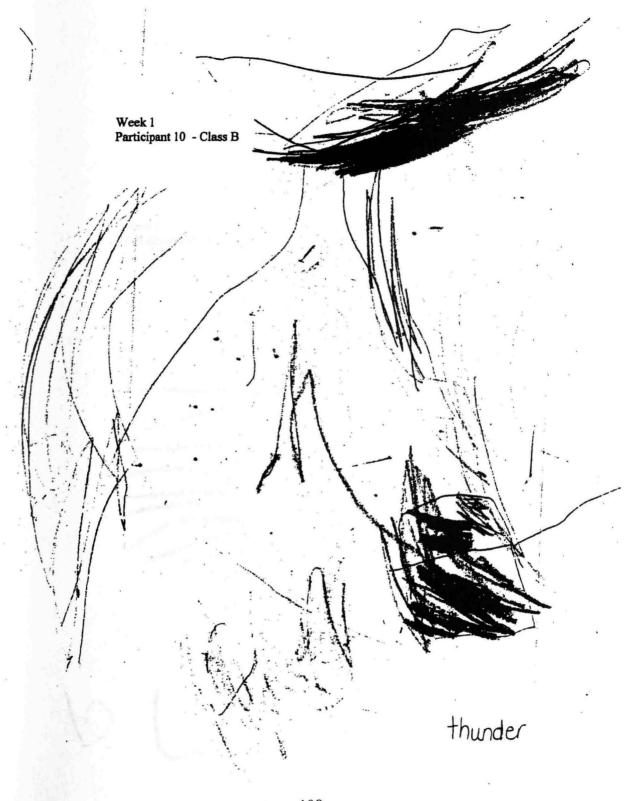


RTKRIDE

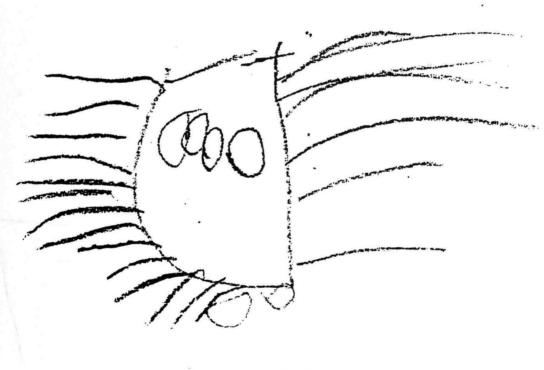
Arthur said he doesn't want to go to camp. He wanted to stay home.

APPENDIX J

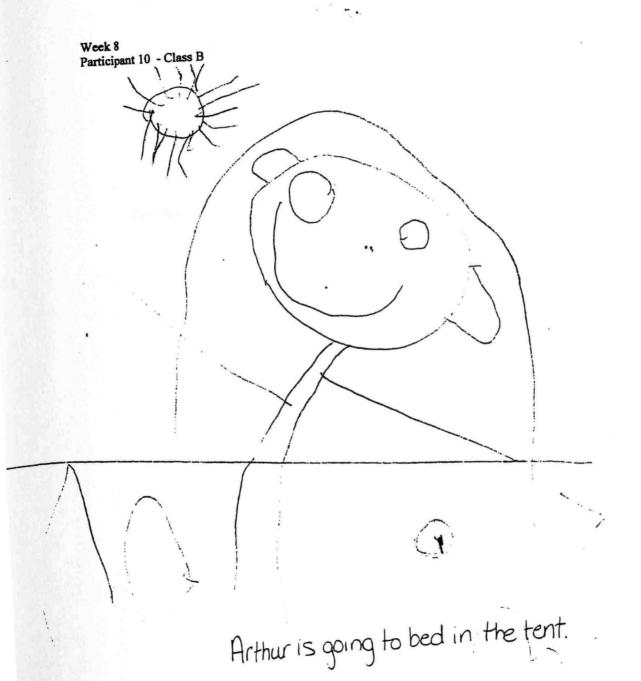
Work Samples of Participant #4-Classroom B



Week 5 Participant 10 - Class B



Grouchy ladybug



APPENDIX K

Number of Letters Recorded in Journal Entries

Number of Letters Written in Journal Entries for Classroom A-Control

Participant	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9
1	4	11	7	12	18	5	0	4	46
2	3	5	14	8	3	0	8	12	13
3	3	6	0	6	4	0	0	0	0
4	0	15	0	10	0	0	15	. 5	0
5	8	16	7	-	18	12	9	16	10
6	2	0	0	3	15	3	7	3	3
7	-	32	16	17	-	0	39	35	41
8	8	8	24	8	14 .	8	14	16	14
9	0	-	6	7	3	0	18		0
10	0	0		-	4	0	0	0	0

Participant	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9
1B	4	16	6	24	14	3	14	9	12
2B	10	22	7	12	19	14	13	12	13
3B	6	0	3	6	3	3	3	7	9
4B	15	0	6	19	10	4	11	10	10
5B	24	27	25	58	20	14	22	33	45
6B	13	9	10	14	17	19	14	11	12
7B	18	11	-	10	28	- ,	10	22	16
8B	11	5	22	21	19 .	14	18	25	21
9B	7	5	9	9	11	13	9	0	11
10B	0	0	0	2	5	2	2	0	2

113