ABSTRACT

Title of Dissertation: TEACHER TALK IN EARLY HEAD START CLASSROOMS

Kristine-Marie B. Strausbaugh, Doctor of Philosophy, 2014

Dissertation directed by: Professor Mariam Jean Dreher

Department of Teaching and Learning, Policy and Leadership

This study investigated the oral language of Early Head Start teachers who work in preschool centers. Specifically, this study analyzed the amount, richness, and the sophistication of the oral language input offered by five Early Head Start teachers to their students. This study also analyzed the quality and quantity of the conversational supports teachers offered their students during encounters with sophisticated vocabulary. Each teacher was observed on four occasions. Each occasion occurred on separate day, on a different day of the week, and at a different time across the timeframe of a morning for a total of 4 hours.

The teachers were selected from Early Head Start centers because they work with low-income students who are 0-36 months of age. Teachers of this age group were chosen because research indicates that children obtain much of their knowledge of the various facets of human language during their first three years of life. Research also indicates that the principal effect of socio-economic status on oral language development occurs prior to 36 months of age.

The results indicated differences in the amount, richness, and sophistication of the vocabulary used by these teachers. The amount of speech generated by teachers over the morning differed greatly. This difference between the teachers in the number of words used ranged from 9,655 to 23,155 words over the 4 hours of observations. Differences in the richness of teacher language were also evident. The mean number of words used per utterance during individual observations varied from 3.67 words/utterance to 6.44 words/utterance. In addition, large differences were found in the number of sophisticated words used by teachers. Differences in sophisticated word use as large as 307 words/hour were found when the teachers' speech was analyzed over the course of 4 hours of observations in each classroom.

The results also indicate that these five Early Head Start teachers differed greatly in their use of three types of conversational supports. These differences occurred both within and between classrooms with no pattern related to time of day. In addition, teachers used Instructive Supports – the most supportive type of conversational support that can be used in relation to sophisticated vocabulary – the least in their classroom conversations. The results of this study suggest a need for further research into the impact of teacher vocabulary use on children ages 0-36 months.

TEACHER TALK IN EARLY HEAD START CLASSROOMS

By

Kristine-Marie B. Strausbaugh

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2014

Advisory Committee
Professor Mariam Jean Dreher, Chair
Professor Olivia N. Saracho
Associate Professor Rebecca D. Silverman
Associate Professor Wayne H. Slater
Associate Professor William Strein

DEDICATION

I dedicate this work to my family without whose never ending support and patience this dissertation would never have been completed.

Scott, James, Tori, and Korinne, you are the greatest joy in my life. You are my everything.

Mom, you were my first teacher, my mentor, and my best friend. Your work with my children was the inspiration for this study. You are here with me always.

Dad, thank you for the modeling the American Dream for me. You showed me that by setting goals and working hard you can do anything you want to do and be anything you want to be.

ACKNOWLEDGEMENTS

I would like to take this opportunity to thank Dr. Mariam Dreher for everything she has done to guide me through my doctorate program and the dissertation process.

I would also like to thank my committee for their guidance in conceptualizing this study and for their efforts to make my very large proposal into a study that was a realistic possibility.

Finally, I would like to acknowledge the Early Head Start programs that opened their doors and their classrooms to me. Without their willingness to allow me to observe, this study could not have occurred.

TABLE OF CONTENTS

PAGE

ABSTRACT

DEDICATION ii

ACKNOWLEDGMENTS iii

TABLE OF CONTENTS iv

LIST OF TABLES ix

LIST OF FIGURES x

CHAPTER 1 — INTRODUCTION 1

Purpose of the Study 1

Rationale 2

Language Acquisition Development 5

The Connection between Reading and Language Development 6

The Relationship between Oral Language Development Levels and Socio-economic Levels 9

Attempts to Close the Educational Gap 11

Can Preschool Experiences Make a Difference? 13

The Impact of Teacher Talk 14

The Current Study 17

Research Questions 17

Significance 19

Definitions 19

General Terms 20

Parts of Speech Which Were Coded from Teachers' Utterances ……..……. 21

Conversational Supports of Sophisticated Words Which Were Coded……... 22

Variables Which Were Calculated from Teacher Utterance Data …….. 23

Assumptions ……...…... 23

Limitations …… 23

CHAPTER 2 — REVIEW OF THE LITERATURE 26

Purpose 26

Theoretical Base 27

Historical Perspective 27

Rationale ……..……..… 30

The Connection between Reading and Language Development ……..…….. 32

The Relationship between Oral Language Development Levels

and Socio-economic Levels …….. 34

Can Preschool Experiences Make a Difference? …...……...…….. 38

Closing the Gap ……... 40

The Impact of Teacher Talk ……..... 43

Review of the Literature ……... 48

Adult-Child Interactions ……...……..... 50

The Significance of Adult Talk ……. 50

The Impact of Conversational Partners ……..…..…. 51

Mother-to-Child Talk Versus Teacher-to-Child Talk ……..... 52

Quality Features of Teacher Language and Interactions ……..…….. 56

Vocabulary and Sentence …..……...……... 57

Discourse Functions ……..……...……... 62

Adjacency Conditions ……...……..... 67

Valence …… 71

Clarity …….. 77

Variables that Impact Teacher Talk ……...…... 79

Group Size ……... 79

Context ……..…….. 81

Child's Age ……..... 87

Gender and Race ……. 91

Socio-Economics …… 94

Teachers' Qualifications ……. 99

Pedagogical Orientation …….. 102

Suggestions to Teachers from the Research ……..... 105

Summary ……..…… 110

CHAPTER 3 — METHODS 113

Research Design ……... 115

Setting ……..…… 115

Participants ……... 118

Procedures ……..... 122

Recruiting the Participants ……..… 122

Observations ……... 125

Data and Data Analysis ……..... 128

Transcribing Observational Notes and Audio Recordings …… 128

Coding the Transcripts ……... 129

The Nature (Amount, Richness, Sophistication) of Teacher Language ……. 129

The Type and Quantity of Teacher Supports …….. 132

CHAPTER 4 — RESULTS 136

The Nature of the Vocabulary Input that Early Head Start Teachers Provide Their Students ……..... 137

Amount of Vocabulary ……..... 137

Richness of Vocabulary ……..... 149

Sophistication of Vocabulary ……..... 164

The Type and Quantity of Conversational Supports Used By Early Head Start Teachers ……. 172

Summary ……..... 180

CHAPTER 5 — DISCUSSION 182

Introduction ……..……..... 182

The Nature of Vocabulary Input Provided by Early Head Teachers ……...……... 184

Amount of Vocabulary ……... 185

Richness of Vocabulary ……. 189

Sophistication of Vocabulary ……..... 192

Summary ……..…….. 193

Type and Quantity of Conversational Supports ……..……. 194

Limitations ……... 195

Implications for Research …… 196

Implications for Instructional Research ……... 198

Conclusion ……... 200

APPENDICES

A. Informational Flyer ……. 202

B. Teacher Consent Form …… 203

C. Parent Cover Letter ……..…… 205

D. Field Study ……..…… 206

E. Field Study Forms ……... 217

F. Field Study Results …….. 226

REFERENCES 230

LIST OF TABLES

PAGE

Table 1. Research Sub-Questions, Related Variables, and Data ……..... 18

Table 2. Research Sub-Questions, Related Variables, and Data 49

Table 3. Research Sub-Questions, Related Variables, and Data 114

Table 4. Observation Schedule 126

Table 5. Amount of Vocabulary – Teacher Words Used per Observation (1 Hour) 139

Table 6. Amount of Vocabulary – Teacher Words Used per Morning (4 Hours) 140

Table 7. Richness of Vocabulary – Mean Word Usage/Utterance per Observation (1 Hour) …… 150

Table 8. Richness of Vocabulary – Mean Word Usage/Utterance per Morning (4 Hours). 152

Table 9. Sophistication of Vocabulary – Sophisticated Word Use per Observation (1 Hour) 165

Table 10. Sophistication of Vocabulary – Sophisticated Word Use per Morning (4 Hours) …… 166

Table 11. Type of Conversational Supports – Amount per Hour ……... 174

Table 12. Teacher Conversational Supports per Morning (4 Hours) ……..…… 175

LIST OF FIGURES

PAGE

Figure 1. Amount of Vocabulary – Total Words and Total Different Words Used per Morning (4 Hours) 141

Figure 2. Amount of Vocabulary – Total Teacher Grammar Usage per Morning (4 Hours) …….. 143

Figure 3. Amount of Vocabulary – Total Words per Observation by Teacher 144

Figure 4. Amount of Vocabulary – Total Words per Observation by Time of Day 145

Figure 5. Amount of Vocabulary – Summary Teacher A Word Use per Morning 147

Figure 6. Amount of Vocabulary – Summary Teacher B Word Use per Morning 147

Figure 7. Amount of Vocabulary – Summary Teacher C Word Use per Morning 148

Figure 8. Amount of Vocabulary – Summary Teacher D Word Use per Morning 148

Figure 9. Amount of Vocabulary – Summary Teacher E Word Use per Morning 149

Figure 10. Richness of Vocabulary – Total Teacher Utterances per Morning (4 Hours) ... 155

Figure 11. Richness of Vocabulary – Mean Words/Utterance and Mean Different Words/Utterance per Morning (4 Hours) 155

Figure 12. Richness of Vocabulary – Mean Grammar Usage/Utterance per Morning (4 Hours) …….. 156

Figure 13. Richness of Vocabulary – Number of Utterances by Teacher per Observation ……. 158

Figure 14. Richness of Vocabulary – Number of Utterances/Observation by Time of Day …… 159

Figure 15. Richness of Vocabulary – Mean Words/Utterance per Observation by Teacher..... 159

Figure 16. Richness of Vocabulary – Summary Teacher A Mean Word Use/Utterance per Morning ……..... 162

Figure 17. Richness of Vocabulary – Summary Teacher B Mean Word Use/Utterance per Morning 162

Figure 18. Richness of Vocabulary – Summary Teacher C Mean Word Use/Utterance per Morning 163

Figure 19. Richness of Vocabulary – Summary Teacher D Mean Word Use/Utterance per Morning 163

Figure 20. Richness of Vocabulary – Summary Teacher B Mean Word Use/Utterance per Morning 164

Figure 21. Sophistication of Vocabulary – Number of Sophisticated Words Used per Morning (4 Hours) by Teacher 168

Figure 22. Sophistication of Vocabulary – Percent Teacher Sophisticated Word Use per Morning (4 Hours) ……..... 169

Figure 23. Sophistication of Vocabulary – Number of Sophisticated Words Used by Teachers Across a Morning by Observation 170

Figure 24. Sophistication of Vocabulary – Percentage of Sophisticated Words Used by Teachers Across a Morning by Observation 171

Figure 25. Sophistication of Vocabulary – Number of Sophisticated Words Used by Teachers Across a Morning by Time of Day 171

Figure 26. Conversational Supports – Number per Morning (4 Hour Period) by Teacher . 176

Figure 27. Conversational Supports – Percent per Morning (4 Hour Period) by Teacher .. 177

Figure 28. Conversational Supports – Number of Instructional Supports by Teacher per Observation ……..……..... 178

Figure 29. Conversational Supports – Number of Helpful Supports by Teacher per Observation ……..……..... 179

Figure 30. Conversational Supports – Number of Neutral Supports by Teacher per Observation ……..……..... 180

CHAPTER 1 - INTRODUCTION

Purpose of the Study

This study investigated the oral language patterns of Early Head Start teachers who work with low SES children up to 36 months of age in preschool centers. I chose to observe teachers who work with this age group because research indicates that during children's first three years of life, they obtain considerable knowledge of all the various facets of human language (Menyuk, 1995) and because of the lack of research in this area of study that is focused on teachers of this age child. As a part of this research, I analyzed the amount (i.e., nouns, verbs, modifiers, and functors used/hour), richness (i.e., nouns, verbs, modifiers, and functors used/utterance), and sophistication (i.e., the percentage of teacher talk consisting of words not on the Dale-Chall List of 3,000 Familiar Words (RFP Evaluation Centers, 2009)) of the oral language input that is offered by Early Head Start teachers to their students. I also analyzed the quality (instructional, helpful, or neutral) and quantity (i.e., the number of each type of support/hour) of the conversational supports that these teachers offer their students during encounters with sophisticated words (see Table 1).

The research question for this study is: How do Early Head Start teachers talk to their students? To find the answer to this question, I addressed the following subordinate questions as well:

- What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?
- What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?

Rationale

In this study, I investigated the oral language patterns of Early Head Start teachers who work in preschool centers. I selected Early Head Start teachers for observation because of the population which they serve. All students who attend Early Head Start centers must be 0-36 months of age and at least 90% of students served must meet Federal Poverty Guidelines. I selected the age span of 0-36 months at the start of the study because research indicates that the principal effect of Socio Economic Status (SES) on oral language development occurs prior to 36 months of age (Farkas & Beron, 2004). I chose to observe teachers of economically disadvantaged students because research indicates a gap in oral language development between students of low and high socio-economic statuses (e.g., Farkas & Beron, 2004; Graves & Slater, 1987; Locke, Ginsborg, & Peers, 2002). The age and economic status requirements necessary for my study match the age and financial guidelines already set by the Early Head Start program. Although I selected teachers based upon the population which they serve, the students themselves were not subjects in this study. The focus of this study was to investigate how Early Head Start teachers talk to their students.

This study was inspired by two studies - Hart and Risley's 1995 study entitled *Meaningful Differences in the Everyday Experiences of Young American Children* and Weizman and Snow's 2001 study entitled *Lexical Input as Related to Children's Vocabulary Acquisition: Effects of Sophisticated Exposure and Support for Meaning*. In their study, Hart and Risley (1995) observed mothers of very young children and found that children in low SES homes were less likely be exposed to high quantities of language and were offered fewer rich quality language experiences within their homes than were their higher SES peers. In fact, Hart and Risley suggested that:

> Even if we [Hart and Risely] have overestimated by half the differences between children in amounts of cumulative experience the gap is so great by age 4 that the best that can be expected from education or intervention is to keep the children from falling farther behind. For an intervention to keep an average welfare child's experience equal in amount to that of an average working-class child would require that the child be in substitute care comparable to the average in a professional home for 40 hours per week from birth onward. (p. 252)

Weizman and Snow (2001) extended the scope of the research done by Hart and Risley. Weizman and Snow found vast differences, both quantitatively and qualitatively, in vocabulary exposure among low income children in the home. They also found that a child's vocabulary exposure at age 5 is linked strongly to early exposure to sophisticated words - words not contained on the Dale-Chall list of 3,000 familiar words (RFP Evaluation Centers, 2009) - and to the frequency with which instructive or helpful supports were provided by the mother. These two predictors – exposure to sophisticated words and the use of instructive or helpful supports – each accounted for about 1/3 of the variation in the children's vocabulary scores in kindergarten and in second grade. (See Chapter #2 for additional research relevant to this area of the study.)

Considering the results of both of these studies and Hart and Risley's conclusions about the inequities in vocabulary experiences in homes, I began to reflect upon the reality that so many of our youngest children are indeed already in substitute care in various preschool, daycare, and Early Head Start settings for 40 hours per week from about 6 weeks of age (and sometimes younger) until they begin formal education at age 5 or 6. With such an opportunity to impact children's oral language development, my question then became, "What is happening at

our preschools, particularly in our Early Head Start programs, in the realm of oral language for those children who are at the greatest risk of not receiving the language exposure that they need at home?" This was the focus of my research.

For this study, I specifically investigated how teachers of Early Head Start programs talk to their students. Early Head Start is a program that was established by the United States Congress in the reauthorization of Head Start Act in 1994. This program services children who are ages 0-36 months from low income homes and/or who are disabled. Early Head Start provides support for these children and their families by offering center-based, home-based, and combination programs. For the purpose of this study, I observed center-based programs and analyzing the teacher talk that occurs during the course of typical morning activities.

I chose to observe in the morning hours because I learned during my field study that this is typically the time with the student/teacher population is the most consistent and the time in which most instruction takes place in preschools (with much of the afternoon time used for lunch, nap, and recess). My goal was to learn about the amount, richness, and sophistication of the teacher talk that occurs across the variety of activities that might occur within this morning period.

In the remainder of this chapter, I will overview research to support the rationale for the study. In the first section I will examine what research says about how children acquire language as they develop. Next, I will share the research that substantiates the connection between language development and later reading success. With this connection in mind, I will then explore the relationship between socio-economic (SES) levels and oral language levels in children and review some of the attempts that educators, researchers, and governmental agencies have made to close the learning gap that continues to exist between high and low (SES) children.

Next, I will review literature on the impact of preschools on the development of young children and what we currently know about the impact of teacher talk on young children in a preschool setting. Finally, I will share information about my study.

Language Acquisition and Development

It is largely agreed that during children's first three years of life, they gain a great deal of knowledge in all the various areas of human language (Menyuk, 1995). Indeed, scientists have discovered that from the earliest moments of life, children can already distinguish differences in sounds (phonemes) that occur within a language (Werker & Lalonde, 1988). In fact, research indicates that most children have developed the ability to comprehend some basic words and their meanings by their first birthday. This ability to comprehend spoken language is believed to develop somewhat before children's ability to actually produce spoken words (Huttenlocher & Smiley, 1987). At about one year of age, children's initial attempts at speech – their non-speech babbling - begin to advance toward identifiable words from their native language (Werker & Lalonde, 1988).

Over the next 24 months of a child's development, rapid progress in the areas of speech comprehension and speech production occurs. It has been estimated that by the age of 18 months the average child can comprehend approximately 100 words and has a speaking vocabulary of about 50 words (Menyuk, 1995). During the next six months of an average child's development, there are sharp increases in the size of both the comprehended and spoken vocabulary (Bates, Bretherton, Snyder, Beeghly, Shore, McNew, et al., 1988). Indeed, by the age of 24 months, the average child can comprehend subject-verb relationships in sentences and is participating, at least minimally, in conversations (Menyuk, 1995). The third year of life is marked by yet another

dramatic increase in the average child's vocabulary development and his or her sentences become more adult-like in their structure (Menyuk, 1995).

During the preschool period, children begin to learn how to use their language properly and productively in social situations. As children's expertise in the forms and functions of language increases, they begin to use their newly acquired vocabulary and language skills differently. They develop the ability to think about language. They begin to play with it, analyze it, and make judgments about it. These "metalinguistic" skills continue to grow and to develop throughout the preschool years and become a part of a strong foundation for reading acquisition (Snow, Burns, & Griffin, 1998).

Failure in school has often been linked to deficits in student language abilities (Stormont, Espinosa, Knipping, & McCathren, 2003). Evidence of the negative effects of language delays and disorders on peer relationships (Fujiki, Brinton, & Todd, 1996), emotional and behavioral disorders (Donahue, Cole, & Hartas, 1994), reading ability (Catts, 1993; Catts, Fey, Tomblin, & Zhang, 2002; Hubba & Ramisetty-Mikler, 1995; Olofsson & Niedersoe, 1999), and later school success (Locke, Ginsborg, & Peers, 2002) continues to mount. For the purposes of this study, it is important to be aware of what researchers now understand about the connection between language development and later reading success.

The Connection between Reading and Language Development

Phonological awareness has often been cited as a marker of early reading success (National Institute of Child Health and Human Development 2000; Roth, Speece, & Cooper, 2002; Snow, Burns, & Griffin, 1998). Phonological awareness refers to the ability to focus on and manipulate the smallest units of spoken words (National Institute of Child Health and Human Development, 2000). Current research indicates that phonological awareness helps

beginning readers to transform graphemes (letters) into phonemes (sounds) and then blend the phonemes together to form words. Roth, Speece, and Cooper (2002) noted that phonological awareness measured in kindergarten is indeed a significant predictor of word-level reading in second grade.

In this same study, Roth et al. (2002) also found that phonological awareness is not a predictor of reading comprehension in first and second grades. Reading comprehension relates to the students' ability to move beyond simply decoding text. It relates to the students' ability to read text for understanding, create a memory representation of the information that was read, and put that understanding to use. As students move into higher grades, comprehension expectations increase. Teachers look for students to be able to "read to learn" new materials across the curriculum. In Roth et al.'s (2002) study, semantic knowledge, as measured by word definitions and word retrieval, not phonological awareness, was the significant predictor of reading comprehension in these grades. Similar results from studies such as this seem to indicate that once the grapho-phonemic code has been broken, the child's other language skills (expressive and receptive language abilities) take over and have a greater impact on the student's ability to comprehend text. It is believed that it is these skills that support the student's reading, writing, and academic growth through the remainder of his or her schooling (Locke et al., 2002).

This view of the impact of decoding (the ability to translate a word from print to speech by employing knowledge of sound symbol correspondences – understanding and using the grapho-phonemic code to decipher words) and oral language abilities (expressive and receptive language abilities) is reinforced by the work of Storch and Whitehurst (2002). In their longitudinal study of oral language and grapho-phonemic code-related precursors to reading, Storch and Whitehurst found that decoding skills and oral language skills are distinct capacities

and that they play their most critical roles at different stages during the development of reading. Oral language abilities, like decoding skills, promote word-reading abilities. Oral language skills, however, take students beyond word-level reading and provide the foundation for the development of the advanced oral language skills necessary for successful comprehension.

As research in this area continues, the connection between early language development and later reading success is becoming even more apparent. Catts et al. (2002) noted that children with identified language impairments score significantly lower than non-impaired children in word recognition and reading comprehension tasks. Catts et al. also found correlational relationships between reading comprehension and receptive and expressive language levels. Catts et al.'s results seem to indicate a concurrent relationship between language abilities and reading outcomes in students.

In their study of early and non-early readers, Huba and Ramisetty-Mikler (1995) also found a connection between reading and language development. After three years of evaluating their participants' language and reading capabilities (grades K-2), Huba and Ramisetty-Mikler found that early readers' preschool language capabilities are far superior to those of non-early readers. Their results also indicate that both early and non-early readers' general language ability and verbal intelligence are strongly related to first- and second-grade reading comprehension.

Together, the results of these studies indicate that decoding skills and oral language skills are distinct capacities and that they play their most critical roles at different stages during the development of reading. Decoding abilities seem to be linked to greater reading success in the initial years of schooling. These skills allow children to make their initial attempts at reading words and beginning texts. Oral language abilities, although linked to the decoding skills that promote word-reading abilities, take students beyond word-level reading and provide the

foundation for the development of the advanced oral language skills necessary for the successful comprehension demonstrated by more skilled readers. Strong oral language abilities would, therefore, seem to be critical in developing readers who can comprehend text.

The Relationship between Oral Language Development Levels and Socio-economic Levels

Current studies indicate that there is a link between socio-economic level (SES) and oral language development. Graves and Slater (1987) found that first-graders from higher SES backgrounds had about twice the vocabulary size of those of their lower-income peers.

Locke, Ginsborg, and Peers (2002) compared the oral language skills of children raised in poverty, against their own cognitive skills, and against the oral language skills and the cognitive skills of children in the general population. The researchers found that, although the cognitive abilities of children raised in poverty were comparable to those of children in the general population, the oral language levels of these impoverished children were statistically significantly below the levels of their more affluent peers.

Farkas and Beron (2004) conducted a similar study using data collected between 1986 and 2000 from Children of the National Longitudinal Survey of Youth. The researchers found that during the high impact period of up to 3 years of age, both Caucasian and African American children from higher SES homes acquire vocabulary at a faster rate that do their lower SES peers. The effect of SES on vocabulary acquisition rates then seems to become more equal after the high impact period, with the gap in vocabulary knowledge remaining, but acquisition rates becoming more equivalent as the children reach about school age. These results would seem to indicate that formal school attendance tends to level vocabulary acquisition rates. The results of this study also indicate that any gaps that do exist in student oral language development prior to the start of school remain and are maintained through early adolescence.

Hart and Risley (1995) engaged in a longitudinal study that investigated the adult/child talk in the home. Hart and Risley's results indicate that by age 3 there is about a 600-word difference in the number of vocabulary words recorded for children of professional parents versus those whose parents were receiving welfare. Based on this information, Hart and Risley drew several conclusions. One conclusion was that the gap between the spoken vocabularies of the children from professional families and those from welfare families by age 4 is so great that the best that can be expected from educational intervention is to keep the child from falling even farther behind. They also concluded that an intervention done to keep an average welfare child's language experience equal to that of a child from a working-class home would require that the child be in substitute care which provided professional home-like language experiences for 40 hours per week from birth onward.

In 2001, Weizman and Snow also published a study that looked at vocabulary exposure in the home. Recognizing the research done by Hart and Risley (1995), Weizman and Snow, investigated the amount and type of vocabulary mothers used when speaking to their children. Additionally, the researchers looked at the amount and types of conversational supports that were used by these mothers to support children's comprehension of more sophisticated words - words not contained on the Dale-Chall List of 3,000 Familiar Words (RFP Evaluation Centers, 2009). Weizman and Snow found vast differences, both quantitatively and qualitatively, in vocabulary exposure among low-income children. They also found that a child's vocabulary exposure at age 5 is linked strongly to early exposure to sophisticated words and to the frequency with which instructive or helpful supports were provided by the mother. These two predictors – exposure to sophisticated words and the use of instructive or helpful supports – each

accounted for about 1/3 of the variation in the children's vocabulary scores in kindergarten and in second grade.

In 2008, Rowe published a study that investigated the impact of caregiver speech on children's vocabulary skills at age 3 years 6 months. During this study Rowe audio-taped the speech of 47 parent-child dyads in their homes during a 90 minute time period. She measured several variables from this sample including: number of words, number of different words, and utterance length. Her results indicated that the quality and quantity of child directed speech by parents is related to children's preschool vocabulary size. Rowe also found that parents from higher SES families talked more, used more diverse vocabulary, and had longer utterances than their lower SES peers.

Collectively, the results of the studies highlighted in this section seem to indicate that there are differences in the home language experiences of children from differing SES levels – that children from lower SES homes are often not receiving the quantity, the richness, the sophistication of vocabulary exposure, and/or the vocabulary supports as their higher SES peers. The studies would also seem to indicate that these differences in language experiences have their greatest impact on many children prior to the age of 3½ and that these differences in language experiences prior to the start of formal schooling can impact children's oral and receptive language levels, causing a gap that remains as they enter formal schooling at age 5 or 6.

Attempts to Close the Educational Gap

For more than a century cognitive psychologists, policymakers, and educators alike have looked for ways to address the needs of low-achieving socially disadvantaged students. In 1907 Maria Montessori offered a philosophy of education and a model of

instruction for low SES children through her book entitled *The Montessori Method* (Montessori, 1964) and through the establishment of the first *Casa dei Bambini* (Children's House) in the slums of Italy (Hunt, 1964). In the United States in the 1960's two pieces of federal legislation, the *Economic Opportunity Act* (1964) and the *Elementary and Secondary Education Act* (1965) established Head Start and Title I programs to try to better meet the needs of disadvantaged and low-achieving children. In 1994, Early Head Start was established by the United States Congress in the reauthorization of Head Start Act.

In 2001, another piece of federal legislation was passed with the intent of forcing the educational system to find a way to meet the educational needs of all children. *No Child Left Behind* (2001) requires school systems to show academic improvement in their students – as a whole school and within aggregated sub-groups – or face penalties such as public black-listing, school improvement plans, and restaffing. With *No Child Left Behind* (2001) has come an onslaught of high-stakes testing and a system that is still looking for ways to bridge the gap for those low-achieving, low SES students.

Despite the creation of these federal programs, there is considerable evidence that the gap between low SES students and their higher SES peers continues to exist. The results of the 2013 National Assessment of Educational Progress (NAEP) (National Center for Statistics, 2013) is one such piece of evidence. The results of this study indicate that of the fourth-grade students whose families qualified for the free lunch program, scored 29 points below their non-free lunch qualifying peers on the reading subtest.

Perhaps, as indicated by the work of such researchers as Hart and Risley (1985), we are starting our search for ways to close the educational gap between high and low SES students

much too late. If, as suggested by Hart and Risley (1985), the oral language gap between groups is almost insurmountable by age four and if, as suggested by Locke, Ginsborg, and Peers (2002) and others in this field of research, there is indeed a connection between oral language development and school success, should we not be looking to establish more high-quality preschools to help us reach those most in need?

Can Preschool Experiences Make a Difference?

Snow, Burns, and Griffin (1998) as a part of the National Research Council's (NRC) report on preventing reading difficulties in young children, suggested that preschool can make a difference. The NRC report suggests that preschools can affect student achievement when they support strong language and literacy environments. Indeed, this report advocates quality preschool programs as a means by which to address and enhance language development especially for economically disadvantaged children.

According to the National Institute for Early Education Research (Espinosa, 2002), preschool programs are typically rated on two dimensions of quality – process and structure. Process quality is measured in terms of the interactions, activities, materials, learning opportunities, and health and safety routines that are observed in the school. Structural quality is measured by classroom characteristics such as adult-child ratio, class size, and the educational and training levels of the teachers and staff. Children in preschool and programs in which process quality features are highly rated have been shown to develop more advanced language and math abilities.

In Caughy, DiPietro, and Strobino's (1994) study of the impact of preschool participation on low income students, quality preschool was indeed found to have a positive impact on students' reading recognition scores. Specifically, students from impoverished homes who

started a high-quality preschool program prior to their first birthday had higher reading recognition scores than children from comparable homes who did not attend preschool. Likewise, a study of the impact of the High/Scope Perry Preschool Program, a high-quality preschool program designed specifically to support impoverished children, indicates that attendance at a high-quality preschool can impact not only the children's readiness for school, but also their subsequent educational performance, adulthood economic success, and a reduction of criminal arrests (Schweinhart, 2003).

Although there has been a great deal of research done on the impact of mothers' speech on young children's oral language development and teachers' speech on children's oral language development ages 3 and older, I have not been able to find any research regarding the amount, richness, sophistication, and conversational supports of preschool teacher speech for teachers who work with low income children younger than 36 months. The question remains; Are these teachers who are working with students during this very critical developmental period (0-36 months) using instructional models that strengthen their students' oral language development? Are they creating language rich environments thereby supporting children's oral language development and working toward closing the gap for our neediest students? If they are, then does teacher talk truly make a difference?

The Impact of Teacher Talk

The guidelines established by the National Association for the Education of Young Children stress the necessity for teachers to interact with children throughout the day in a sensitive and responsive manner in order to initiate and sustain children's play and to guide social-emotional development. Specifically, teacher interactions with their students are considered to be developmentally appropriate when the teacher: (a) responds promptly, directly,

and tenderly to children; (b) offers numerous opportunities for the children to participate in two-way communications; (c) identifies and elaborates on the emotions, interests, and activities of the children (Bredekamp, 1987).

More recent research echoes the need for quality interactions between the teacher and her students in the preschool classroom. In fact, many researchers assert that the quality of a preschool classroom is, to a great degree, established by the quality of the interactions that occur between the teacher and the children (de Kruif, McWilliam, Ridley, & Wakely, 2000; Espinosa, 2002). Research on preschoolers that are older than 36 months has shown that children from low SES families, whose syntactic level may be quite low at the beginning of the year, may grow as much or more than children from higher SES families, if their teachers provide verbal input comparable to or greater than the verbal input in the higher SES preschools (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002).

The acquisition of oral language by young children is strongly impacted by their daily verbal interactions with adults. It is through these interactions that children learn the social aspects of conversation and gain exposure to and greater knowledge of grammar and vocabulary (Massey, 2004). Wasik, Bond, and Hindman (2006) also found that teacher talk could have an impact on preschool children's language levels. In their study, a language and literacy intervention was implemented in 10 Head Start classrooms (students' ages 36-60 months). The teachers in these classrooms received training in how to increase opportunities for language and vocabulary development in their classrooms. The results indicated that students in the intervention classrooms who were provided additional language experiences scored significantly better on both language assessments than did their age-equivalent peers from the control groups.

Turnbull, Anthony, Justice, and Bowles (2009) did a study that mirrors this study in many aspects. They too were curious about the type of language input that students receive in preschool classroom settings. The participants in their study were all teachers of high-risk students ages 4 years to 4 years, 11 months (upon school entry). The settings the researchers chose for their study included 6 Title I classrooms, 6 Head Start classrooms, and 2 state run public pre-kindergarten programs. All of the programs in their study used economic disadvantage as either the main determinate or partial determinate of program qualification for their students.

Turnbull et al. (2009) recorded the teachers' verbal output to their students for 24 minute periods. They then analyzed the results looking for 6 language stimulating utterance types (model, recast, open question, event cast, focused contrast, and open initiation), group size, and context of speech. Turnbull, et al.'s (2009) findings reveal that only 36% of the teachers' utterances were of the type believed to support language growth. The remainder of the utterances represented less complex language (i.e. directives, closed-ended or rhetorical questions, or general praise). They also found significant variance among teachers in their use of language-stimulating utterances. Finally, they found that neither the group size nor context of the verbal interaction was predictive of teachers' use of language-stimulating utterances, but that these language-stimulating utterances did occur more often in small group settings.

Turnbull et al.'s (2009) findings are powerful indicators of the verbal interactions that may be occurring between teachers and older, socio-economically disadvantaged, preschool students while in their classrooms, but are they reflective of the patterns between teachers and younger children in similar settings? As stated previously, I have been unable to find any research regarding the amount, richness, sophistication, and conversational supports of preschool

teacher speech for teachers who work with low income children up to 36 months in age. That is what this study seeks to explore.

The Current Study

This study investigated the oral language patterns of Early Head Start teachers who work with low SES children up to 36 months of age in preschool centers. The research focused on analyzing the amount, richness, and sophistication of the language input, as well as the conversational supports that are offered by Early Head Start teachers to their 0-36 month old students. Many of the concepts being analyzed in this study are not new to the research field. The same evaluations of adult speech have been used in other studies by other researchers. There has been a large amount of research done on the impact of mothers' talk on children's language development. There is also a great deal of research on the impact of teacher talk on school-age children and older preschoolers. What makes this study unique is the application of the language analysis done by many other researchers on the speech of mothers of low SES children and the speech of teachers of older low SES preschoolers to teachers of younger low SES children - namely Early Head Start teachers.

Research Questions

This study investigated the oral language patterns of Early Head Start teachers who work with low SES children ages up to 36 months in a preschool setting. During this investigation, I analyzed the amount, richness, and the sophistication of the oral language input that is offered by Early Head Start teachers to their students. I also analyzed the quality and quantity of the conversational supports offered by these teachers to their students during encounters with

Table 1

Research Sub-Questions, Related Variables, and Data

Research Sub-Questions	Sub-Question Variables	Sub-Variables Calculated	Data Collected for Calculations
What is the nature of the vocabulary input that Early Head Start teachers are providing their students?	Amount	• Words/hour • Different words/hour • Nouns/hour • Verbs/hour • Adverbs/hour • Adjectives/hour • Functors/hour • Words/morning • Different words/morning • Nouns/morning • Verbs/morning • Adverbs/morning • Adjectives/morning • Functors/morning	• Number of words • Number of different words • Number of nouns • Number of verbs • Number of adverbs • Number of adjectives • Number of functors • Length of time
	Richness	• Mean words/utterance • Mean different words/utterance • Mean nouns/utterance • Mean verbs/utterance • Mean adverbs/utterance • Mean adjectives/utterance • Mean functors/utterance	• Number of words • Number of different words • Number of nouns • Number of verbs • Number of adverbs • Number of adjectives • Number of functors • Number of utterances
	Sophistication	• Sophisticated words/hour • Sophisticated words/morning • Percent sophisticated words/hour • Percent sophisticated words/morning	• Number of words • Number of sophisticated words • Length of time
What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?	Conversational Supports	• Instructional supports/hour • Helpful supports/hour • Neutral supports/hour • Instructional supports/morning • Helpful supports/morning • Neutral supports/morning • Percent instructional supports/hour • Percent helpful supports/hour • Percent neutral supports/hour • Percent instructional supports/morning • Percent helpful supports/morning • Percent neutral supports/morning	• Number of sophisticated words • Number of instructional supports • Number of helpful supports • Number of neutral supports • Length of time

sophisticated words. The research question for this study is: How do Early Head Start teachers talk to their students? To find the answer to this question the following subordinate questions were addressed as well:

- What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?
- What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?

Table 1 shows the correspondence between these subordinate questions, the related sub-question variables, the sub-variables to be calculated, and the data to be collected.

Significance

As stated previously, many of the concepts that were analyzed in this study are not new to the research field. The same evaluations of adult speech have been used in other studies by other researchers. There has been a great deal of research done on mothers' speech patterns and the impact of these patterns on children's language development. Numerous studies have also been done on of the impact of teacher talk on school-age and older preschool-age children. Again, what makes this study unique is the application of the language analysis done by many other researchers on the speech of mothers of low SES children and the speech of teachers of older low SES preschoolers to teachers of younger low SES children - namely Early Head Start teachers. The results of this study provide data on the oral language patterns and conversational supports of teachers who work in a small sample of Early Head Start facilities.

Definitions

The key terms of this study are listed in this portion of the paper alphabetically by category. These categories include: *General Terms, Parts of Speech Which Were Coded from*

Teachers' Utterances, *Conversational Supports of Sophisticated Words Which Were Coded,* and *Variables Which Were Calculated from Teacher Utterance Data.*

General Terms

Federal Poverty Guidelines – guidelines established each year by the Federal Government's Department of Health and Human Services which are used as income eligibility criterion for Federal programs such as Early Head Start.

Sentence - utterances containing a verb (Hart & Risley, 1995).

Socio-economic Status (SES) – a categorization of people based on income, education, and occupation (Snow et al., 1998).

Simple Words - words included on the updated version of the Dale-Chall list of 3,000 familiar words (RFP Evaluation Centers, 2009), the linguistic forms of the base of these words, or proper nouns familiar to the students such as the teacher's name (Weizman and Snow, 2001). These 3,000 words are words that have been documented as being understood by more than 80% of students in fourth grade. Dale and Chall also identified these words the most elemental words in the English language or words that are generally known without the benefit of formal schooling (Chall & Dale, 1995).

Sophisticated Words – words not included on the updated version of the Dale-Chall list of 3,000 familiar words (RFP Evaluation Centers, 2009), or that are not the linguistic forms of the base of these words, or that are not proper nouns familiar to the students such as the teacher's name (Weizman & Snow, 2001).

Utterance – a continuous stretch of speech activity especially when regarded grammatically independent of preceding and following stretches whether by the same or another speaker (Gove, 1993, p. 2526).

Parts of Speech Which Were Coded from Teachers' Utterances

Adjective – a word belonging to one of the major form classes in any of a great number of languages typically used as a modifier of a noun to denote a quality of a thing named (as *brave* in a "brave man," or "the man is very brave," *new* in "the new dress" or "the dress is new"), to indicate its quantity or extent (as *five* in "five cows," *every* in "every word"), or to specify or designate a thing as distinct from something else (and in *these* in "these wheels") and in many languages declined for gender, number, and case and agreeing in all these respects with the noun it modifies but in English, having no such inflections (except for *this*, plural *these*, and *that*, plural *those*) (Gove, 1993, p. 27; Hart & Risley, 1995).

Adverb – a word belonging to one of the major form classes in any of a great number of languages typically used as a modifier of a verb, an adjective, another adverb, a preposition, a phrase, a clause, or a sentence and typically expressing some relation of manner or quality (as *well* in "she sings well," *surprisingly* in "surprisingly slow"), place (as *here* in "sit here"), time (as *now* in "now under consideration"), degree (as *too* in "too hastily," *rather* in "rather near us"), number (as *triply* in "triply bound"), cause (as *therefore* in "therefore the statement is true"), opposition (as however in "if *however* this proves impossible"), affirmation (as *certainly* in "he certainly did"), or denial (as *not* in "he did not"), sometimes having degrees of comparison expressed by affixation (as *soon, sooner, soonest*), suppletion (as *well, better, best*), or periphrasis (as *happily, more happily, most happily*) but otherwise uninflected, and frequently formed with a characteristic derivative affix (as *–ward, -wards* in "homeward," "homewards," *–wise* in "clockwise," and *–ly* in "aptly"), this last being especially frequent since it is the principal means of forming adverbs from adjectives (Gove, 1993, p. 31; Hart & Risley, 1995).

Functors - all words that are not nouns, verbs, or modifiers – such as determiners, articles, quantifiers, pronouns, prepositions, conjunctions – (with the exception of proper nouns and coined words) that are used in an utterance (Hart & Risley, 1995).

Noun – (1) a word that is the subject of discourse (as a person, animal, plant, place, thing, substance, quality, idea, action, or state) and that in languages with grammatical number, case, and gender is inflected for number and case but has inherent gender (2) a word except for a pronoun used in a sentence as a subject or object of a verb, as an object of a preposition, as the predicate after a copula, or as a name in an absolute construction (Gove, 1993, p. 1545; Hart & Risley, 1995).

Verb – a word belonging to that part of speech that characteristically is the grammatical center of a predicate and expresses an act, occurrence, or mode of being and that in various languages is inflected for agreement with the person and number of the subject for tense, for voice, for mood, or for aspect and that typically has rather full descriptive meaning and characterizing quality but is in some instances nearly devoid of such meaning, especially when in use as an auxiliary or copula (Gove, 1993, p. 2542; Hart & Risley, 1995).

Conversational Supports of Sophisticated Words Which Were Coded

Instructional – presentations of sophisticated words that are informative and scaffolded by the teacher (adapted from Weizman & Snow, 2001).

Helpful – presentations of sophisticated words that may be or may not be informative but have some scaffolding – either physical or contextual in nature (adapted from Weizman & Snow, 2001).

Neutral – presentations of sophisticated words that are not informative and lack contextual or physical scaffolding (adapted from Weizman & Snow, 2001).

Variables Which Were Calculated from Teacher Utterance Data

Amount – the average number of a quality feature per observation hour (e.g., nouns/hour) (Hart & Risley, 1995).

Richness – the number of each quality feature in each observation divided by the number of utterances the teacher said in the observation and averaged. The resulting proportion is richness/utterance (e.g., nouns/utterance) (Hart & Risley, 1995).

Language Sophistication – the percentage of teacher talk that consisted of sophisticated vocabulary words (Wiezman & Snow, 2001).

Assumptions

One significant assumption that I made is that the lead teacher does most of the talking and has the potential to have the most impact on student vocabulary growth in an Early Head Start classroom. It is based on this assumption that the lead teacher's verbal output was recorded, analyzed, and transcribed.

Limitations

One important limitation of this study was my inability to capture all of the adult speech to which children are exposed in the classroom over the course of the day. The target of my recording was the lead teacher during the morning hours. I did not purposefully record the speech of any other adults with whom the children might interact during this time period. No co-teacher's, classroom aide's, or parent volunteer's speech was transcribed or analyzed in this study. The only adult's speech that was transcribed was that of the lead classroom teacher. In addition no afternoon samples were taken. The data that was analyzed can only be attributed to the lead teacher from four 60-minute periods recorded over the course of four mornings during an approximately four-week period.

Another limitation was the variance in teacher speech patterns that can occur as a result of differences in activities across different times of day or days of the week. I tried to compensate for this limitation by varying the observation time and day over the course of 4 weeks. Each classroom observation within a single classroom occurred on a different day of the week in order to minimize the effect of the weekly routine on the results. The time of each observation within a classroom was also changed to minimize the effect of daily routines on the results. In case the teacher got sick, school was cancelled, or a special event was planned, I had scheduled a fifth observation period. These "make-up" observations would have occurred at the end of the study at the time of the missed observation and on a day of the week not previously scheduled. Since none of the observations had to be cancelled, this fifth observational period was not necessary. It was my hope to capture the essence of teacher speech of a fairly typical morning over the course of 4 observations.

Another limitation that may have impacted the results of this study was the age range of the children with which these teachers were working. The breadth of this age range could have impacted the results because research has shown that caretaker speech patterns are different based on the age of the children with whom they are speaking (Huttenlacher, 2007). This range could not be narrowed, however, because of the structure of the Early Head Start program. Each center determines its own classroom breakdown based on the population which it serves. Therefore, some Early Head Start classrooms have students aged 0-36 months in the same classroom, while others with larger populations may have less condensed age brackets within one classroom.

The observer effect was another limitation that may have impacted the results of this study. I spent about an hour meeting with each Early Head Start teacher prior to being in her

classroom. During this time I shared information about the study and tried to make the teacher feel comfortable with me coming into her classroom to observe. I also spent one 60-minute pre-observation period in each classroom prior to the start of the study. During this time I hoped to further establish a rapport with the teacher. I also wanted the teacher and students to have the opportunity to get used to my presence in the classroom. During my time in the classroom prior to the start of the study, I placed audio recording apparatuses in their proposed locations in order to desensitize the teacher and their students to the devices. These locations were used throughout the time of the study –except when then students left the classroom – so that the presence of the audio equipment would have minimal, if any, impact on the teacher's speech. Finally, I spent time both before and after each observation in casual conversation with the teacher. This time was helpful in making the teacher feel comfortable with my presence by establishing a positive conversational relationship with each teacher involved in the study.

One additional limitation of this study is its generalizability. Because of the small number of teachers involved in this study, it is not advisable to attempt to generalize these findings to the entire population of Early Head Start teachers and their students. The intention of this study was to investigate current practices in a few Early Head Start facilities and to open the door to further research in this area.

Chapter 2 - REVIEW OF THE LITERATURE

Purpose

In this study I investigated the oral language patterns of Early Head Start teachers who work with low SES children ages 0-36 months in a classroom setting. I analyzed the amount (e.g., words, different words, nouns, verbs, modifiers, and functors used/hour), richness (e.g., words, different words, nouns, verbs, modifiers, and functors used/utterance), and sophistication (e.g., the percentage of teacher talk consisting of words not on the Dale-Chall list of 3,000 familiar words (RFP Evaluation Centers, 2009)) of the oral language input that is offered by Early Head Start teachers to their students. In addition, I analyzed the quality (instructional, helpful, or neutral) and quantity of the conversational supports (e.g., the number of each type of support/hour) that these teachers offered their students during encounters with sophisticated words.

Chapter Two consists of several sections and sub-sections. I begin the chapter with a review the theoretical base upon which this study was built. I then offer a brief historical perspective of some of society's attempts to meet the needs of low-achieving socially-disadvantaged students. Next, I discuss the rationale for running this particular study. The rationale consists of a discussion of the following related topics: *The Connection between Reading and Language Development, The Relationship between Oral Language Development Levels and Socio-economic Levels, Can Preschool Experiences Make a Difference?, Closing the Gap,* and *The Impact of Teacher Talk.* I then review the literature related to my topic. The literature review consists of four sections: *Adult-child Interactions, Quality Features of Teacher Language and Interactions, Variables that Impact Teacher Talk,* and *Suggestions to Teachers from the Research.* Chapter Two ends with a *Summary* of the information from the chapter. This

section also contains a brief discussion of the implications of the information contained within the chapter and as well as some conclusions that might be drawn based on the literature from this chapter.

Theoretical Base

This study is based on the following theories: (a) If no appropriate ideal form of language is found in the environment, but instead there is only interaction between several rudimentary forms, the resulting language development has an extremely limited, reduced, and impoverished character (Vygotsky, 1994). (b) A child does not create his own speech, but acquires the speech of adults (Vygotsky, 1986). (c) Meanings of words, phrases, and sentences are always situated in, that is customized to our actual contexts – this includes the words, deeds, purposes, values, and things that surround our words and deeds, as well as the purposes, values, and intended courses of action and interaction (Gee, 2004). (d) Marked changes in the environment in the early years can produce greater changes in intelligence than will equally marked changes in the environment at later periods of development (Bloom, 1966), (e) The only good kind of instruction is that which marches ahead of development and leads it; it must be aimed at the ripe as much as the ripening functions (Vygotsky, 1986), (f) With proper, powerful educational environments students can overcome economic and cultural disadvantages (Bloom, Davis, & Hess, 1965).

Historical Perspective

For more than a century cognitive psychologists, policymakers, and educators alike have looked for ways to address the needs of low-achieving socially disadvantaged students. In 1907 Maria Montessori offered a philosophy of education and a model of instruction for low SES children through her book entitled *The Montessori Method* (Montessori, 1964) and through the

establishment of the first *Casa dei Bambini* (Children's House) in the slums of Italy (Hunt, 1964).

In the 1960's two pieces of federal legislation, the *Economic Opportunity Act* (1964) and the *Elementary and Secondary Education Act* (1965) established Head Start and Title One programs to try to better meet the needs of disadvantaged and low-achieving children. During this period Dr. Benjamin Bloom also took a special interest in the plight of culturally-disadvantaged low-achieving students. In 1965 he and two University of Chicago colleagues convened a conference on this topic. The proceedings of the conference were published in a book entitled *Compensatory Education for Cultural Deprivation* (Bloom, et al., 1965). In it Bloom wrote:

> Very few problems in the field of education are as complex as the problems of cultural deprivation. An adequate attack on these educational problems requires that educational policy makers, curriculum specialists, teachers, guidance workers and administrators have an appreciation of the many ways in which the social problems of our society bear directly on the development of the child and adolescent and influence the interaction between students and schools. (Bloom, Davis, & Hess as cited in Anderson, 2003)

In 1994, Early Head Start was established by the United States Congress in the reauthorization of Head Start Act. Its establishment was in response to the recommendations of the 1993 Advisory Committee on Head Start Quality and Expansion and the 1994 Advisory Committee on Services for Families with Infants and Toddlers. Early Head Start opened its doors with 68 new programs in 1995 (Commissioner's Office of Research and Evaluation and the Head

Start Bureau Administration on Children, Youth and Families Department of Health and Human Services, 2011).

In 2001, another piece of federal legislation was passed with the intent of forcing the educational system to find a way to meet the educational needs of all children. *No Child Left Behind* (2001) requires school systems to show academic improvement in their students – as a whole school and within aggregated sub-groups – or face penalties such as public black-listing, school improvement plans, and restaffing. With *No Child Left Behind* (2001) has come an onslaught of high-stakes testing and a system that is still looking for ways to bridge the gap for those low-achieving, low-SES students.

In 2011, the Obama Administration announced that, in the absence of the reauthorization of *No Child Left Behind* (NCLB), states could request waivers in order to have some flexibility in meeting some of the law's requirements. Since February of 2012, forty-three states and the District of Columbia have been granted waivers (in those states in which waivers have been not been granted, NCLB remains in full effect). Some of the reforms that states set in motion through the adoption of these waivers have been controversial. From the development of these waivers has come the adoption of new policies such as the *Common Core Curriculum* (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). The adoption of these waivers is also impacting annual student achievement targets that states have set; states' new systems for measuring school quality and/or identifying schools for improvement; and states' plans to implement teacher and principal evaluations based in part on student test scores (New America Foundation, 2014).

Despite the controversy connected to many of the policies related to NCLB waivers, it appears likely that waivers will continue to serve as de facto federal policy until NCLB is

reauthorized. These pieces of legislation from State Departments of Education along with the remaining impact of NCLB, and funding/grant programs such as *Race to the Top* – part of the American Recovery and Reinvestment Act (2009) - have left schools still trying to meet a diversified set of educational standards.

Despite the creation of these outcome-based programs, there is great evidence that the gap between low SES students and their higher SES peers continues to exist. The results of the 2013 National Assessment of Educational Progress (NAEP) (National Center for Statistics, 2013) are one such piece of evidence. The NAEP results indicate that fourth-grade students whose family income qualified them for the free lunch program scored an average of 29 points lower than their non-free lunch program peers on the reading subtest.

Rationale

Children gain considerable knowledge of all the various facets of human language (Menyuk, 1995) during their first three years of life. In fact, research indicates that a fetus in the womb can hear sounds that are generated both inside and outside the mother's womb. As a result of these experiences, infants enter the world already familiar with some of the phonology of their language (Brandone, Salkind, Golinkoff, Hirsh-Pasek, 2006; Werker & Lalonde, 1988). Soon after birth, infants begin to make noises. These noises evolve into vocal play at around 4 months of age. This vocal play turns into babbling (language like sounds) around 6-7 months of age and then evolves into jargon (strings of sounds and syllables produced to mimic the sounds of adult speech (Brandone, et al., 2006). By their first birthday, most children have already developed the ability to comprehend some basic words and their meanings. This ability to comprehend spoken language is thought to develop somewhat before children's ability to actually produce meaningful spoken words (Huttenlocher & Smiley, 1987). At about one year of age, children's

preliminary attempts at speech begin to advance toward identifiable terms from their native tongue (Werker & Lalonde, 1988).

Between the ages 1-3 in a child's development, there is rapid growth in the areas of speech comprehension and speech production. It has been estimated that by the age of 18 months the average child can comprehend approximately 100 words and has a speaking vocabulary of approximately 50 words (Menyuk, 1995). During the next six months of an average child's development, there are vast increases in the size of both the comprehended and spoken vocabulary (Bates, Bretherton, Snyder, Beeghly, Shore, McNew, et al., 1988). Indeed, by two years of age, the average child can comprehend subject-verb relationships in sentences and is participating, at least minimally, in conversations (Brandone, et al., 2006; Menyuk, 1995). The third year of life is marked by yet another dramatic increase in the average child's vocabulary development and his or her sentences become more adult-like in structure (Menyuk, 1995).

During the preschool years, children begin to understand how to use language appropriately and productively in social situations. As their expertise in the forms and functions of language increase, they begin to use their newly acquired vocabulary and language skills differently. They develop the ability to think about language. They begin to play with it, analyze it, and make judgments about it. These "metalinguistic" skills continue to grow and to develop throughout the preschool years and become a part of a strong foundation for reading acquisition (Snow, Burns, & Griffin, 1998).

Failure in school has often been linked to deficits in student language abilities (Stormont, Espinosa, Knipping, & McCathren, 2003). Evidence of the negative effects of language delays and disorders on peer relationships (Fujiki, Brinton, & Todd, 1996), emotional and behavioral disorders (Donahue, Cole, & Hartas, 1994), reading ability (Catts, 1993; Catts, Fey, Tomblin, &

Zhang, 2002; Hubba & Ramisetty-Mikler, 1995; Olofsson & Niedersoe, 1999), and later school success (Locke, Ginsborg, & Peers, 2002) continues to build. For the purposes of this study it will be imperative to understand what researchers now believe about the relationship between language development and later reading success.

The Connection between Reading and Language Development

Phonological awareness has often been cited as a marker of early reading success (National Institute of Child Health and Human Development 2000; Roth, Speece, & Cooper, 2002; Snow, Burns, & Griffin, 1998). Phonological awareness refers to the ability to focus on and manipulate the smallest units of spoken words (National Institute of Child Health and Human Development, 2000). Current research indicates that the role of phonological awareness, an important pre-reading skill, is in helping beginning readers to break the code at the word level. Specifically, phonological awareness helps beginning readers to transform graphemes (letters) into phonemes (sounds) and then blend the phonemes together to form words. Roth, Speece, and Cooper (2002) noted that phonological awareness measured in kindergarten is indeed a significant predictor of word-level reading in second grade.

In this same study, Roth et al. (2002) also found that phonological awareness is not a predictor of reading comprehension in first and second grades. Reading comprehension relates to the students' ability to move beyond simply decoding text. It relates to the students' ability to read text for understanding, create a memory representation of the information that was read, and to put that understanding to use. As students move into higher grades, comprehension expectations increase. Teachers look for students to be able to "read to learn" new materials across the curriculum. In Roth et al.'s (2002) study, semantic knowledge, as measured by word definitions and word retrieval, not phonological awareness, was the significant predictor of

reading comprehension in these grades. Similar results from studies such as this seem to indicate that once the grapho-phonemic code has been broken, the child's other language skills (expressive and receptive language abilities) take over and have a greater impact on the student's ability to comprehend text. It is believed that it is these skills that support the student's reading, writing, and academic growth through the remainder of his or her schooling (Locke et al., 2002).

This view of the impact of decoding (the ability to translate a word from print to speech by employing knowledge of sound symbol correspondences – understanding and using the grapho-phonemic code to decipher words) and oral language abilities (expressive and receptive language abilities) is reinforced by the work of Storch and Whitehurst (2002). In their longitudinal study of oral language and grapho-phonemic code-related precursors to reading, Storch and Whitehurst found that decoding skills and oral-language skills are distinct capacities and that they play their most critical roles at different stages during the development of reading. Oral language abilities, like decoding skills, promote word-reading abilities. Oral language skills, however, take students beyond word-level reading and provide the foundation for the development of the advanced oral language skills necessary for successful comprehension.

As research in this area continues, the connection between early language development and later reading success is becoming more apparent. Catts et al. (2002) noted that children with identified language impairments score significantly lower than non-impaired children in word recognition and reading comprehension tasks. Catts et al. also found correlational relationships between reading comprehension and receptive language and expressive language levels. The results of this study seem to indicate a concurrent relationship between language abilities and reading outcomes in students.

In their study of early and non-early readers, Huba and Ramisetty-Mikler (1995) also found a connection between reading and language development. After three years of evaluating their participants' language and reading capabilities (grades K-2), Huba and Ramisetty-Mikler found that early readers' preschool language capabilities are far superior to those of non-early readers. Their results also indicate that both early and non-early readers' general language ability and verbal intelligence are distinctly related to first- and second-grade reading comprehension.

Together, the results of these studies indicate that decoding skills and oral-language skills are distinct capacities and that they play their most critical roles at different stages during the development of reading. Decoding abilities seem to be linked to greater reading success in the initial years of schooling. These skills allow children to make their initial attempts at reading words and beginning texts. Oral language abilities, although linked to the decoding skills that promote word-reading abilities, take students beyond word-level reading and provide the foundation for the development of the advanced oral language skills necessary for the successful comprehension demonstrated by more skilled readers. Strong oral language abilities would, therefore, seem to be critical in developing readers who can comprehend text.

The Relationship between Oral Language Development Levels and Socio-economic Levels

Current studies indicate that there is a link between socio-economic level (SES) and oral language development. Graves and Slater (1987) found that first-graders from higher SES backgrounds had about twice the vocabulary size of those of their lower-income peers.

Locke, Ginsborg, and Peers (2002) conducted a study in England in which they compared the oral language skills of children raised in poverty, against their own cognitive skills, and against the oral language skills and the cognitive skills of the general population. The researchers found that, although the cognitive abilities of children raised in poverty were comparable to the

general population, the oral language levels of these impoverished children were statistically significantly below the levels of their more affluent peers. In fact, the disparity was so significant that more than half of the underprivileged children who participated in this study could have been diagnosed with moderate, moderate-to-severe, or severe language delays.

Farkas and Beron (2004) conducted a similar study in the United States using data collected between 1986 and 2000 from Children of the National Longitudinal Survey of Youth. The data used in Farkas and Beron's study was gathered from the children of the female segment of the 12,686 participants of the 1979 National Longitudinal Survey of Youth (NLSY79) (Ohio State University, Center for Human Resource Research, n.d.; United States Department of Labor, Bureau of Labor Statistics, National Longitudinal Surveys, September 8, 2005; United States Department of Labor, Bureau of Labor Statistics, National Longitudinal Surveys, June 25, 2003). The researchers found that during the high impact period of up to 3 years of age, both White and African American children from higher SES homes acquire vocabulary at a faster rate that do their lower SES peers. The effect of SES on vocabulary acquisition rates then seems to become more equal after the high impact period, with the gap in vocabulary knowledge remaining, but acquisition rates becoming more equivalent as the children reach about school age. These results would seem to indicate that formal school attendance tends to level vocabulary acquisition rates. The results of this study also indicate that any gaps that do exist in student oral language development prior to the start of school remain and are maintained through early adolescence.

Hart and Risley (1995) engaged in a longitudinal study which investigated the adult/child talk in the home. During this study, the utterances of 42 families were analyzed. The focus of the observations was the verbal interactions that occurred between parents and their 12-36 month old children. Researchers recorded the parent/child utterances that occurred during a one hour

observation. These observations took place once per month over a period of three years. The researchers began by tallying the language quality features (the nouns, verbs, modifiers, and functors that are used in an utterance), sentence, discourse functions, agency conditions, and valence of the utterances which occurred during the observation. Then the researchers calculated the richness (the number of each quality feature in each observation divided by the number of utterances said in the observation averaged; e.g., nouns/utterance) and amount (the average number of each quality feature per observation hour; e.g., nouns/hour) of the vocabulary used by parents during their interactions with their child.

Hart and Risley's results indicate that by age three there was about a 600-word difference in the number of vocabulary words recorded for children of professional parents versus those whose parents were receiving welfare. Hart and Risley established that five variables – language diversity (the amount of a child's experience with language, as exemplified by the sum of different nouns, adjectives, and adverbs addressed to the child each hour), feedback tone (the prevailing affect of parent-child interactions, as exemplified by parent feedback), symbolic emphasis (the symbolic richness of a child's social experience, as exemplified by the number of nouns, adjectives, adverbs, and past-tense verbs per parent utterance), guidance style (the amount of children's experience with opportunities to choose), and responsiveness (the relative importance of the child's behavior during parent-student interactions as exemplified by the ratio of non-initiating parent responses) - accounted for 60% of the variance in these children's oral language accomplishments by age three.

Based on this information, Hart and Risley drew several conclusions. One conclusion was that the gap between the spoken vocabularies of the children from professional families and those from welfare families by age four is so great that the best that can be expected from

educational intervention is to keep the child from falling even farther behind. They also concluded that for an intervention to keep an average welfare child's language experience equal in amount to that of an average working-class child would require that the child be in substitute care comparable to the average in a professional home for 40 hours per week from birth onward.

In 1995, Chall and Dale published a book entitled *Readability Revisited – The Dale-Chall Readability Formula*. In this book, Chall and Dale offered an updated list of familiar words. The original Dale-Chall List was published in 1948 and consisted of 736 familiar words. The 1995 version of this list includes 3,000 "simple and familiar" words (Beck, McKeown, & Kucan, 2008). These 3,000 words are words that have been documented as being understood by more than 80% of students in fourth grade. Dale and Chall also identified these words the most elemental words in the English language or words that are generally known without the benefit of formal schooling (Chall & Dale, 1995).

In 2001, Weizman and Snow published a study that extended the scope of the research done by Hart and Risley (1995) using Chall and Dale's List of 3,000 Familiar Words (1995). Weizman and Snow found vast differences, both quantitatively and qualitatively, in vocabulary exposure among low-income children. They also found that a child's vocabulary exposure at age 5 is linked strongly to early exposure to sophisticated words - words not contained on the Dale-Chall list of 3,000 familiar words (Chall & Dale, 1995) - and to the frequency with which instructive or helpful supports were provided by the mother. Weizman and Snow (2001) found that these two predictors – exposure to sophisticated words and the use of instructive or helpful supports – each accounted for about 1/3 of the variation in the children's vocabulary scores in kindergarten and in second grade.

Collectively, the results of the studies discussed in this section seem to indicate that there are differences in the home language experiences of children from differing SES levels – that children from lower SES homes are often not receiving the quantity, the richness, the sophistication of vocabulary exposure, and/or the vocabulary supports as their higher SES peers. The studies would also seem to indicate that these differences language experiences have their greatest impact on many children prior to the age of 3 ½ and that these differences language experiences prior to the start of formal schooling can impact children's oral and receptive language levels causing a gap that remains as they enter formal schooling at age 5 or 6. Because of the critical nature of the period preceding age 3 ½ for language development, the differences in language experiences in low and high SES, homes, and the potential to offer strong language experiences to the children who may need it the most, I have chosen to look at the language experiences of students who attend Early Head Start classrooms. This organization services low-income students who are in the critical developmental time period of 0-3 ½ years of age.

How do we go about equalizing the playing field for students who come from homes in which there are not strong language experiences? The equalization of oral language development upon entrance to formal education is one indication that good educational interventions do have an impact (Farkas & Beron, 2004). But what of preschool interventions? Can quality preschool programs make a difference in language development during the critical 0-36 month period?

Can Preschool Experiences Make a Difference?

There is strong evidence linking early spoken language and subsequent literacy (National Institute of Child Health and Human Development 2000; Roth, Speece, & Cooper, 2002; Snow, Burns, & Griffin, 1998). It would, therefore, make sense that preschool instruction that draws

upon research that links language development and reading success would positively impact literacy. Such connections can been found in countries such as Switzerland, Flemish Belgium, and Hungary where the preschool instructional model links language development and literacy and literacy achievement is high (Locke et al., 2002).

In the United States, Snow, Burns, and Griffin (1998) as a part of the National Research Council's (NRC) report on preventing reading difficulties in young children, suggested that preschool can make a difference. The NRC report suggests that preschools can affect student achievement when they support strong language and literacy environments. Indeed, this report advocates quality preschool programs as a means by which to address and enhance language development especially for economically disadvantaged children.

According to the National Institute for Early Education Research (Espinosa, 2002), preschool programs are typically rated on two dimensions of quality – process and structure. Process quality is measured in terms of the interactions, activities, materials, learning opportunities, and health and safety routines that are observed in the school. Structural quality is measured by classroom characteristics such as adult-child ratio, class size, and the educational and training levels of the teachers and staff. Children in preschools and programs in which process quality features are highly rated have been shown to develop more advanced language and math abilities.

In Caughy, DiPietro, and Strobino's (1994) study of the impact of preschool participation on low-income students, quality preschool was indeed found to have a positive impact on students' reading recognition scores. Specifically, students from impoverished homes who started a high-quality preschool program prior to their first birthday had higher reading recognition scores than children from comparable homes who did not attend preschool.

Likewise, a study of the impact of the High/Scope Perry Preschool Program, a high-quality preschool program designed specifically to support impoverished children, indicates that attendance at a high-quality preschool can impact not only the children's readiness for school, but also their subsequent educational performance, adulthood economic success, and reduced criminal arrests (Schweinhart, 2003).

Although there has been a great deal of research done on the impact of mothers' speech on child's oral language development and teacher's speech on children's oral language development ages 3 and older, there is relatively little research on the speech of preschool teachers who work with low income children ages 0-36 months. Are these teachers, who are working with students during this critical developmental period (0-36 months), using instructional models that strengthen their students' oral language development? Are they creating language rich environments thereby supporting children's oral language development and working toward closing the gap for our neediest students?

Closing the Gap

For more than a century cognitive psychologists, policymakers, and educators alike have looked for ways to address the needs of low-achieving socially disadvantaged students. In 1907 Maria Montessori offered a philosophy of education and a model of instruction for low SES children through her book entitled *The Montessori Method* (Montessori, 1964) and through the establishment of the first *Casa dei Bambini* (Children's House) in the slums of Italy (Hunt, 1964). In the United States in the 1960's two pieces of federal legislation, the *Economic Opportunity Act* (1964) and the *Elementary and Secondary Education Act* (1965) established Head Start and Title I programs to try to better meet the needs of disadvantaged and low-achieving children. In

1994, Early Head Start was established by the United States Congress in the Reauthorization of Head Start Act.

In 2001 another piece of federal legislation was passed with the intent of forcing the educational system to find a way to meet the educational needs of all children. *No Child Left Behind* (2001) required school systems to show academic improvement in their students – as a whole school and within aggregated sub-groups – or face penalties such as public black-listing, school improvement plans, and restaffing. With the passing of *No Child Left Behind* (2001) came the onslaught of high-stakes testing and measures of Adequate Yearly Progress.

In 2011, the Obama Administration announced that, in the absence of the reauthorization of No Child Left Behind (NCLB), states could request waivers in order to have some flexibility in meeting some of the law's requirements. However, NCLB lingers on as no encompassing set of Federal Regulations has been passed to replace it. Since February of 2012, forty-three states and the District of Columbia have been granted waivers (in those states in which waivers have been not been granted, NCLB remains in full effect). Some of the reforms that states set in motion through the adoption of these waivers have been controversial. From the development of these waivers has come the adoption of new policies such as the Common Core Curriculum (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). The adoption of these waivers is also impacting annual student achievement targets that states have set; states' new systems for measuring school quality and/or identifying schools for improvement; and states' plans to implement teacher and principal evaluations based in part on student test scores (New America Foundation, 2014).

Despite the controversy to which many of the policies related to NCLB waivers are connected, it appears likely that waivers will continue to serve as de facto federal policy until

NCLB is reauthorized. These pieces of legislation from both the Federal and State Departments of Education, along with the remaining impact of NCLB, and funding/grant programs such as *Race to the Top* – part of the American Recovery and Reinvestment Act (2009) - and the adoption of school waivers and the *Common Core Curriculum* (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010), have left schools still trying to meet a diversified set of educational standards.

Despite the creation of these outcome-based programs, there is great evidence that the gap between low SES students and their higher SES peers continues to exist. The results of the 2013 National Assessment of Educational Progress (NAEP) (National Center for Statistics, 2013) are one such piece of evidence. The NAEP results indicate that fourth-grade students whose family income qualified them for the free lunch program scored an average of 29 points less their non-free lunch program peers on the reading subtest.

Perhaps, as indicated by the work of such researchers as Hart and Risley (1985), we are starting our search for ways to close the educational gap between high and low SES students much too late. If, as suggested by Hart and Risley (1985), the oral language gap between groups is almost insurmountable by age four and if, as suggested by Locke, Ginsborg, and Peers (2002) and others in this field of research, there is a indeed a connection between oral language development and school success, should not we be looking to establish more high-quality preschools to help us reach those most in need?

Unfortunately not all preschool programs that are available to children in poverty are "high-quality" in nature. Many have been established only to offer the availability of childcare rather than for enriching the child's environment. A 1998 the National Institute of Child Health and Human Development (as cited in Espinosa, 2002) found that in early childhood settings for

children up to the age of three only 9% were rated "excellent" in process quality, 30% were rated "good," 53% were rated "fair," and 8% were rated "poor."

Sadly, but perhaps not surprisingly, children from the lowest SES homes have been found most likely to attend lower-quality programs (Scarr, Eisenberg, & Deata-Deckard, 1994). Similarly, the findings of a study by Phillips, Voran, Kisker, Howes, and Whitebrook (1994), indicate that centers which serve predominately low-income students were adequate, but highly variable in their services. Centers that service upper-income families were found to offer the highest quality of care, while centers servicing middle-class families ranked the worst in quality care (this attributed to the lack of financial resources to purchase high-quality care and the lack of subsidies that seem to assure some quality).

The Impact of Teacher Talk

As mentioned previously, the quality of a preschool classroom is, to a great degree, established by the quality of the interactions that occur between the teacher and the children in that classroom (de Kruif, McWilliam, Ridley, & Wakely, 2000; Espinosa, 2002). The guidelines established by the National Association for the Education of Young Children stress the necessity for teachers to interact in a sensitive and responsive manner with their students in order to initiate and sustain children's play and to guide social-emotional development. Specifically, teacher interactions with their students are considered to be developmentally appropriate when the teacher: (a) responds promptly, directly, and tenderly to children; (b) offers numerous opportunities for the children to participate in two-way communications; (c) identifies and elaborates on the emotions, interests, and activities of the children (Bredekemp, 1987).

The acquisition of oral language by young children is strongly impacted by their daily verbal interactions with adults. It is through these interactions that children learn the social

aspects of conversation and gain exposure to and greater knowledge of grammar and vocabulary (Massey, 2004). During the course of an instructional day there are many opportunities for teachers to engage their students verbally and stimulate their oral language development. The question then becomes what form do these interactions take (i.e., how often do they occur, how complex is the language used, etc.) and how do these interactions impact the oral language development of the children involved? Although the studies I highlight in this section and throughout this chapter begin to answer these questions as they relate to older children (often older than age 3) or for children ages 0-36 months in the home, there is very little research that offers answers to these questions for children ages 0-36 months in the preschool setting.

Huttenlocher, Vasilyeva, Cymerman, and Levine (2002) completed a study of the impact of teacher-talk on 305 preschool children from 17 preschools of differing SES levels. The children involved with the study were on average 43 months old when the research began and 50 months at the study's conclusion. As a result of this study, the researchers found that children's SES levels were related to children's skill levels at the start of the school year, but was not related to the growth of their skill levels during the school year. Teacher speech, on the other hand, was not related to children's starting SES levels but was related to their syntactic growth. These results indicate that children from low-SES families, whose syntactic level may be quite low at the beginning of the year, may grow as much or more than children from higher SES families, if their teachers provide verbal input comparable to or greater than the verbal input in the higher SES preschools.

Wasik, Bond, and Hindman (2006) also found that teacher talk could have an impact on preschool children's language levels. In this study, a language and literacy intervention was implemented in 10 Head Start classrooms (students' ages 36-60 months). The teachers in these

classrooms received training in how to increase opportunities for language and vocabulary development in their classrooms. After nine months of teacher-student interactions through the intervention model, language assessments were given to the intervention groups. Control groups also took these assessments. The results indicate that students in the intervention classrooms, who were provided additional language experiences, scored significantly better on both language assessments than did their age equivalent peers form the control groups. Wasik et al.'s (2006) findings suggest that teacher-led interventions which increase the amount of talk in classrooms can have a positive effect on children's vocabularies.

Turnbull, Anthony, Justice, and Bowles (2009) did a study that mirrors my study in many ways. They too were curious about the type of language input that students receive in pre-school classroom settings. The participants in their study were all teachers of high-risk students ages 4 years to 4 years, 11months (upon school entry). The settings the researchers chose for their study included six Title I classrooms, 6 Head Start classrooms, and 2 state run public pre-K programs. All of the programs in their study used economic disadvantage as either the main determinate or partial determinate of program qualification for their students.

Turnbull, et al. (2009) recorded the teachers' verbal output to their students for 24 minute periods. They then analyzed the results looking for 6 language stimulating utterance types (model, recast, open question, event cast, focused contrast, and open initiation), group size, and context of speech. Turnbull, et al.'s (2009) findings reveal that only 36% of the teacher's utterances were of the type believed to support language growth. The remainder of the utterances represented less complex language (i.e. directives, closed-ended or rhetorical questions, or general praise). They also found significant variance between teachers in their use of language stimulating utterances. Finally, they found that neither the group size nor context of the verbal

interaction was predictive of teacher's use of language stimulating utterances, but that these language stimulating utterances did occur more often in small group settings.

Dickinson and Porche (2011) completed a study on the impact of home and teacher influences on student language development. As a part of this study, Dickinson and Porche investigated the language development of 57 low-income students from Head Start programs and private preschools through grade four. Specifically, the researchers investigated the impact of preschool teachers' use of sophisticated vocabulary, attention-getting utterances, correcting utterances, and analytic talk about books on fourth grade comprehension, receptive vocabulary, and word recognition.

The results indicate that fourth grade reading comprehension (mediated by kindergarten emergent literacy) was indirectly related to the pre-school teacher's use of sophisticated language and the preschool teacher's use of utterances to gain/hold attention. There were also indirect effects on fourth-grade word recognition related to pre-school teacher use of correcting and analytic talk. Kindergarten vocabulary skills mediated both of these preschool classroom effects. In addition, fourth-grade student decoding skills were correlated to the preschool teacher's use of sophisticated vocabulary. Fourth-grade vocabulary was related to pre-school teacher analytic book talk. As before, students' kindergarten vocabulary mediated the effects of the pre-school teachers on these two fourth-grade skills.

This study by Dickinson and Porche (2011) is limited by selection bias because the researchers study only included students whose families spoke English. Also, the population was predominately Caucasian and did not include the most severely impoverished or stressed families. Since approximately to 20% of all Early Head Start students speak Spanish at home (Vogel, Boller, Xue, Blair, Aikens, Burwick, Shrago, Carlton, Kalb, Mendenko, Cannon,

Harrington, & Stein, 2011) understanding the potential impact of pre-school for these (English Language Learner) children is important as well.

In a study that involved 104 four-year old students, Bowers and Valsilyeva (2011) examined the growth of growth of receptive lexical skills in preschool over a year in relation to aspects of teacher speech. Specifically they measured the amount, richness (words/utterance), diversity, and lexical complexity of teacher speech and the impact that it had on the children's speech. Bowers and Valsilyeva found that for monolingual students, vocabulary growth was positively impacted by the total number of different words spoken. However, ELL students were positively impacted by the amount of language used by the teacher, but negatively impacted by the richness of the teacher's language.

Aukrust (2007) also investigated the impact of teacher talk on pre-school second language learners. This study investigated the relationship between children's second language vocabulary and exposure to teacher talk in a preschool setting. Specifically, this study investigated the relationship between teacher lexical input (amount, diversity, and complexity) and 4 and 5 year-old pre-school children's second language vocabulary skills. Twenty-seven Turkish-speaking Norwegian preschool students were videotaped during circle time in their preschools. The transcripts of the circle times were coded and analyzed for the amount, diversity, and complexity of the teacher talk. The results indicate that all three aspects of teacher lexical input have long-term effects on the children's second language vocabulary acquisition.

The findings in the studies highlighted in this section are powerful indicators of the verbal interactions that may be occurring between teachers and older, socio-economically-disadvantaged, monolingual and second language learning, pre-school students while in their classrooms. The question then becomes, are the results of these studies reflective of the patterns

between teachers and younger children in similar settings? That is what this study seeks to explore.

Review of the Literature

The purpose this literature review is to complete a careful examination of the body of literature associated to my research question. In my study I investigated the oral language patterns of Early Head Start teachers who work with low SES children ages 0-36 months in a classroom setting. Specifically, I analyzed the amount (e.g., number of words, different words, nouns, verbs, modifiers, and functors used/hour), richness (e.g., number of words, different words, nouns, verbs, modifiers, and functors used/utterance), and sophistication (e.g., the percentage of teacher talk consisting of words not on the Dale-Chall list of 3,000 familiar words (RFP Evaluation Centers, 2009)) of the oral language input that is offered by Early Head Start teachers to their students. I also analyzed the quality (instructional, helpful, or neutral) and quantity of the conversational supports (e.g., the number of each type of support/hour) that these teachers offered their students during encounters with sophisticated words (see Table 2).

The research question was: How do Early Head Start teachers talk to their students? To answer this question, I collected and analyzed data related to the following subordinate questions:

- What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?
- What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?

Table 2 shows the correspondence between these subordinate questions and the data that was collected.

Table 2

Research Sub-Questions, Related Variables, and Data

Research Sub-Questions	Sub-Question Variables	Sub-Variables Calculated	Data Collected for Calculations
What is the nature of the vocabulary input that Early Head Start teachers are providing their students?	Amount	• Words/hour • Different words/hour • Nouns/hour • Verbs/hour • Adverbs/hour • Adjectives/hour • Functors/hour • Words/morning • Different words/morning • Nouns/morning • Verbs/morning • Adverbs/morning • Adjectives/morning • Functors/morning	• Number of words • Number of different words • Number of nouns • Number of verbs • Number of adverbs • Number of adjectives • Number of functors • Length of time
	Richness	• Mean words/utterance • Mean different words/utterance • Mean nouns/utterance • Mean verbs/utterance • Mean adverbs/utterance • Mean adjectives/utterance • Mean functors/utterance	• Number of words • Number of different words • Number of nouns • Number of verbs • Number of adverbs • Number of adjectives • Number of functors • Number of utterances
	Sophistication	• Sophisticated words/hour • Sophisticated words/morning • Percent sophisticated words/hour • Percent sophisticated words/morning	• Number of words • Number of sophisticated words • Length of time
What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?	Conversational Supports	• Instructional supports/hour • Helpful supports/hour • Neutral supports/hour • Instructional supports/morning • Helpful supports/morning • Neutral supports/morning • Percent instructional supports/hour • Percent helpful supports/hour • Percent neutral supports/hour • Percent instructional supports/morning • Percent helpful supports/morning • Percent neutral supports/morning	• Number of sophisticated words • Number of instructional supports • Number of helpful supports • Number of neutral supports • Length of time

This paper reviews the research that has already been done in the area of teacher talk as it relates to preschool and elementary-aged children. The review consists of four primary sections. The first section is entitled, *Adult-child Interactions*. It contains a brief review of the significance of adult-child talk, the impact of conversational partners on children's speech, and a comparison of mother-to-child talk and teacher-to-child talk. The next section is entitled *Quality Features of Teacher Language and Interactions*. This section is a review of the literature surrounding teacher language patterns as they relate to the quality features of language and interaction identified by Hart and Risely (1995). The third section is entitled *Variables that Impact Teacher Talk*. This section includes a review of the research surrounding the impact of economic, environmental, philosophical, etc. influences on teacher talk. The fourth section is entitled *Suggestions for Teachers from the Research*. This section is a review of several articles which offer numerous ideas to teachers about how to improve and include the use of language in their classrooms. This paper concludes with a brief discussion of the implications of the research.

Adult-child Interactions

The significance of adult talk. Each day children and their caregivers share in numerous interactions. According to Bornstein (1989) the type of people children are, and the type of adults they will become, is based on an amalgamation of the children's native capabilities and of the interactions in which they are involved. Bornstein suggested there are several forms of caretaker interactions. In his article, he identified and discussed the impact of 2 prominent modes of caretaker-child interaction - *social* and *didactic*. Bornstein defined social interactions as the physical and verbal strategies caregivers use to express their feelings and engage their children in primarily interpersonal exchanges. He defines didactic interactions as the physical and verbal strategies caregivers use to make the children aware of the world outside the adult-child

relationship. Bornstein offered evidence that both social and didactic interactions between child and caretaker impact growth of cognition either directly or indirectly in human beings by citing the work of child researchers such as Olson, Bates, and Bayles (1984) and Stern (1977). According to Bornstein, "…specific interaction experiences at specific points in the life cycle affect specific aspects of human growth in specific ways" (p. 197). Bornstein's work supports the supposition that caregivers play an integral role in children's formative development.

The impact of conversational partners. In their study, Mirenda and Donnellan (1986) examined the influence of conversational partners on the verbal output of older children with severe communication problems due to mental retardation or autism. Twelve students and 6 adults participated in this study. The 6 adults were trained to relate with the students using 1 of 2 adult interaction styles. The first interaction style was directive in nature. The adults who used this interaction style utilized verbal conversational behaviors that permitted them to: control and initiate the subject of the conversation, take the lead in the conversation, and format the nature of the child's input into the conversation. The second interaction style was facilitative in its intent. The adults who used this interaction style utilized verbal conversational behaviors that permitted: the child to control and initiate the subject of the conversation, the child to take the lead in the conversation, and the opportunity for the adult to encourage the child to make contributions to the conversation.

Each of the children participated in six 10-minute conversations. Three of the child's conversations occurred with an adult who used a directive interaction style and 3 of the conversations occurred with an adult who used a facilitative interaction style. All of the conversations were recorded and analyzed by the researchers.

The data indicate that when the students from this study verbally interacted with the adults that used the facilitative conversational style there was a higher proportion of main topics produced, spontaneous comments made, and questions asked. The data also indicate that when these same students verbally interacted with adults who used the directive conversational style there was a higher proportion of direct answers to questions and off-topic comments. These results indicate that the influence of the conversational partner on the verbal output children should, indeed, be considered as a variable in research studies of language used by children.

Mother-to-child talk versus teacher-to-child talk. Because the research seems to indicate that adult-child interactions are important to the development of children's language and that conversational partners do have an impact on the language output of children, the next question that seems to be relevant to this investigation is whether or not there is a difference in the speech patterns children encounter in the home relative to that which they encounter in schools.

During his study of children's language, Wells (1983) collected a great deal of data on aspects of children's interactions with adults in both the home and school setting. As a result of his work, Wells discovered a number of qualities that seem to describe the type of conversations that occur in these 2 settings. Wells began by identifying the qualities of conversations that occur in the home that lead to effective language use by children. These qualities include:

> "1. A warm responsiveness to the child's interests and a recognition of the child as an autonomous individual with valid purposes and ways of seeing things.
>
> 2. Negotiation of meaning and purpose in the joint construction of an inter-subjective reality.

3. An invitation to the child to consider the immediate present in a wider framework of intention and consequence, feelings and principals." (p. 132)

Wells further characterized such "home talk" as having reciprocity and cohesion – although often loose and imperfect in execution – between the adult and child speakers. This reciprocity and cohesion results from each of the participants attempting to communicate in a manner that can be understood by the other, and from each of the participants making an effort to comprehend the meaning intended by their conversational partner.

Wells suggested that *school talk* can be characterized by: (a) high proportions of teachers' utterances that are questions, and (b) a great deal of *task talk.* The data collected by Wells indicates that not only do teachers ask a large number of questions, but that the questions they ask are often closed in nature (i.e., teachers already seem to know the "right" answer). Teacher task talk, on the other hand, is related to the accomplishment of activities surrounding some curricular goal. The look of task talk varies based upon the goal and the content area (skills, knowledge, values, or creative activities) being addressed.

Wells then offered 3 characteristics that distinguish home talk from the talk that typically occurs in schools. First, the vast majority of the conversations that take place at home are initiated by the child (70% in one set of data). Second, the conversations that occur in homes are intermittent and spontaneous in nature and are based on the interest of the moment, not some particular fact or skill. Third, the conversation ranges widely in topic over the whole of the family's shared experiences.

In their study, Cross and Horsborough (1986) compared teachers' and mothers' interaction styles with children in order to investigate the relationship of these styles to children's language and conversational development. The student participants in this study were 24

preschool children who ranged in age from 48-58 months at the beginning of the study. Each of the students attended a different preschool in Melbourne, Australia. The adult participants included each of the children's mothers and each of the children's preschool teachers.

All of the children were tested at the beginning of the study using the Zimmerman Language Scale and the Peabody Picture Vocabulary Test. The researchers recorded the children for 1 hour playing with toys, games, and books in their home with their mothers. The researchers also recorded 1 hour of the children participating in these same activities at preschool with their teacher. After 8 months, the researchers once again tested the children and recorded their interactions with their mothers and teachers. The researchers used the same measures as they had used at the beginning of the study. In all, 13 measures of children's language development were able to be calculated from the each set of pre and post-study data gathered.

Cross and Horsborough (1986) used the data collected to directly compare the speech styles of the mothers and teachers involved in the study. In terms of mean utterance length, the results of the analysis indicate that, teachers speak to children more complexly than mothers do. The results in this area also indicate that mothers' average length of utterance more closely matches that of the children than teachers' do. It was also found that teachers talk more than mothers during conversations with children.

In their study of the complexity of classroom language, the Scarborough, McClure, and Gillis (2005) investigated the complexity of the language used by kindergarten teachers during reading instruction versus that used by mothers of kindergarteners during free play. The researchers reviewed the utterances of 24 kindergarten teachers as they presented reading lessons during the school day as well as the utterances of 26 mothers of 5-year-olds as they played with their children in their homes. Using the same criteria for language complexity as Huttenlocher et

al. (2002), Scarborough et al. calculated the number of noun phrases per sentence and the percentage of complex sentences used by each group.

Scarborough et al.'s results indicate that kindergarten teachers' use of complex language was statistically significantly higher than that of mothers. Interestingly, Scarborough et al. also observed that the language complexity of the kindergarten teachers involved in this study was statistically significantly higher than that of the preschool teachers' recorded in Huttenlocher et al. (2002). In fact, Scarborough et al. noted that the language complexity of the preschool teachers closely resembled that of the mothers involved in both their study and in Huttenlocher et al.'s.

As a part of a larger long-term study, Melhuish, Mooney, Martin, and Lloyd (1990) examined the interactional experiences of 18 month-olds in 4 different childcare settings. One hundred fifty-six first-born children from dual-earner households in London participated in this portion of the study. At 18 months of age, 19 of the children were in the care of a relative, 59 of the children were in a family daycare setting, and 34 were in a preschool setting for 20 or more hours each week while their parents worked. Forty-four of the 156 children remained at home with their mothers, who had chosen not to return to work after the birth of their child.

The researchers completed two 1-hour observations on each of the students. In each of the setting the observations took place during a free play period. During the observations the researchers noted both the verbal and non-verbal interactions that occurred between the children and their caregivers.

The results of this study indicate significant differences in the levels of responsiveness, affection, language communication to the study child, language communication by the study child, attention behaviors, joint play, and contact behaviors between the four care settings. The

highest levels of occurrence of the observed behaviors in each of the afore mentioned interactional categories occurred in the setting in which the mother stayed at home with her child and lowered as one moves from parent as caregiver, to family relative as caregiver, to family daycare setting, to preschool setting. Other behaviors, such as some of the contact behaviors, individual play, and crying and non-language communications were found to be almost equivalent in their occurrences across settings.

The results of the studies reviewed in this section suggest that there are both qualitative and quantitative differences in mother-child speech and teacher-child speech. Perhaps, as Cross (1989) suggested, the mothers' linguistic style serves to support the child's development of fluency, confidence, and spontaneity in conversations, while the teachers' style influences student language in the areas of comprehension, vocabulary development, and linguistic complexity.

Quality Features of Teacher Language and Interactions

In 1995, Hart and Risley published the results of a longitudinal study which investigated adult/child talk in the home. During this study, the utterances of 42 families were analyzed. As a part of this study, hour-long observations of the verbal interactions that occurred between parents and their 12-36 month old children were recorded. The researchers then transcribed and coded the utterances based upon the quality features of the language and interactions that occurred in the parents' speech. These features included vocabulary (such as the nouns, verbs, modifiers, and functors that are used in an utterance), sentence, discourse functions, agency conditions, and valence of the utterances which occurred during the observation. Then the researchers calculated the richness (the number of each quality feature in each observation divided by the number of utterances said in the observation averaged; e.g., nouns/utterance) and amount (the average

number of each quality feature per observation hour; e.g., nouns/hour) of the vocabulary used by parents during their interactions with their child.

The procedures utilized by Hart and Risley (1995) are mentioned again at this point in this review of literature because it is their research that has laid the groundwork for the many of the procedures that were used in my study of teacher talk. In my study, I collected data on many of the same quality features of language and interaction as those recorded in Hart and Risley (1995). Therefore this section of my paper begins with a review of the literature surrounding each of the quality language and interaction elements used by Hart and Risley. These elements include - v*ocabulary and sentence, discourse functions, adjacency conditions,* and *valence* - with the addition of the interaction quality feature of *clarity*. Although not a consideration in the Hart and Risley home study, clarity has been added to this review as a quality interaction feature because of its possible impact on children's understandings of teachers' utterances.

Vocabulary and sentence. In their study, Hart and Risley (1995) investigated the amount and richness of the vocabulary and sentences used by parents when speaking with their children. Hart and Risley defined vocabulary as the nouns, verbs, modifiers (adjectives and adverbs), and functors found in utterances. They coded for each of these elements in as they appeared in parent utterances. Hart and Risley also examined how parents used their vocabulary in terms of sentence construction. The researchers took each sentence uttered by parents and coded it based upon its complexity (2 or more clauses) and verb tense. Hart and Risley calculated the amount of each language quality feature used by averaging the number of the occurrences per hour observation. They calculated richness by dividing the number of each language quality features that occurred per observation and dividing it by the number of parent utterances that occurred during this same period.

In 2001, Weizman and Snow published a study that extended the scope of the research done by Hart and Risley (1995). During their investigation of parent-child interations, Weizman and Snow found vast differences, both quantitatively and qualitatively, in vocabulary exposure among low-income children. They also found that a child's vocabulary exposure at age 5 is linked strongly to early exposure to sophisticated words - words not contained on the Dale-Chall list of 3,000 familiar words (RFP Evaluation Centers, 2009) - and to the frequency with which instructive or helpful supports were provided by the mother. These two predictors – exposure to sophisticated words and the use of instructive or helpful supports – each accounted for about 1/3 of the variation in the children's vocabulary scores in kindergarten and in second grade.

In a longitudinal study using 50 parent-child dyads, Rowe (2012) examined which aspects of caregiver input contribute the most to children's vocabulary development. To do this Rowe measured inputs from parent-child interactions at the child age milestones of 18, 30, and 42 months. Rowe found that for 18 month-old children the quantity of parent input was most related to subsequent vocabulary skills when SES and previous vocabulary ability were controlled. Interestingly, Rowe found that the variable that made the most impact changed as children matured. Rowe also found that for 30 month-old students the diversity of the parent input was the critical factor while at 42 months of age students benefitted the most from exposure to decontextualized language (language that is removed from the here and now).

In the preceding studies of parent-child home discourse, researchers found a relationship between the parent language quality features of vocabulary and sentence with child language development. In the remainder of this section, I explore the research that has been done in these areas, not between mother and child, but instead, between teacher and student. The studies reviewed in this section involve the impact of teacher language quality features of vocabulary

sentence on young children, but none as young as 0-36 months of age. This lack of research on the impact of teacher talk on the youngest of students is part of the inspiration for my study.

Huttenlocher, Vasilyeva, Cymerman, and Levine (2002) conducted a two-part study on the relationships between individual speech differences in children's and adults' speech. In the first portion of the study Huttenlocher et al. explored the impact of parent verbal input on children's syntax. They found a statistically significant relationship ($r=.4111$, $p<.01$) between the proportion of multiclause sentences produced by parents and the proportion of multiclause sentences produced by children. They also found a statistically significant relationship ($r=.3906$, $p<.01$) between the proportion of complexity of parent speech and children's ability to comprehend statistically complex utterances.

Next, Huttenlocher et al. wanted to confirm that the relationships that they had uncovered in the first portion of their study existed, and to confirm that these correlations were not the result of a biological relationship or history between the adult and the child. The researchers, therefore, did a follow-up study in which they explored the relationship between teacher talk and syntax comprehension. Three hundred five pre-school students and 40 classroom teachers participated in the follow-up study. The students each were given a syntax comprehension task at the beginning of the school year and at the end of the school year to identify student growth over the length of the study. Each of the teachers was observed once for a period of one hour during the school year. These observations occurred at about mid-year and included audiotaping of the session and the completion of a 10-question questionnaire by the researchers. The questionnaire was concerned with the general quality of teaching and was based on the National Association for the Education of Young Children (NAEYC) checklist for preschools.

Based on individual comprehension scores and classroom growth scores, SES was found to be related to the children's initial syntactic skill levels ($r=.48$, $p<.01$), but syntactic growth over the school year was not found to significantly correlate to the child's SES level ($r=.2873$, $p<.05$). There was, however, a strong correlation between children's syntactic growth over the school year and the proportion of complex sentences in teachers' speech ($r=.42$, $p<.01$). This relationship became even stronger when initial skill levels in different classes were partialed out ($r=.51$, $p<.01$). The researchers also found a statistically significant relationship ($r=.32$, $p<.05$) between children's syntactic growth scores and the measure of general quality of teaching. However, when the effect of teachers' speech complexity was factored out of the relationship, the contribution of teaching quality was negligible (4%, $F(1,38)=1.84$, $p>.10$).

The results of this study seem to indicate that the complexity of teacher talk (syntactic input) does have an effect on children's syntactic growth. The reliability of the results is enhanced by the large number of students and teachers involved in the study. The results of this study, when both parent and teacher portions and, taken as a whole, offered additional evidence to support the argument that adult language complexity does indeed impact children's syntactic development.

Wasik, Bond, and Hindman (2006) also found that teacher talk could have an impact on preschool children's language levels. In this study, a language and literacy intervention was implemented in 10 Head Start classrooms (students' ages 36-60 months). The teachers in these classrooms received training in how to increase opportunities for language and vocabulary development in their classrooms. After nine months of teacher-student interactions through the intervention model, language assessments were given to the intervention groups. Control groups also took these assessments. The results indicate that students in the intervention classrooms,

who were provided additional language experiences, scored significantly better on both language assessments than did their age equivalent peers form the control groups. Wasik et al.'s (2006) findings suggest that teacher-led interventions which increase the amount of talk in classrooms can have a positive effect on children's vocabularies.

In their study, Dickinson and Porche (2011) followed the language development of 57 low-income students from Head Start programs and private preschools through grade four. As a part of a larger study on the impact of home and teacher influences on student language development, the researchers investigated the impact of preschool teachers' use of sophisticated vocabulary, attention-getting utterances, correcting utterances, and analytic talk about books on fourth grade comprehension, receptive vocabulary, and word recognition.

The results indicate that fourth grade reading comprehension (mediated by kindergarten emergent literacy) was indirectly related to the pre-school teacher's use of sophisticated language and the preschool teacher's use of utterances to gain/hold attention. There were also indirect effects on fourth-grade word recognition related to pre-school teacher use of correcting and analytic talk. Kindergarten vocabulary skill mediated both of these preschool classroom effects. In addition, fourth-grade student decoding skills were correlated to the preschool teacher's use of sophisticated vocabulary and fourth-grade vocabulary was related to pre-school teacher analytic book talk. Kindergarten vocabulary mediated the effects of the pre-school teachers for these fourth-grade skills as well.

This study by Dickinson and Porche (2011) is limited by selection bias because the researchers study only included students whose families spoke English. Also, the population was predominately Caucasian and did not include the most severely impoverished or stressed families. Since approximately to 20% of all Early Head Start students speak Spanish at home

(Vogel et al., 2011), can pre-school make a difference for these ELL (English Language Learner) children as well?

In a study that involved 104 four-year old students, Bowers and Valsilyeva (2011) examined the growth of growth of receptive lexical skills in preschool over a year in relation to aspects of teacher speech. Specifically they measured the amount, richness (words/utterance), diversity, and lexical complexity of teacher speech and the impact that it had on the children's speech. Bowers and Valsilyeva found that for monolingual students, vocabulary growth was positively impacted by the total number of different words spoken. However, ELL students were positively impacted by the amount of language used by the teacher, but negatively impacted by the richness of the teacher's language.

Aukrust (2007) also investigated the impact of teacher talk on pre-school second language learners. This study investigated the relationship between children's second language vocabulary and exposure to teacher talk in a preschool setting. Specifically, this study investigated the relationship between teacher lexical input (amount, diversity, and complexity) and 4 and 5 year-old pre-school children's second language vocabulary skills. Twenty-seven Turkish-speaking Norwegian preschool students were videotaped during circle time in their preschools. The transcripts of the circle times were coded and analyzed for the amount, diversity, and complexity of the teacher talk. The results indicate that all three aspects of teacher lexical input have long-term effects on the children's second language vocabulary acquisition.

Discourse functions. In their study of parent-child interactions, Hart and Risley (1995) defined *discourse function* as a quality interaction feature that describes the utility of an adult utterance in terms of the responses that they prompt. In their study, Hart and Risley classified the sentences in parent speech as declaratives (statements), imperatives (demands), or interrogatives

(questions). Hart and Risley further categorized the coding of interrogatives by the form which the interrogative took. Wh-questions, yes-no questions, and auxiliary fronted questions were all coded separately. This section of the literature review will focus on the research surrounding the impact of teachers' use of various discourse functions on the language of young children. The discourse functions reviewed here include many of those identified by Hart and Risley, as well as additional, yet similar, discourse functional forms identified and defined by other researchers.

In their research, McCathren, Yoder, and Warren (1995) investigated the role of directives in early language development. McCathren et al. defined directives as "verbal behaviors that communicate to the child the expectation that they do, say, or attend to something" (p. 91). Teacher directives would then include all verbal behaviors that question, command, suggest, or request verbal or nonverbal behaviors of students.

McCathren et al. also identified three subtypes of directives: *follow-in directives*, *redirectives*, and *introductions*. Follow-in directives are directives that refer to the event, object, or person to which the child is already attending. Redirectives are directives that require the child to shift attention from that with which they are already engaged to a new event, object, or person. Introductions are directives given by a teacher to an unengaged child.

In this article, McCathren et al. suggested that follow-in directives may be positively related to language development and offer 2 possible models of the relationship between follow-ins and child language development. One model offered suggests that the two are directly related because follow-in directives help to make the connections between words, objects, and events apparent since follow-ins direct action on the referents. The other model offered suggests that follow-in directives indirectly assist in children's language development because the relationship between these directives and language development is mediated by children's joint attention to

adult utterances. For each model, the authors offered examples of others' research that seem to support their suppositions.

McCathren et al. continued by presenting a brief review of the literature in this area. First, the authors offered examples of research that support their belief that follow-in directives positively impact later language development while use of redirectives negatively impacts some aspects of language development. Additionally, McCathren et al. offered research that supports their belief that the use of follow-in directives is more effective in maintaining joint attention episodes than redirectives, comments, or introductions. Finally, they offered research that supports their belief that there is a relationship between joint attention episodes and child language.

McCathren et al. concluded by offering the suggestion that, contrary to what many may suggest about negative impact of the use of directives on children's language development, the use of some forms of directives may actually be beneficial. What is necessary to determine their appropriateness is a clear understanding of the language skill being introduced and the developmental level of the child.

Wood and Wood (1983) also examined the impact of the use of different forms of discourse functions by teachers on students. The purpose of their study was two-fold. First, Wood and Wood hoped to determine the effects of different styles of teacher talk on the amounts of initiative and talkativeness shown by preschoolers involved in conversations with their teachers. Second, they wished to investigate the relationships between changes in teaching styles and the levels of cognitive sophistication demonstrated by students in their conversations.

One teacher and 6 children participated in this study. The teacher involved was described by the researchers as "very experienced and self-confident" (p. 151). The 6 students involved in

this study ranged in age from 3.0 years to 4.2 years. The first pair of students spoke English as their first language and was considered very average in their verbosity. The second pair of students came from non-English speaking backgrounds and had some difficulty with English, but had no other disadvantages. The third pair of students also came from non-English speaking backgrounds, had some difficulty with English, and had no other disadvantages, but was viewed as being less forthcoming by their teacher than pair 2.

Each pair met with the teacher on 5 different occasions. Each meeting was 10 minutes in length. During each of the meetings, the teacher had the children interact with the same book, but the teacher changed her level of control that was used during the conversations. In the first session, the teacher focused her level of control on 2-choice questions (requiring only yes or no or selecting from one of two choices). During the second session, the focus of control was on wh-type questions. In the third session, the teacher focused on inserting personal contributions (comments and statements) into the conversations. In the fourth session, the teacher focused on using phatics ("conversational oil" (p. 154)) during her conversations. In the final session, the teacher utilized her usual/normal conversational style.

The recordings of the conversations between the teacher and each pair of students were transcribed and then coded for: teacher power – the proportion of questions, enforced repetitions, and requests for repetitions in the teacher's speech; child initiative – questions and contributions to the conversation which are not directly solicited by the teacher; child loquacity – mean number of words spoken by a child in response to teacher moves; level of teacher cognitive demand; and level of child's cognitive response.

Several findings emerged from this study. First, the results of this study indicate that the more questions the teacher asked, the less likely the children were to show verbal initiative.

Second, the teacher's use of lower conversational controls (personal contributions and phatics) during conversations led to longer child utterances than did the use of higher level questioning controls. Third, high levels of teacher demands elicited high levels of child cognitive responses 64% of the time. Finally, there was a correlation between the number questions asked and the number of low-level cognitive responses offered by children. Based on these results Wood and Wood concluded that the way that the teachers spoke helped to establish how active, forthcoming, and capable preschool children may appear.

In their study, Yoder and Davies (1995) investigated the effect of adults' use of wh-questions on continuations of conversations of developmentally delayed children. Specifically, Yoder and Davies compared the effect of two different adult conversational styles – topic-continuing wh-questions versus topic-continuing comments - on the children's use of conversation continuations. Twenty-three developmentally delayed children participated in the study. The children's mean chronological age was 58.6 months, mean mental age was 31.7 months, and their mean receptive and productive language age equivalencies were both 28.1 months.

Each of the children participated in two 20 minute interaction sessions. Each interaction session involved the child playing with a toy and an adult using one of the two topic-continuing conversation styles. During one of the sessions the adult used topic-continuing wh-questions and topic continuing comments to elicit new information from the child whenever possible. During the other session the adult used only topic continuing comments to elicit new information from the child. All sessions were recorded. The recordings were then transcribed, coded, and analyzed.

Yoder and Davies's study indicates that the use of topic-continuing wh-questions by adults does increase the number of topic continuations in the conversations of developmentally

delayed children. The children in this study spoke more, used more continuous utterances, and used more multiword continuations in the session in which the adult used topic-continuing wh-questions and topic continuing comments than in the session which involved the adult using topic continuing comments alone.

The results of the studies reviewed in this section suggest that the use of different discourse functions by teachers does impact student speech and overall interaction levels. Follow-in directives seem to have a positive impact on later language development while redirective directives seem to negatively impact language development. The use of questions by teachers can have varying effects on students' levels of speech and interactions. Some of the differences in results found by Yoder and Davies (1995) and Wood and Wood (1983) may be attributed to the differences in participants. Yoder and Davies worked with children with developmental delays while Wood and Wood studied typically developing children. What seems to be germane when looking at the results of both of these studies is that the use of differing questioning techniques did indeed have an impact (though different) on the students' levels of speech and interactions.

Adjacency conditions. In their study of parent-child interactions, Hart and Risley defined *adjacency conditions* as a quality interaction feature that describes the sequence of utterances in an interaction. These researchers identified an utterance that began a conversational sequence as an *incitation*. Other conversational utterances were classified by their relative relationship to the previous utterances in the dialogue. *Floorholding* is indicated when the same speaker pauses his or her speech and then takes another turn within the same conversational context. A *response*, on the other hand, indicates a change in speaker within the same

conversational context. This section of the literature review will focus on the research surrounding the impact of adjacency conditions, on the language development of young children.

In her study, Polyzoi (1997) investigated the quality of language used by 4 year-old children when paired with different conversational partners in a daycare setting. Five 4 year-old children were selected to be the target of this investigation. Ten of the target students' peers, five 3-year olds and five 6-year olds, also participated in the study. Their role, and the role of the teacher, was to serve as conversational partners with the target children. Each of the 4 year-olds was involved in 3 conversational pairings. These 3 pairings consisted of the 4 year-old and a 3 year-old peer, the 4 year-old and a 5 year-old peer, and the 4 year-old and a teacher from the daycare center. The conversations that were recorded took place during a free play session, in a one-on-one setting, in a small playroom in the preschool which the children attended.

Polyzoi videotaped the interactions of each dyad for 15 minutes on two different occasions, resulting in six 15-minute recordings per target child. Ten minutes of each the recorded session was then transcribed and coded for: turn taking, conversational gaps, type of utterance, conversational cohesiveness, overlapping utterances, and self-talk.

The results demonstrated that adult-child conversations were characterized by higher levels of conversational turn taking than child-child. As a matter of fact, there was almost twice as much conversational turn taking in the adult-child interactions than there was in peer interactions. The exchanges that occurred between child and adult were, however, characterized by fewer utterances per turn and fewer words per utterance, than the exchanges that occurred between the child and his peers. The adult-child conversations were also characterized by fewer conversational gaps. The conversational gaps that did occur were also shorter in length.

The results also indicate that adults asked more questions of the target children and used more didactic utterances in their conversations with the target children than did the children's peers. In fact, 66% of the recorded adult utterances were questions and 19.2% of the adult utterances were didactic in nature. The target children, on the other hand, used fewer projectives and less self-regulatory talk in the presence of an adult than they did in the presence of their peers.

Perry, Colman, and Cross (1986) investigated the interactions that occur between preschool teachers and their students. The purpose of their study was to examine teacher-child interactions, noting the amount of teacher-child language employed, the number of conversations that occurred, the structural features of the language used, and the function of the language teachers used in typical preschool settings. To this end, Perry, et al. recorded the interactions of 6 preschool teachers and their classes of 20-25 children. The children involved in the study were 4 to 5 years in age. Each teacher's interactions were recorded for one full morning. The researchers utilized 30 minutes of the recording (15 minutes of indoor activity and 15 minutes of outdoor activity) for the purpose of analysis.

The recordings were transcribed. The initial results indicate that teachers did significantly more of the talking (22% more) than did their students. The teacher talk in the transcripts was then coded. Teachers' interactions in which children were given the opportunity to verbally participate and in which the children were able to take at least 2 turns speaking were identified as conversational. All other utterances were labeled non-conversational by the researchers.

Perry, et al. found that 63% of the teachers' speech was conversational while 37% was non-conversational. The researchers noted that teachers usually used non-conversational speech for the purpose of classroom management. They also noted that the conversations that occurred

between the teachers and their students were generally short – usually consisting of 5 verbal exchanges - 3 speaking turns for the teacher and 2 turns child.

Teachers' utterances during conversations with students (mean utterance length of 7 words/utterance) were longer than those of their students (mean utterance length of 4.2 words/utterance). When teachers had conversations with other adults inside the classroom their utterance length was almost exactly the same length as the utterances during conversations with students. However, when teachers had conversations with other adults outside the classroom their mean utterance length was went significantly higher (12 words/utterance). This may indicate that teachers adjust the complexity of their speech in the classroom setting globally rather than to the level of the individual child. Teachers also spoke longer and used more complex language when engaged in non-conversational speech than during conversational exchanges with their students.

Turnbull, Anthony, Justice, and Bowles (2009) investigated the type of language input that students receive in pre-school classroom settings. The participants in their study were 14 pre-school teachers of high-risk students ages 4 years to 4 years, 11months (upon school entry). The settings the researchers chose for their study included six Title I classrooms (100 children), 6 Head Start classrooms (70 children), and 2 state run public pre-K programs (27 children). All of the programs in their study used economic disadvantage as either the main determinate or partial determinate of program qualification for their students.

Turnbull, et al. (2009) recorded the teachers' verbal output to their students for 24 minute periods. They then analyzed the results looking for 6 language stimulating utterance types – three of which were speech initiating in nature (models, open questions, event casts) and three of which were speech evoking in nature (focused contrasts, recasts, and open initiations). They also

looked at group size and the context of speech. Turnbull, et al.'s (2009) findings reveal that only 36% of the teacher's utterances were language stimulating in nature. The remainder of the utterances represented less complex language (i.e. directives, closed-ended or rhetorical questions, or general praise). They also found significant variance between teachers in their use of language stimulating utterances. Finally, they found that neither the group size nor context of the verbal interaction was predictive of teacher's use of language stimulating utterances, but that these language stimulating utterances did occur more often in small group settings.

The results of the studies reviewed in this section are many. First, the results suggest that when teachers talk to students, the teachers tend to most of the talking. They also suggest most of the talking teachers do does not stimulate language production from the students to whom the speech is directed. The results also seem to indicate that, in a one-on-one setting, there are more turn-taking verbal behaviors and fewer gaps in conversations between teacher and child than between peer and child. Additionally, the results of these studies indicate that the conversations that occurred between students and teachers were usually short (about 5 exchanges) and that the utterances used by both student and teacher were shorter than normally occurred with their respective peers. Collectively, the results of these studies seem to indicate that the use of various adjacency conditions by teachers does impact the use of adjacency behaviors of their students.

Valence. *Valence* describes the emotional tone of an utterance. According to Hart and Risley (1995), positive interaction tones are used by teachers when they are trying to be nice through their responses. These *affirmatives* may take the form of giving children choices. They may take the form of repetitions which serve to support, confirm, prompt, extend, or even gently correct the child. Affirmatives may also take the form of explicit approval. Negative interaction tones, however, often take the form of prohibitions.

Muñoz-Hernandez (1986) looked to reevaluate and refine the classifications that had been previously established for the negative interaction form of teacher talk that is often referred to as teacher disapproval. Muñoz-Hernandez asserts in her introduction that what has been considered disapproval behaviors by teachers in the past may or may not be an accurate reflection of disapproval behaviors across cultures. Muñoz-Hernandez wanted to reevaluate what constitutes disapproval behavior in teacher talk through a wider multicultural lens.

To do this, Muñoz-Hernandez made audiotapes of 14 fourth and fifth-grade classroom sessions. In these classrooms, 7 of the teachers were Hispanic and 7 were Anglo. The student population was also ethnically diverse: 1/3 was Hispanic, 1/3 was African-American, and 1/3 was Caucasian. The audiotapes of the participants' classroom sessions were each analyzed by the researcher for statements of disapproval. These statements were then grouped by variations based on the perceived differences of the researcher. A team consisting of the researcher and 4 graduate students then began categorizing statements. Team agreement established the final categories.

By the conclusion of the analysis, the team had identified 9 different disapproval categories. They labeled and defined these categories as the following:

1. *Direct forms* – "a command form statement given in response to student misbehavior" (p. 188).
2. *Simple Politeness Forms* – "a command form statement with a politeness form attached" (p. 188).
3. *Rhetorical Question Forms* – "a disapproval statement in the form of questions that usually do not require answers" (p. 189).

4. *Evaluative Forms* – "a disapproval statement that does not make a demand upon the student" (p. 189).
5. *Future Trade-off Forms* – "a disapproval statement which suggests that if the student gives up his or her disruptive behavior in the present, he will be able to get something in return at another time" (p. 190).
6. *Group Conformity Forms* – "the use of group conformity in the disapproval statement to achieve the teacher's agenda" (p. 190).
7. *Self-referent Forms* – "a disapproval statement in which the teachers refer to themselves as the focal point of the disapproval" (p. 191).
8. *Volition Forms* – "a disapproval which uses volition forms such as would, should, could, will, or ought" (p. 191).
9. *Threats* – "a disapproval in which the teacher promises to do something negative to the student because of his or her behavior" (p. 192).

The categorization of statements of disapproval established by Muñoz-Hernandez could be very helpful for future researchers as they explore the area of teacher talk and disapproval statements. Unfortunately, Muñoz-Hernandez did not make it very clear if her results (categories) differed greatly from those established by previous researchers. Also, although it was not stated directly as the purpose of this study, differences in use of disapproval statements between cultural groups was one of the main arguments made by the author for doing this study. Muñoz-Hernandez chose not to address any analysis of this sort of data in her report, leaving the reader to wonder if differences did exist between the two teacher groups in the use of disapproval statements.

Wittmer and Honig (1988) investigated the behaviors of 2 and 3 year-old students that attended daycares which serve economically disadvantaged families in an urban setting. The participants in this study were 100 preschool students. Fifty of the students were boys and 50 were girls. Fifty of the students were 2 years old while 50 were 3 years of age. There were slightly fewer Caucasian students than African American students. All of the students attended daycare in centers which received Title XX monies requiring low-income eligibility. Each child was observed 4 times for 4 minutes each in 5 different settings. Observers recorded student behaviors every five seconds, as well as all units of adult behavior toward the child. Each child behavior and each teacher interaction attempt was coded.

The data indicate that, in general, when teachers interacted with both the 2 and 3 year old groups they were using either positive or neutral language. However, when children behaved badly, teachers were more likely to respond using commands, restrictions, prohibitions, and combinations of positive and negative language, than redirecting, facilitating, or ego boosting speech. Two year-old male toddlers from low-income, low-education families behaved more negatively than did their 2 year-old female and 3 year-old male and female peers. As a result, these male toddlers elicited more negative verbal and behavioral interactions from their caregivers.

Hughes and Westgate (1998) investigated teachers' talk strategies that precede or accompany children engaging in interpretive or speculative talk. The researchers reviewed the verbal exchanges between one of the researchers and four 5 year-old students during a 30 minute period of conversation which included interpretive and speculative talk by children. The researchers coded the exchanges that included interpretive and speculative talk by children and

looked for patterns in the teacher-student dialogue that preceded and accompanied the interpretive and speculative talk.

Upon analysis of the small group discussions, Hughes and Westgate discovered several discourse moves, social skills, logical processes, and cognitive strategies that seem to support student interpretive and speculative talk. The researchers note that the verbal exchanges that support this kind of talk offer children the opportunity to be active participants in the conversations while allowing children to both interpret and speculate in a context which is clearly teacher led. The results of this study seem to indicate a recurrent pattern in the teacher's verbal interactions wherever students are engaged in interpretive and speculative talk. This pattern includes teacher supportive behavior (accepting, agreeing, referring back, and naming) followed by an eliciting move on the part of the teacher. The students then continue the conversation by applying the principal to the case, using evidence, and then finding the appropriate overarching principal that applies.

One obvious weakness in this study is its small sample size (teacher n=1, student n=5). The fact that the teacher observed was 1 of the 2 contributing researchers to this study may impact the study's validity. Also, the length (30 minutes) and number of observations (1) would appear to make the establishment of patterns of teacher talk less reliable since the amount of data collected from such a brief encounter would not seem to offer an overwhelming amount evidence to support the researchers' claims.

De Kruif, McWilliam, Ridley, and Wakely (2000) examined the interactive behaviors of 63 teachers in early childhood classrooms. The researchers observed each teacher on two occasions. On the first occasion the researchers took notes and completed the Teaching Styles Rating Scale (TSRS), Infant-Toddler Environmental Rating Scale or the Early Childhood

Environmental Rating Scale (depending on the age of the children), and the Caregiver Interaction Scale. During the second observation the researchers completed the Engagement Check II.

The data from the observations and the completed scales were then analyzed. The results indicate that all of the observed teachers fell into one of four interaction cluster profiles. The first cluster consisted of 26 teachers. These teachers engaged in each of the TSRS classification variables some of the time (i.e. they sometimes redirected children, sometimes introduced nonengaged children to new activities, sometimes elaborated, sometimes followed the children's interests, and sometimes informed, acknowledged, and praised children). This group also received a moderately high score on their affect variable rating. The researchers gave these teachers the label of *average.*

The second cluster consisted of 11 teachers. These teachers' behaviors were distinguishable from the others because of their extremely low ratings on redirective behaviors and extremely high ratings on elaborative, praising, following behaviors. These teachers also had the highest ratings on the affect variable and were labeled *elaborative* by the researchers.

The third cluster, which consisted of 18 teachers, had extreme ratings on all 8 of the TSRS variables. Most notably, this group ranked very high on redirecting behaviors and very low on all the other variables. These teachers received an affect ranking of medium high. These teachers were labeled as *controlling* by the researchers.

The teachers that de Kruif et al. placed in the fourth cluster could be characterized by their high ratings on nonelaborative behaviors. These teachers were unique in that they received high rankings in introducing children to new activities, providing information, and acknowledging children's responses, but did little elaboration on what they were doing and

rarely praised the children's efforts. These teachers received an affect ranking of above average and were labeled as *nonelaborative* by the researchers.

Interestingly, no cross-group differences were found based on teachers' age, teachers' race, teachers' experience with children, group size, or adult-child ratio. However, there were group differences relative to the teachers' level of education and the licensing level of the child care center. Teachers that were more redirective and less elaborative in their behaviors tended to be less sensitive and tended to have less education. Also teachers that worked at centers with higher licensing levels had much lower levels of controlling behaviors, than did their peers that worked at centers with lower level licensing.

The results of the studies reviewed in this section suggest that the use of affirmative interaction tones can positively impact the children language use. These studies also seem to indicate that teachers' use of affirmatives varies greatly depending on their own educational levels; the licensing level of the facility at which they work; and the age, gender, and SES of their student population.

Clarity. In their investigation of parent-child interactions, Hart and Risley (1995) did not specifically code for clarity variables. I have, however, found two articles that seem to support clarity as yet another factor that impacts the discourse quality of teachers and their students.

In their literature review, Smith and Land (1981) explored the impact of the clarity of teacher speech on students' achievement and students' perception of teacher effectiveness. Specifically, they reviewed the literature surrounding two low-inference teacher clarity variables: *vagueness terms* (defined as occurring when a teacher "does not sufficiently command the facts or understanding required facts or understanding for maximum effective communication" (p. 37)) and *mazes* (defined as "false starts or halts in speech, redundantly spoken words, and tangles

of words" (p. 38)), in order to attempt to draw some conclusions about the impact of these variables on student achievement and students' perception of teacher effectiveness. Through their review, the researchers found that, when considered collectively, the evidence offered by previous studies indicates that the use of high numbers of vagueness terms and mazes by teachers suppresses student achievement and causes students to perceive lessons as ineffective.

Chilcoat (1987) also discussed the possible impact of unclear teacher talk on students' ability to comprehend, retain, recall, and/or apply the information that the teacher is trying to share. In his article, the researcher offered 10 likely consequences of unclear teacher talk. Chilcoat suggested that unclear teacher talk can:

1. confuse students,
2. prevent clear translations of information,
3. distract student attention or comprehension of the input,
4. provide verbal "sludge" which children have to make sense of,
5. interrupt students' processing on processing recent input,
6. lead to ambiguous, imprecise versions of the information to be learned,
7. lead to increased frustrations as students find it difficult to make meaningful sense of the input,
8. cause students to turn off to further input,
9. provide too rapid an input for students to deal with at a time,
10. allow the opportunity for students to distract the teacher using unrelated questions and comments. (p. 264)

Students who lack verbal ability and fluency are particularly hindered by vague, inadequate, and non-specific teacher talk. Chilcoat suggested that as teachers speak they should

be very aware of the pace, flow, and fluency of their delivery; avoid verbal fill-ins; and use specific terms such as proper nouns and exact quantities to improve clarity of their verbal presentations.

Having reviewed the research surrounding all of the quality features of teacher language identified and studied by Hart and Risley (1995), as well as the feature of "clarity" that was brought forth by other researchers, I determined to follow the lead of the work of Weizman and Snow (2001) and limit the scope of my research to the quality feature of vocabulary and sentence. Like Weizman and Snow, my study focused on vocabulary exposure among low-income children. However, unlike Weizman and Snow, whose study focused on the vocabulary use of parents, my study focused on the vocabulary use of Early Head Start teachers.

Variables that Impact Teacher Talk

The first portion of this paper dealt with the quality features of teacher language and teacher-child interactions that seem to impact student language development. In the next portion of this paper, I take a look at some of the environmental, educational, and philosophical variables that may impact teacher language and teacher-child interactions. It is important to understand the impact of these variables when considering the subject of teacher talk because of their possible link, however indirectly, back to child language development.

In this portion of the literature review, I will share the research surrounding many of the variables that seem to impact teacher talk. The variables that I address in this paper include: *Group Size, Context, Child's Age, Gender and Race, Socio-economics, Teachers' Qualifications,* and *Pedagogical Orientation*.

Group size. Each day preschool and elementary teachers have the opportunity to interact with children. Sometimes these interactions occur on a one-on-one basis. More often, however,

teachers find themselves addressing groups of children that can vary in size from 2 to 30 or even more. Intuitively, one would hypothesize that group size would indeed impact both the amount and the quality of the teacher's interactions with her students. But does it? Does smaller group size, as one might suspect, offer children greater opportunities to engage in a greater number of higher level verbal interactions with their teacher? In this section of the paper I review the literature as it relates to these questions.

Pellegrino and Scopesi (1990) investigated the impact of group-size and student age on preschool teachers' language structure and function. The study involved recording the interactions of 5 teachers and their students. The students ranged in age from .10-3.0 years. All of the participants were from the same Italian daycare facility.

Pellegrino and Scopesi recorded each teacher interacting with her students on 6 different occasions. During 3 of the sessions each of the teachers interacted with the younger children (ages .10-1.2). One of these 3 sessions involved the teacher and a student interacting in a one-on-one setting. Another session involved the teacher interacting with her students in a small group setting (3 children). The third session involved the teacher interacting with her students in a large group setting (7 children). This same interaction pattern was then also completed by each teacher with a set of older children (ages 2.6-3.0). Each recorded session lasted 10 minutes. The 30 sessions were then transcribed and coded for language structure and function. The researcher's structural analysis included coding for the following 5 parameters: total number of words per minute; total number of utterances; average length of utterances; the number of simple, complex, and compound sentences and the S/C ratio (the ratio comparing the number of simple sentences used to the number of complex and compound sentences used by the teacher); unvarying repetitions; semantic repetitions and repetitions which expand the speaker's or the child's

utterance. The transcripts were also coded by 4 main functional categories: empathetic behaviors, conversational behaviors, didactic behaviors, and organizational behaviors.

Pellegrino and Scopesi's results indicate that both the age and number of children impact the structure and/or function of teacher speech in daycares. Pellegrino and Scopesi found that, structurally, both the speed and the complexity of the teacher's speech increased with age. Age, however, only significantly impacted 1 of the 4 main functional categories – conversational behaviors. The results indicate that teachers tend to use more open questions during conversations with older children than they do with younger children. The number of children involved in conversations seems to have a greater impact on adult speech patterns than does the age of the children involved.

Overall the data collected seem to indicate that the larger the group size, the lower the level of linguistic production. Also, the teacher speech that is produced in the large group situation seems to be structurally simpler than that produced in either the one-on-one or small group setting. Functionally, there is a significant drop in the use of didactic and conversational behaviors between the large group conversational data and that of the data from the small group and one-on-one settings. Empathetic behaviors, however, are shown to increase relative to the number of students in the group. There is also a significant increase in the use of organizational behaviors in the larger group setting – specifically attention controls – than there is in the other two conversational settings.

Context. Elementary/preschool teachers and their students engage in a variety of activities throughout the course of the school day. These activities can range from free play time, to structured explorations, to direct instruction. Often the activities in which the child and teacher are engaging require different levels and types of teacher-to-student talk. In addressing this issue

in terms of its impact on types, levels, and amounts of teacher talk, the question then becomes, "What exactly is the impact of context on teacher-student interactions and what, if any, effect does context have on the language used by teachers in their classrooms?" The following studies will address this issue.

O'Brein and Bi (1995) investigated the language patterns of preschool teachers engaged in play with toddlers in three different contexts – a dollhouse area, a block/truck area, and a large motor area. The 6 teachers that participated in this study were undergraduate students who were working toward degrees in early childhood early education at the preschool's sponsoring university. The 10 students involved in this study ranged in age from 19 to 31 months when the study began. All of the students were recommended for the program because they were considered at-risk due to medical concerns or family instability.

Each teacher was videotaped for 10 minutes on 3 different occasions at each of the 3 play areas; thus a total of 9 play sessions per teacher was collected. The recordings were transcribed and coded for teacher sentence types, teacher speech structural elements, and child language. The teacher sentence types for which the transcripts were coded included: questions, directives, attentionals, suggestions, comments, teaching language, praise, sounds, interpretations, and other. Teacher speech was also coded for: total number of utterances, length of utterances, ratio of different words to total words, different words per 100 utterances, number of nouns per 100 utterances, number of different nouns per 100 utterances. The children's language was coded into 8 categories: statements, labels, agreements, refusals/protests, greetings, requests, offers, and other. Each child utterance was also coded based on the utterance's communicative role either as a response to a teacher's question, an imitation or repetition, or as a child-initiated sentence.

O'Brein and Bi's study indicates that play context does influence the nature of both adult and child language. The dollhouse play context was associated with greater quantities of linguistic interactions between teachers and students, diversity in teacher vocabulary and noun usage, and high levels of teacher and student object labeling. The block/truck context elicited the most non-linguistic talk from teachers, while children talked the most and used the most complex language in this play context. Teacher talk in the large motor area was more directive and involved more student praise than the talk recorded in the other play areas. Based on these results, suggest that since teacher language patterns seem to be associated with play contexts, language –focused curriculum objectives and language interventions for this age children may be most likely to succeed if they are associated with their natural play contexts.

O'Brein and Bi also found that, for these children, questioning was not an effective tool to encourage language use. Instead, these children used much more complex language when they established a topic or when they attempted to emulate a teacher's utterance. O'Brein and Bi suggest that these results would indicate that children of this age, teachers may be most effective in eliciting language by offering rich descriptions of objects and/or events and allowing the children the chance to initiate further discussion or imitate the teacher's utterances, rather than by asking questions.

As noted by O'Brein and Bi, the teachers in this study may not be representative of typical preschool teachers in that they all are university students. Many preschool teachers may not have this level of higher education and training on how to speak to young children in order to best develop language. Also, the students in this class may not be representative of typical 19-31 month olds in the number and types of responses since all of them were considered "at-risk" due to either medical or family circumstances.

Girolametto and Weitzman (2002) investigated the responsive language of child care providers when interacting with toddlers and preschoolers during book reading and play dough activities. Specifically, these researchers investigated whether caregiver responsiveness varied based on the children's age and the activity in which they were engaged. The researchers also looked for any variations in the children's language productivity that may have occurred as a result of dissimilarities in caregiver interactions.

All of the child care providers that were selected to participate in this study had a diploma in Early Childhood Education and worked in non-profit daycare centers. Each child care provider also selected 2 boys and 2 girls from her classroom to take part in this study. As a result, a total of 26 child care providers and 104 children, ages 17-53 months, participated in this investigation.

Each of the teachers that were involved in this study was videotaped 3 times – once to familiarize all involved with the recording devices that would be used, once for 15 minutes during a book reading activity, and once for 15 minutes during a play dough activity. The researchers transcribed the last 10 minutes of each of the 15 minute recordings. The researchers analyzed the transcripts using 9 of the 11 items from The Teacher Interaction and Language Rating Scale in order to evaluate the responsive aspects (child-centered strategies, interaction-promoting strategies, and language-modeling strategies) of the caregiver-to-group interactions. The researchers also determined the language productivity of each child by calculating the number of utterances, number of different words, and number of multiword utterances used.

Girolametto and Weitzman's study indicates that caregiver responsive language does not vary as a function of children's ages, but does as a function of context. The results of this study also indicate toddlers' language productivity is only impacted by caregiver interaction-promoting

strategies, while the language productivity of preschoolers is significantly correlated to ratings of all three aspects of caregiver responsiveness.

Wilcox-Hertzog and Kontos (1998) investigated the connection between types of teacher talk and preschool children's play with objects and peers. Eighty-nine students from 10 preschools participated in this study. The children ranged in age from 31 to 63 months. All of the children were given the Adaptive Language Inventory at the beginning of the study to determine their levels of language proficiency. Their teachers, whose training ranged from no training to advanced degrees in early childhood education, were also participants in this study.

The researchers observed the children in their classrooms using a sweep method. Each child was observed for a period of 2 seconds during a free-play period. The researchers then spent approximately 15 seconds recording the child's behavior and the teacher's level of talk prior to proceeding onto the next child's observation. The children were randomly chosen for observation. Each child in the class was observed once prior to the start of the next classroom sweep. A total of 50 two-second observations were made on each child.

The researchers coded the children's behaviors into descriptive play categories. The main play categories included object play categories, non-play categories, and peer play categories. Teacher talk was coded as no verbalization, directives, non-elaboratives, and elaboratives. The researchers also noted classroom characteristics such as teachers' training levels and child-student ratios as well as child characteristics such as age and language proficiency levels.

Wilcox-Hertzog and Kontos's findings indicate that when teachers were within 3 feet of a student they did not verbally interact with the child 81% of the time. When teachers were speaking to the target child, 95% of the time they were using what the authors considered high-level teacher talk (i.e., either non-elaborative or elaborate verbalizations). The researchers also

found that high-level teacher talk and low levels of teacher training had a negative impact on the level of children's play. Wilcox-Hertzog and Kontos suggested these last findings may indicate that teachers' gear their talk to students that are functioning at lower levels in order to support or scaffold the children's communication beyond that of their individual capabilities.

Kontos (1999) attempted to describe preschool teachers' talk during free play, as well as their roles and involvement in various activity settings. The participants in this study were 40 teachers and assistant teachers from 22 Head Start classrooms. Each teacher was audiotaped on 2 different occasions for 15 minutes during the children's free play period. All utterances made by the teachers were coded into one of eight content categories. These categories were: support peer relations, support play with objects, positive social contacts with children, behavior management, practical/personal assistance, talking to other adults, reading to a child/children, and uncodable.

Kontos's results indicate that nearly 75% of the preschool teachers' utterances fell into 3 of the content categories: support play with objects (M=39%), practical/personal assistance (M=18%), positive social contacts with children (M=16%). Kontos's results also reveal that, of utterances that were classified as support play with objects, 21% were in statement form while 18% were in question form. From the data compiled during this study, Kontos concludes that teacher talk is situationally influenced by both teacher role and activity setting.

While this study offers an overall description of the type of talk that occurs most frequently in preschool settings, it does not offer a specific break down of the language quality features used during the observation period. This study is also limited by the number of observations done on each teacher. The validity of Kontos's conclusions would have been strengthened by the inclusion of additional observations – a fact that Kontos herself points out in the study.

All of the studies reviewed in this section found that context did indeed impact teacher talk. The results would seem to indicate that the activity in which the teacher and child are engaged impacts the quality of the teacher-child interaction, the diversity and complexity of the language used, and the valence of verbal interactions that occur.

Child's age. When adults speak to infants they will often use a form of language that many refer to as "baby talk". As children age, however, the adult-to-child talk seems to change - slowly evolving to the point where, when engaged in a conversation, the adults speak to the children in much the same manner as which they would speak to any other adult. In this portion of the paper, I will review the literature surrounding the impact of student age on teacher talk.

I will begin this portion of my literature review by briefly reintroducing the reader to a study described previously in this paper. As described earlier, Pellegrino and Scopesi (1990) investigated the impact of group-size and student age on preschool teachers' language structure and function. The study involved recording the interactions of 5 teachers and their students. The students ranged in age from .10-3.0 years. All of the participants were from the same Italian daycare facility.

The researchers recorded each teacher interacting with her students on 6 different occasions. During 3 of the sessions each of the teachers interacted with the younger children (age .10-1.2). One of these 3 sessions involved the teacher and a student interacting in a one-on-one setting. Another session involved the teacher interacting with her students in a small group setting (3 children). The third session involved the teacher interacting with her students in a large group setting (7 children). This same interaction pattern was then also completed by each teacher with a set of older children (ages 2.6-3.0). Each recorded session lasted 10 minutes. The 30 sessions were then transcribed and coded for language structure and function. The researchers'

structural analysis included coding for the following 5 parameters: total number of words per minute; total number of utterances; average length of utterances; the number of simple, complex, and compound sentences and the S/C ratio (the ratio comparing the number of simple sentences used to the number of complex and compound sentences used by the teacher); unvarying repetitions; semantic repetitions and repetitions which expand the speaker's or the child's utterance. The transcripts were also coded by 4 main functional categories: empathetic behaviors, conversational behaviors, didactic behaviors, and organizational behaviors.

Pellegrino and Scopesi's results indicate that both the age and number of children impact the structure and/or function of teacher speech in daycares. They found that, structurally, both the speed and the complexity of the teacher's speech increased with age. Age, however, only significantly impacted 1 of the 4 main functional categories – conversational behaviors. The results indicate that teachers tend to use more open questions during conversations with older children than they do with younger children. The number of children involved in conversations seems to have a greater impact on adult speech patterns than does the age of the children involved.

Girolametto, Weitzman, Lieshout, and Duff (2000) investigated 5 subtypes of directive language used by childcare providers when interacting with toddlers and preschoolers during book reading and play dough activities. Specifically, these researchers investigated whether caregiver directiveness varied based on the children's age and the activity in which they were engaged. They also looked for any variations in the children's language productivity that may have occurred as a result of dissimilarities in caregiver interactions.

All of the childcare providers that were selected to participate in this study had a diploma in Early Childhood Education and worked in licensed non-profit daycare centers. Each childcare

provider selected 4 children from her classroom to take part in this study. Childcare providers were to base their selection of child participants on 3 criteria. All child participants were to display typical development, have average language skills, and frequently play together. Overall, a total of 20 childcare providers and 80 children, ages 17-53 months, participated in this investigation.

Each teacher was videotaped three times – once to familiarize all involved with the recording devices that would be used, once for 15 minutes during a book reading activity, and once for 15 minutes during a play dough activity. Girolametto, et al. transcribed the last 10 minutes of each of the 15 minute recordings. The researchers analyzed the transcripts for 5 variables – behavior control, response control, conversation control, language modeling, and other utterances – that may have occurred during the caregiver-to-group interactions. They also analyzed the teachers' use of 14 interaction strategies using The Teacher Interaction and Language Rating Scale. Girolametto, et al. determined the language productivity of each child by calculating the number of utterances, number of different words, and number of combinations, and the length of the utterances used.

Girolametto, et al.'s results indicate that caregiver directive language for the most part does not vary as a function of children's ages. Exceptions to this finding included the use of more attention calls with younger children and the use of more wh-questions with older children. Conversely, the results showed that teacher directive language is a function of context – with the play dough activity eliciting less directive language than the book reading activity. The results also indicate that teacher input that involves behavior control and governs turn-taking is correlated with more restricted and less complex language use by children. On the contrary, teachers' use of conversational controls - such as asking wh-questions, clarification questions,

and conversation yes/no questions – was associated with the greatest amount of child talkativeness, lexical diversity, and utterance complexity.

In their study, Dickinson and Smith (1991) examined patterns of teacher-child interactions in preschool classrooms. Their study involved 37 students and their teachers. Twenty-five of the students were visited in their schools at both 3 and 4 years of age. The other 12 children were not in a preschool program at the age of 3 and therefore were only visited at their schools at the age of 4. The authors gave no information regarding the number of teachers nor backgrounds of the teachers involved in this study.

Dickinson and Smith collected 3 forms of data during their school visits: a teacher interview, curriculum observation checklists; and audiotapes of the children's conversations. The teacher interview collected information regarding the teachers' pedagogical orientations. The observation checklist provided information about the curricula and overall classroom programs. The recordings of the children's spontaneous conversations provided information on the activities and types of classroom talk in which they were typically engaged. These recordings occurred once per child and were, on average, 2 hours in length.

Analysis of the data revealed that, in both the 3 and the 4-year-old classrooms, children spent the preponderance of their time engaged in activities that were not accompanied by any form of sustained language interactions (47% and 45% respectively). When language interactions did occur in the 3-year-old classrooms, they were most likely to consist of instructional talk or skill routines (19%). When language interactions occurred in the 4-year-old classrooms, they were most likely to consist of skill routines or control talk (19%). The levels of conceptual focus talk (talk about language, world knowledge, and co-construction of ongoing events) were notably low for both years of the study (1% and 3% respectively).

The actual amount of time that children spent interacting with adults and peers plummeted by almost 10% between the first and second year of the study. The majority of the lost interaction time was a result of a drop in teacher-student interaction time at age 4.

The greatest weakness Dickinson and Smith's study was the manner in which the information was reported. The organization of this article was not very clear in that results were often reported alongside the description of the measures. The results portion of this study seems as though it should be appropriately be labeled as the discussion. Most importantly, the researchers did not report some very important information to the reader. Although the researchers state that they completed teacher interviews and observations on the preschool classroom teachers, there is no reference to how many teachers were actually involved in the study. It was also often unclear which portions of the study involved all 37 students and their teachers and which (if any) involved only the focal children and their teachers. The purpose of the final ethnographical description of the focal children, their school, and their teachers was also unclear.

Overall, the results of the studies reviewed in this section would seem to indicate that student age does impact teacher talk. Specifically, the results would seem to show that student age impacts the amount, speed, and complexity of the teachers' interaction verbalizations. The impact of student age on the directiveness of teacher talk is less clear, due to the conflicting results offered by these studies in this area.

Gender and race. At one time in America's history, formal educational opportunities, especially schooling beyond the elementary level, were limited. Access to education was often limited to the male children of the wealthy. If a girl was indeed able to attend school, the schooling offered often took the form of a finishing school, where the child would learn how to

behave like a young lady and to perform the responsibilities of a dutiful wife. Formal schooling for children of color was generally unavailable, if not illegal, up until the period following the Civil War.

Since that time, great strides have been made in attempting to offer more equitable educational programs to all students. Unfortunately, many inequities still exist in the treatment of children based on their race and/or their gender. The issue of racial and gender equality in the classroom becomes pertinent to my study as it pertains to teacher speech patterns. The questions then become, "Do teachers speak differently to children based on their gender and/or ethnicity? If so, how do these 2 variables impact teacher-talk?" In this section I will review the literature surrounding these issues.

Cherry (1975) compared the quantity and style of preschool teachers' verbal interactions with male and female students. Four preschool teachers were audiotaped as they interacted with their students. Each teacher was recorded on 10 different occasions (2 sessions per day for 5 days) for less than 30 minutes per occasion. The recordings were then transcribed and coded for measures of teacher speech (word, utterance, attentional-marked utterance, directive utterance, and repetition) and measures of dyadic verbal interaction (verbal interaction, verbal initiation, turn, and question-answer-acknowledgement sequence).

Cherry's results indicate that the boys in this study had a greater number of verbal interactions with their teachers and that the language used with boys was more directive in nature. Preschool girls, on the other hand, received a significantly higher number of verbal acknowledgements for their answers to questions from their teachers than did their male peers.

The purpose of the study by Ogilvy, Boath, Cheyne, Jahoda, and Schaffer (1992) was to examine the interactions between Scottish nursery school teachers and their students in order to

determine if the teachers' interaction styles varied based upon the ethnicity of the children. Twenty-six female teachers participated in the study. All of the teachers involved in the study were Caucasian. Each of the adults was paired with 2 children of the same age and sex. One of the two children was of indigenous Scottish origin and the other was of Asian (Indo-Pakistani) origin. All of the children involved in the study had attended their nursery school for a minimum of 6 months. English was not the primary language for the majority of the Asian children. These children scored significantly lower than their Scottish peers on both the expressive and receptive portions of the British Abilities Scale.

Three 5-minute teacher-student interactions were observed: a one-on-one conversation, a taught task, and a group session. Each of these sessions varied in the type of adult input provided for the child. The researchers recorded and coded the teacher-child interactions in each of the situations. They coded the one-on-one interactions for adult and child turns, adult conversational style, consequence of adult questions, and topic content. The researchers coded the taught task for verbal and non-verbal strategies. Finally, the researchers coded the group session for child bids for adult attention, adult responsiveness to the child's bid, and joint involvement.

Ogilvy, et al.'s results indicate a pattern of differentiated treatment in all three of the interaction settings. In the one-on-one setting the teachers used more directives and asked more questions with the Asian children. The Asian children in turn gave fewer responses and the responses they gave were more likely to be incomprehensible. The teachers also spent more time looking at the features of a book with Asian children than discussing the child's experiences around the book. In the taught task session, teachers used more directives, negative feedback, visual cues, demonstration, and physical control with Asian children than Scottish children. The teachers, however, asked more questions of the Scottish children than their Asian peers. In the

group setting there was no significant difference in the number of bids for teacher attention between the Scottish and the Asian children. There was, however, a significant difference in the rate at which the teachers responded to the children's bids for attention. The teachers responded to 78% of the Scottish children's bids while only responding to 63% of the Asian children's bids for attention.

Ogilvy et al. stated that the results of their study indicate a "fairly coherent picture of differential treatment according to ethnicity" (p. 93). However, I believe that their results more truly reflect differential treatment based on the language abilities rather than the race of the children. If Ogilvy et al. had truly wished to investigate the impact of race on teacher-student interactions, they should have looked at samples of children that were equivalent in all aspects except race. This study could perhaps be more accurately described as investigating the impact of language impairment due to children's lack of language familiarity on teacher-student interactions. The researchers, themselves, note the consistency of the results of this study with other studies of adult-child interaction involving special needs students.

The results of the 2 studies reviewed in this section seem to indicate that both race and gender can impact teacher-child interactions. In the next section of this literature review, I share the literature surrounding another variable that may impact the level of teacher talk with students. That variable would be the child's socio-economic status.

Socio-economics. As stated in the rationale, current studies indicate that there is a link between socio-economic level (SES) and oral language development. Graves & Slater (1987), Locke et al. (2002), and Farkas & Beron (2003) all found relationships between student oral language development and student SES.

In Hart and Risley's (1995) home language study, the researchers found that parent SES greatly impacted the amount, type, and quality of adult-child interactions. Since this study investigated the impact of teacher talk on children, question then becomes what impact does teacher, student, and/or school SES have on the amount, type, and quality of teacher talk? In this section of my paper, I will review the literature surrounding this issue.

In their study, Quay and Jarrett (1986) compared the interactive behaviors of preschool teachers in lower SES (Headstart) and middle SES preschool settings. Specifically the authors wished to compare: (a) the verbal communications of teachers with their students and with other adults in the school and (b) the individual differences between teacher-child interactions based on the SES level and the sex of the child. The first goal was established in order to determine if teachers of middle and lower SES students offer the same levels of language stimulation to their students and what impact adult to adult interactions during the school day may have on students. The second goal was established to examine the quantity, the quality, and the initiators of teacher-child interactions based on the child's sex and SES level.

Twenty-three teachers participated in the study. Seventeen of the teachers were from Head Start programs and 9 of the teachers were from private schools which housed both preschool and elementary-level classrooms. The children with whom the teachers interacted ranged in age from 3-6.5 years. The teachers were observed interacting with their students during a free play period. Each teacher was observed using a time-sampling procedure in which 80 ten-second observations took place over a 6 week period. The researchers coded each interaction that occurred with a child as verbal or non-verbal, teacher-initiated or child-initiated, positive-neutral or negative. The researchers also noted the name and the gender of the child with whom the interaction occurred.

This study offers a number of results that are relevant to this review. First, Quay and Jarrett found that the teachers of lower SES students had fewer interactions with their students than did the teachers' middle-class peers. The researchers also found that the teachers of low SES students tended to initiate fewer conversations with their students and their students tended to initiate fewer conversations with them. Finally, the researchers found that teachers of lower SES students seem to spend more time interacting with other adults within the classroom than did the teachers of middle class children.

The purpose of McCartney's (1984) study was to investigate whether or not the quality of the daycare environment impacts children's language development. The teacher participants in this study worked at one of the 9 daycare centers that had been in operation for more than 5 years on the entire island of Bermuda. The 9 daycare centers varied in quality of curriculum, staff training, and facilities. All the students who had attended one of these centers for at least 9 months and their families were also invited to participate in the study.

McCartney collected data on the daycares' environments using the Day Care Environment Interview and the Early Childhood Environment Rating Scale (ECERS). The language environments of the centers were measured through observations of the function and quantity of the teacher and peer interactions with target children. The eight target children (4 boys and 4 girls) were randomly selected from each daycare. All of the target children were at least 36 months of age. Each of the target children was observed for 10 minutes on 6 different occasions over a 2 week period. Their utterances were coded by number of utterances per functional category and by total number of speech initiations and responses. The verbal stimulation provided by caregivers to infants was measured through five 30-minute observations of the caregivers in the infant care areas. During each of the observations caregiver speech was

coded for functional type. The number of minutes caregivers spent outside the infant care areas was also recorded.

The McCartney measured the children's intellectual and language development skills by giving 3 standardized tests and through research team ratings of free-speech samples collected randomly from selected students in 7 of the 9 centers. Family demographic information was collected through questionnaires. Information on the home environment was collected using the Parent as an Educator Interview and maternal verbal intelligence was calculated using the PPVT-r.

McCartney's results indicate that the overall quality of the daycare environment, as defined by the total quality score on the ECERS, has a profound effect upon the language development of students. The results also indicate that variations in verbal interactions between child and adult do impact language development. The total number of functional utterances used by caregivers to address children and the number of conversations initiated by the target students were both significant positive predictors of children's test scores. Conversely, the number of control utterances used by caregivers to address children was a significant negative predictor of children's scores on the language development measures. Other environmental variables which were found to positively impact student language development scores included lower levels of noise, higher numbers of visitors, smaller amounts of free-play time, and fewer visual distractions.

McCartney concludes that the results of this study suggest that children benefit from high quality daycare and, therefore, high quality daycare can serve as an effective early childhood intervention.

As a part of a larger long-term study, Melhuish, Mooney, Martin, and Lloyd (1990) examined the relationship between daycare experience and the language and cognitive development of 18 month-olds in 4 different childcare settings. One hundred ninety-three first-born children from dual-earner households in London participated in this portion of the study. One hundred thirty-six of the participating children spent at least 25 hours per week for at least 9 months in a childcare setting outside the home. Between the ages of 9 and 18 months, 30 of the participating children spent at least 25 hours per week in the care of a relative, 74 of the children spent the same amount of time in a family daycare setting, and 32 were in preschool. Fifty-seven of the 193 children remained at home with their mothers, who had chosen not to return to work after the birth of their child.

When the children were 5 months of age and were still in the care of their mothers, Melhuish, et al. gave them the Bayley Scale psychomotor and mental development indices. Melhuish, et al. also interviewed the children's mothers. After 13 months the researchers returned and once again administered the Bayley Scale mental development indices to the children and interviewed their mothers. At the 18 month contact the mothers were also asked to keep a log of the words that their child used each day over the period of a week.

Melhuish, et al.'s results indicate that cognitive development was not influenced by the type of daycare in which the children participated. The results also showed that there was no significant differences between the number of single words produced by the children in the various care groups; however, children from the preschool setting were less likely to have high numbers of word combinations.

Melhuish et al. noted that these results were somewhat surprising in that the children who attended the preschools were generally from homes of higher SES status and would, therefore, be

expected to have higher language capabilities do to their class advantage. Melhuish et al. suggest that the relationship between quality of care provided within the home and outside the home may explain the results of this study. They suggest that if the quality of language in the home is high and the quality of the language in the care setting is low, there could be detrimental effects on language development from the out-of-home care. However, if the quality of language in the home is low and the quality of the language in the care setting is high, there could be beneficial effects on language development from the out-of-home care. Thus, the same form of out-of-home care may have very different effects on children's language development.

Melhuish et al. noted that these results, when combined with the data from Melhuish et al. (1990b) reflect the quality of out-of-home care rather than the type of out-of-home care. The researchers suggest that differences in child language scores seems to be a result of the language environment provided within the care setting, with total language addressed to the child being the most influential variable.

The results of the studies reviewed in this section would indicate that the child's SES and school's SES do impact the teacher talk. These researchers have also taken the data collected and established a relationship between the teacher language levels in the schools and the language development of the children that attend.

Teachers' qualifications. In every state in America, legislators have instituted a set of criteria that establishes the minimum levels of education that teachers must attain in order to be permitted to teach in the public schools within that state's system. That being said, however, the reality is that public school teachers, on the whole, represent vastly different levels of education, experience, and expertise. Differences in teacher qualifications are only magnified with the addition of private school teachers, preschool teachers, and daycare providers, whose teaching

qualifications are not as closely monitored by state governments. In this section of my paper, I will review the literature that is available on the impact of teacher qualifications - such as education level, years of experience, licensure, etc. - on the amount, the type, and the quality of teacher talk.

This review will begin by revisiting the study by de Kruif et al. (2000) As stated before, these researchers examined the interactive behaviors of 63 teachers in early childhood classrooms. The researchers observed each teacher on two occasions. On the first occasion the researchers took notes and completed the Teaching Styles Rating Scale (TSRS), Infant-Toddler Environmental Rating Scale or the Early Childhood Environmental Rating Scale (depending on the age of the children), and the Caregiver Interaction Scale. During the second observation the researchers completed the Engagement Check II. The results of these observations the researchers were able to identify 4 distinct groups of teachers. Each of these groups had its own distinct interactive style.

As indicated earlier, no cross-group differences were found based on teachers' age, teachers' race, teachers' experience with children, group size, or adult-child ratio. However, there were group differences relative to the teachers' level of education and the licensing level of the childcare center. Teachers that were more redirective and less elaborative in their behaviors tended to be less sensitive and tended to have less education. Also, teachers that worked at centers with higher licensing levels had much lower levels of controlling behaviors, than did their peers that worked at centers with lower level

In this section, I will also revisit the work of Wilcox-Hertzog and Kontos (1998). As stated previously, these researchers investigated the connection between types of teacher talk and preschool children's play with objects and peers. Eighty-nine students from 10 preschools

participated in this study. The children ranged in age from 31 to 63 months. All of the children were given the Adaptive Language Inventory at the beginning of the study to determine their levels of language proficiency. Their teachers, whose training ranged from no training to advanced degrees in early childhood education, were also participants in this study.

The researchers observed the children in their classrooms using a sweep method. Each child was observed for a period of 2 seconds during a free-play period. The researchers then spent approximately 15 seconds recording the child's behavior and the teacher's level of talk prior to proceeding onto the next child's observation. The children were randomly chosen for observation. Each child in the class was observed once prior to the start of the next classroom sweep. A total of 50 two-second observations was made on each child.

The researchers coded the children's behaviors into descriptive play categories. The main play categories included object play categories, non-play categories, and peer play categories. Teacher talk was coded as no verbalization, directives, non-elaboratives, and elaboratives. The researchers also noted classroom characteristics such as teachers' training levels and child-student ratios as well as child characteristics such as age and language proficiency levels.

The authors' findings indicate that when teachers were within 3 feet of a student they did not verbally interact with the child 81% of the time. When teachers were speaking to the target child, 95% of the time they were using what the authors considered high-level teacher talk (i.e., either non-elaborative or elaborate verbalizations). The researchers also found that high-level teacher talk and low levels of teacher training had a negative impact on the level of children's play.

These studies would seem to indicate that teachers experience with children does not have much of an impact teacher talk. However, teachers' level of education does impact the

directiveness, the elaborativeness, and the sensitivity of the teachers' language. The researchers also found that low levels of teacher training had a negative impact on the level of children's play.

Pedagogical orientation. Different schools and different school systems can establish very different curricula and have very different philosophies about what constitutes "good instruction". These systemic standards can filter down to the classroom level in the form of the educational programs, materials, and in-services offered to teachers within that particular setting. Teachers, too, come to the classroom with differing beliefs about how children learn and how best to educate children. These individual and systemic differences in pedagogical orientation can greatly impact instruction that occurs within classrooms. This being the case, what effect does pedagogical orientation have on teacher talk? In this section, I will review the literature that is available surrounding the impact of pedagogical orientation on teacher talk.

In their study, Smith and Dickinson (1994) attempted to identify and describe teacher-child interactions which assist in the attainment of decontextualized language (i.e., "language that conveys information distinct from the context, and that children need in order to understand and discuss concepts that are abstract" (p. 347)) and emergent literacy skills. These researchers then related these interactions to wider characteristics of the classroom circumstances, teacher-specific circumstances, and activity settings. The classroom circumstances that were investigated by the researchers included class size, adult-child ratios, fluency of English of the children, age range of the children, and the length of the classroom day. The teacher-specific circumstances that were investigated by the researchers included the level of each teacher's education, the teacher's years of experience, two measures of the teacher's reported pedagogical orientation, as well as two measures of the teacher's observed pedagogical orientations. Finally, the researcher

established activity settings based upon their observations of the curriculum strength, teachers' reports on the amount of time planned for various activities, and audiotapes of children's interactions and teachers' interactions that were coded for setting.

Seventy-four children and 56 teachers from 61 classrooms participated in this study. Half of the children which participated attended Head Start and half of the children attended other similarly subsidized programs. All of the children were age 4 at the time of the study. The educational background and the years of experience in education of the teachers that were involved in this study varied greatly. The educational background of the teachers ranged from no formal training to a Master's degree and the years of experience in education varied from less than 1 to more than 24.

During this study, Smith and Dickinson coded for four different forms of talk. The first form they labeled cognitively challenging talk. This form of talk "moves beyond the immediate conversational context including early literacy talk, nonpresent talk, personal narratives, and scientific talk" (p. 355). The second form of talk, labeled pretending talk, occurs "during negotiation, structuring, and enactment of fantasy play episodes" (p. 356). Didactic talk is talk that "reflects children's participation in language routines such as counting, reciting, and knowing classroom rules" (p. 356). The final form of talk identified by the researchers was labeled general talk. This form of talk is related to ongoing classroom activities.

Smith and Dickinson found that all three areas of classroom life - the classroom circumstances, teacher-specific circumstances, and activity settings – impacted teacher-student interactions. Length of day and number of children had a negative impact on interactions (less pretending talk and more general talk). Teacher education was associated to more cognitively challenging talk. Teacher pedagogical orientations toward literacy was also associated to more

cognitively challenging talk, while teacher pedagogical orientations toward socialization correlated to higher levels of pretend talk. Teachers who reported spending more time in free play activities spent more time in cognitively challenging talk during large group time, while teachers who reported spending more time in small group time engaged in more pretending talk with students during free play time.

In their study, Lawton and Fowell (1989) investigated the types and frequencies of speech utilized by teachers and preschool students during small group instruction and related learning activities. The researchers explored these variables in two very different types of preschool programs. One of the preschool programs the researchers examined was based on the Ausubelian theory of learning. In this program, the teachers first taught children general concepts and higher-order skills and then led the children through related learning activities. During the related learning activities children worked toward understanding the relationship of lower level concepts and specific information to the general and higher-order concepts to which they were previously exposed. The other preschool program which researchers examined utilized a Piagetian theoretical base. In this program, the teacher's role is that of facilitator. Teachers were to help to guide the thinking process of their students as the students interacted and explored a stimulating learning environment. Eighteen children were enrolled in the Ausubelian preschool program and 17 children were enrolled in the Piagetian program.

At each preschool, the researchers videotaped 22 small group sessions over a period of about 8 months. Each session lasted 29 minutes on average. The researchers coded only verbalizations that they considered to be related to the small group instructional topic. These verbalizations were then categorized as a question or statement, as about content or process, and as general or specific in nature.

Contrary to the researchers' predictions, the data indicates that the teachers in both programs asked more direct-closed questions than open-ended questions. Also, the teachers and the students in the Ausubelian preschool spoke a great deal about process, while the teachers and children in the Piagetian program spoke more about content. The majority of utterances by children in both programs were direct statements.

Lawton and Fowell went on to share that this study was based on information collected in year 1 of a 3 year study of the effects of instructional programs on children's understanding of the logical concepts of classification, relations, and conservation. The results of the overall study indicate that the children in the Ausubelian program did increasingly better on tasks that require the successful completion of "process operations" over time than their Piagetian program peers. Lawton and Fowell attribute this difference in performance levels to the more frequent reference to process in the speech of Ausubelian program teachers.

The results of the studies reviewed in this section do seem to indicate that teacher pedagogical orientation can indeed impact teacher talk. The next section of this chapter offers suggestions to teachers from the research regarding implementation of a strong language component in their classroom curriculum.

Suggestions to Teachers from the Research

In the final portion of this literature review I will share some the suggestions that I have come across regarding instruction and teacher talk. Included in this section are a number of suggestions and strategies that researchers in the field of language development have for teachers who wish to implement a strong language component to their classroom curriculum.

According to Menyuk (1995), oral language school activities are activities which enhance the development of children's language knowledge. These activities furnish models of more

sophisticated language use and allow children the opportunity to apply their newly acquired knowledge. The researcher reminded teachers that oral language activities should also correspond with the linguistic knowledge and developmental interests of the child.

Menyuk then proceeded to offer two types of listening and speaking activities which are suitable for classroom use and that may be related to other curricular areas. These are *narration* and *explanation (or exposition)*. Narration consists of story reading and storytelling. Narration activities model connected discourse, provide exemplars of more complex sentence structures, and expose the child to additional vocabulary and use of the vocabulary. Story reading and storytelling also provide an increased acquaintance with all facets of language - pragmatic, semantic, lexical, and phonological. The organizational structure of explanation (or exposition) is very different than that of narrative. Modeling of expositional discourse by the teacher and peers can be helpful to students in understanding its structure. A thorough understanding of explanation (or exposition) is critical since as children progress through school more and more of their texts will be expository in nature.

Menyuk also encouraged teachers to work with students to develop their conversational skills. She suggests that conversational abilities can be cultivated in two ways over the school years. One way is through the changing nature of topics of conversation. "Communication interaction in the classroom based on authentic questions about the physical and social world that can be posed in academic areas can change topics of conversation within and outside the classroom." (p. 14). Active participation in conversations within the classroom also offers practice in the second area of conversational interaction – perspective taking. Perspective taking allows children to see things from a viewpoint that is different from their own. Overall, participation in classroom conversations encourages more frequent use of complex sentence

structures and new vocabulary as well as the use of skills in the production of pragmatic, semantic, lexical, and phonological classifications and relations in language.

In an article written to dispel misconceptions about children and their language, Swartz presented a list of 8 language strategies that she suggests teachers use to help to maximize the potential for each child in the class. Swartz's strategies encourage teachers to:

a) Engage in real two-way communication rather than a teacher monologue.

b) Encourage student-to-student communication in addition to student-to-teacher communication.

c) Speak clearly, specifically, and in a focused manner.

d) Involve students in activities that invite verbal interactions.

e) Ask higher level questions that require responses beyond simple fact retrieval.

f) Read books and poetry to students and encourage them to generate their own stories and poems.

g) Involve students in choral speaking activities such as playing games, singing songs, and sharing.

h) Model standard school dialect for students.

Swartz argued that the use of these instructional strategies coupled with an acceptance of the child, an acceptance of the child's language, and an intelligent understanding of psycholinguistic theory and knowledge, will help the teacher to establish a classroom in which all children can engage in real learning.

In their article on teaching early literacy skills, Roskos, Christie, and Richgels (2003) stated their belief that children's early reading and writing learning is embedded in a larger developing system of oral communication. Roskos et al. also recognized that young children

need writing to help them learn about reading, they need reading to help them to learn about writing: and they need oral language to help them learn about both. As a part of their article, Roskos, et al. offered 8 essential strategies for teaching early literacy skills. This is relevant to this literature review because the very first strategy that they offered was "Rich teacher talk" (p. 53). They recommended that preschool teachers engage students in rich conversations in a variety of settings (large group, small group, and one-on-one). The authors also suggested that, when talking with children, teachers should: use rare words – words that are found infrequently in typical daily speech; extend children's comments into statements that are more descriptive and grammatically mature in nature; have discussions on topics that are cognitively challenging; and listen and respond to what their students are saying.

Likewise, Neuman and Wright offered the following guiding principles for effective oral vocabulary instruction in their 2014 article. They offered 5 guiding principles based upon two meta-analyses they had completed after reviewing 75 vocabulary studies. These principles are as follows:

1. Children need both explicit and implicit vocabulary instruction
2. Be intentional in word selection
3. Build word meanings through knowledge networks
4. Children need repeated exposure to gain vocabulary
5. Ongoing professional development is essential

Neuman and Wright also emphasized the need for students from high- poverty circumstances to receive skillfully developed instruction that not only positively impacts their word knowledge and concepts, but also accelerates their vocabulary development.

As a part of their review of the literature surrounding the topic of preschool teachers' interactions with children, Kontos and Wilcox-Herzog (1997) offered several recommendations based on the research presented. They suggested that although most preschool teachers intend to be sensitive, engaged, encouraging, and verbal with their students, the actual occurrence of these qualities varies greatly from teacher to teacher. Kontos and Wilcox-Herzog believed that in order to better match actual classroom behaviors to teacher intentions teachers and caregivers must advocate for adherence to the NAEYC's recommendations for optimal teacher-child ratios, work to increase levels of training, work toward the establishment of a developmentally appropriate curriculum, and make a conscious effort to pay attention to the distribution of their attention.

In her article, Rowe (1998) shared her insights on the role that teacher talk plays in restricting curricular change. Rowe began by sharing her experience with videotaping herself teaching, the self-analyses that occurred afterward, and the subsequent impact of these events on her future teaching. She shared that, upon reflection, she found that she had been unintentionally undermining her own efforts toward curricular change by enveloping the new curriculum in old patterns of talk. Rowe suggested that teachers who engage in self-analysis of classroom talk may be able to gain similar insights into their own teaching and their students' learning.

In this section of Chapter 2 I reviewed some of the suggestions that have been offered to teachers by researchers regarding instruction and teacher talk. Included in this section were a number of suggestions and strategies that researchers in the field of language development have for teachers who wish to implement a strong language component to their classroom curriculum. These suggestions offered here seem to support an assumption that teacher talk can indeed impact student language development.

Summary

In this chapter I have reviewed research that has already been done in the area of teacher talk as it relates to preschool and elementary-aged children. The review consisted of four primary sections. In the first section, I reviewed literature surrounding adult-child interactions including the significance of adult-child talk, the impact of conversational partners on children's speech, and a comparison of mother-to-child talk and teacher-to-child talk. This research suggests that although there are both qualitative and quantitative differences in mother-to-child speech and teacher-to-child speech, both types of caregivers play an integral role in the language development of young children. Furthermore, the results of these studies seem to indicate that the influence of the conversational partner on the verbal output children needs to be considered as a variable in research studies of language used by children.

In the second section, I reviewed literature surrounding the quality features of teacher language and interactions. This section was organized around the quality language and interaction features identified by Hart and Risely (1995) in their study of parent-child interactions in the home (with the addition of *clarity* as quality language feature that may impact student language development). The results of these studies seem to indicate that teachers' use of each of the quality language and interaction features identified by Hart and Risely does have an effect on children's speech and interaction levels.

In the third section of this chapter, I reviewed literature regarding several of the variables that may impact teacher talk. This section included a review of the research surrounding the impact of economic, environmental, philosophical, and child-related influences on teacher talk in the classroom. The results seem to indicate that the group size; context; and children's SES, age, gender, and ethnicity affect the quality and quantity of child-teacher interactions as well as the

quality and quantity of teacher talk. The results of these studies would also suggest that while teachers' experience with children does not have much of an impact teacher talk, teachers' educational level and pedagogical orientation do impact teachers' language and interactions with children.

The fourth section of this literature review contained a review of literature which offered numerous ideas to teachers about how to improve and include the use of language in their classrooms. Included in this section were a number of suggestions and strategies that researchers in the field of language development have for teachers who wish to implement a strong language component to their classroom curriculum. These suggestions offered here seem to support an assumption that teacher talk can indeed impact student language development.

In short, the results of this literature review seem to support my belief that preschool teachers can and do play an important role in the oral development of young children. The studies reviewed seem to indicate that the language and interaction quality features that Hart and Risley (1995) and the language sophistication levels and conversational supports Weizman and Snow (2001) used when coding for their studies of parent-child interaction will be a valid means by which to code the teachers' utterances in my own study. The results of the studies reviewed also suggest that I will need to be very aware of impact of economic, environmental, philosophical, and child-related influences on teacher talk as I choose both the setting and the participants for my study.

Interestingly, much of the literature surrounding the topic of teacher-talk seems to be rather old. Most of the studies that I have been able to find in this area were done in the late 1980's and early 1990's. It appears that the timing of much of the research in this area would coincide with the development of the whole language movement in the United States. In

addition, many of the studies on teacher talk that I have been able to find involve students whose language is delayed or otherwise non-typical in its development. There seems to be very little current research available on the impact of teacher talk on very young typically-developing children.

The shortage of current research in the area of teacher talk with students ages 0-36 months is somewhat surprising in light of Hart and Risley's (1995), Weizman and Snow's (2002), and Rowe's (2012) results and in light of the new demands being placed on educational systems by *No Child Left Behind* (2001) and the *Common Core Curriculum* (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). It is this informational void that I hope to begin to fill with the addition of my study. By examining the teacher talk that occurs at the earliest preschool levels, perhaps we can take the first steps toward identifying contributors to the vocabulary gap which has been demonstrated by some of our neediest students.

CHAPTER 3 - METHODS

This study investigated the oral language patterns of Early Head Start teachers who work with low SES children up to 36 months of age in a classroom setting. I selected this group of teachers to observe because research indicates that children acquire considerable knowledge of the various facets of human language during their first three years of life (Menyuk, 1995) and because of the lack of research on teachers of this age child in this area of study. For this investigation, I analyzed the amount, richness, and sophistication of the oral language input that is offered by Early Head Start teachers to their students. I also analyzed the quality and quantity of the conversational supports that these teachers offer their students during encounters with sophisticated words. (See Table 3 for a list of the variables.)

The research question for this study is: How do Early Head Start teachers talk to their students? To find the answer to this question, I addressed the following subordinate questions:

- What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?
- What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?

Table 3 shows the correspondence between these subordinate questions and the data that was collected.

Table 3

Research Sub-Questions, Related Variables, and Data

Research Sub-Questions	Sub-Question Variables	Sub-Variables Calculated	Data Collected for Calculations
What is the nature of the vocabulary input that Early Head Start teachers are providing their students?	Amount	• Words/hour • Different words/hour • Nouns/hour • Verbs/hour • Adverbs/hour • Adjectives/hour • Functors/hour • Words/morning • Different words/morning • Nouns/morning • Verbs/morning • Adverbs/morning • Adjectives/morning • Functors/morning	• Number of words • Number of different words • Number of nouns • Number of verbs • Number of adverbs • Number of adjectives • Number of functors • Length of time
	Richness	• Mean words/utterance • Mean different words/utterance • Mean nouns/utterance • Mean verbs/utterance • Mean adverbs/utterance • Mean adjectives/utterance • Mean functors/utterance	• Number of words • Number of different words • Number of nouns • Number of verbs • Number of adverbs • Number of adjectives • Number of functors • Number of utterances
	Sophistication	• Sophisticated words/hour • Sophisticated words/morning • Percent sophisticated words/hour • Percent sophisticated words/morning	• Number of words • Number of sophisticated words • Length of time
What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?	Conversational Supports	• Instructional supports/hour • Helpful supports/hour • Neutral supports/hour • Instructional supports/morning • Helpful supports/morning • Neutral supports/morning • Percent instructional supports/hour • Percent helpful supports/hour • Percent neutral supports/hour • Percent instructional supports/morning • Percent helpful supports/morning • Percent neutral supports/morning	• Number of sophisticated words • Number of instructional supports • Number of helpful supports • Number of neutral supports • Length of time

Research Design

This study was a descriptive study in which I investigated the oral language patterns of Early Head Start teachers who work with low SES children up to 36 months of age in preschool centers. I recorded teacher talk in Early Head Start classrooms in order to analyze the amount, richness, and sophistication of the oral language input that is offered by Early Head Start teachers to their students. I also analyzed the quality and quantity of the conversational supports that these teachers offered during student encounters with sophisticated words.

Setting

The study involved 5 teachers from 5 different Early Head Start classrooms. Early Head Start was established in 1994 by the United States Congress in an attempt to better meet the needs of disadvantaged and low-achieving children. Early Head Start offers services to families of children ages 0-36 months who meet Federal Poverty Guidelines and to students with disabilities. All Early Head Start classes must be made up of at least 90% economically disadvantaged children. Early Head Start offers both home-based and center-based support.

All of the Early Head Start classrooms in this study are located within two adjoining Mid-Atlantic States and are center-based. I observed five different classrooms in three different cities. Classrooms A, B, and C are located in the same small city. This city has a population of approximately 19,000 people and with a median income $49,619. Classrooms D and E are located in two different cities. Classroom D is located in another small city with a population of approximately 44,000 and a median income of $28,270. Classroom E was located in a third small city with a population approximately 41,000 and a median income of $36,441 (Advameg Inc., 2013).

Classroom A was approximately 20 x12 feet. On the right side, near the entrance of the room, was door that connected to small kitchenette. Along this wall there was a sink, storage, and a changing area. There was a rocker, then several cribs, and low shelves for toy storage. Along the back wall there was a glass door that led outside, and another rocker. Along the adjoining wall, there was additional shelving for toys and cribs. Across from the sink area there were several low feeding chairs. On the wall hung a clipboard, one for each child, on which the teachers recorded information about the children – what they ate, when they changed their diapers, arrival/pick-up times, contacts with parents, etc. The side wall had an alphabet picture chart on it as well as pictures of the students labeled with their first names.

Classroom B was approximately 20 x12 feet. Near the entrance to the room there was door that connected to small kitchenette on the left hand side. Along the left wall, there was a sink, storage, and changing area. There was low shelving for toys and a kitchen play area. Across the back of the room were a rocking chair and low shelves for books. On the other side wall, there was a glass door that led outside and additional shelves for toys. Across from the sink area there was a low table surrounded by chairs for the children to use and several highchairs. On the wall hung a clipboard, one for each child, on which the teachers recorded information about the children – what they ate, when they changed their diapers, arrival/pick-up times, contacts with parents, etc. The back wall had an alphabet picture chart on it. The side walls had pictures of the students labeled with their first names and an insect picture chart.

Classroom C was approximately 20 x 20 feet. Near the entrance of the room there were two child-sized tables and chairs. To the left, there was a kitchenette that included a small refrigerator, microwave, sink, storage, and changing area. Beside the kitchenette was a door that led to a bathroom. Along the side wall were two filing cabinets followed by low shelving for toys

and a kitchen play area. In the back corner, there was a lofted area with books and a small fish tank underneath it. Beside the loft, in the back of the room was a glass door that led outside. Beside the door were more low shelves for toys. There was a carpeted area and a chair. On the next wall was more shelving – some low for toy storage and some high for teacher materials. Two-sided shelving for toys split the room almost in two as it jutted out from the side wall. As in the other classrooms, a clipboard for each child hung on the wall. The back wall had an alphabet picture chart hanging on it. The floor by the bathroom and by the entrance to the room had animal shapes taped to them. The children used these when they lined-up to use the bathroom or leave the classroom.

Classroom D was approximately 12 x15 feet. Across from the entrance to the room there was a small table surrounded by child-sized chairs. Nestled in the corner of the room, beside the table was a teacher area that was walled-off from the rest of the classroom. Against the wall of the teacher area was a kitchenette that included a small refrigerator, sink, storage, and changing area. There were several cribs and a toy shelf long the next wall. In the back of the room was a rocking chair with an alphabet chart hanging beside it. In the back corner there was a door that led to a storage area or other office. Beside this door on the side wall, there was a high shelf on which there was a radio. Against this side wall there was a kitchen play area and another set of low toy storage shelves that jutted out into the room.

Classroom E was approximately 15 x 30 feet and was divided in to two sections by a low wall about waist high. The smaller area within the room contained several cribs. The other larger area was carpeted and had a book shelf on one side and a teaching area on another side. The teaching area faced a window. Interactive calendars, pocket charts, and posters hung in this space for the teachers to use with the children. A large table area - two low tables pushed together with

child-sized chairs around the outside – sat beside the teaching space. Behind the table was a door to a bathroom and a blocked off teacher area. In front of the teacher area was a counter top for teacher use. Against the final wall was a changing area, shelving for toys, a small table/kitchen area for play, and student cubbies.

It is important to note that I was very surprised at the small number of books and toys that were available for student play across all the classrooms. In Lindsay's (2010) meta-analysis of 108 research reports, he examined the relationships between children's access to print and outcomes and eight broad categories: attitudes toward reading, motivation to read, reading behavior, basic language abilities, emergent literacy skills, reading performance, writing performance, and general academic achievement (achievement on subjects other than reading and mathematics or broader indicators of academic achievement). The findings of Lindsay's meta-analytic research synthesis indicate that children's access to print material is positively related to each of the eight types of outcomes. Although all of the classrooms were lacking in toys and books, it is notable that Classroom E had the most toys and books available to the children (and the teachers) during free play.

Participants

The participants were 5 Early Head Start classroom teachers – each one from different Early Head Start classroom. Current regulations (United States Department of Health and Human Services, 2008) require that all Early Head Start classrooms must have a teacher who meets a least one of the following qualifications:

1. A Child Development Associate (CDA) credential that is appropriate to the age of the children being served;
2. A State-awarded certificate for preschool teachers that meets or exceeds the

requirements for a Child Development Associate (CDA) credential;

3. An associate, baccalaureate or advanced degree in early childhood education;

4. An associate degree in a field related to early childhood education and coursework equivalent to a major relating to early childhood education with experience teaching preschool-age children;

5. A baccalaureate or advanced degree in any field and coursework equivalent to a major relating to early childhood education with experience teaching preschool-age children or;

6. A baccalaureate degree in any field and has been admitted into the Teach For America program, passed a rigorous early childhood content exam, such as the Praxis II, participated in a Teach For America summer training institute that includes teaching preschool children, and is receiving ongoing professional development and support from Teach For America's professional staff. (p.1)

I selected Early Head Start teachers for observation because of the population they serve. All students who attend Early Head Start classes must be 0-36 months of age and at least 90% of students served must meet Federal Poverty Guidelines. I selected the age span of 0-36 months of age at the start of the study because research indicates that the principal effect of Socio Economic Status (SES) on oral language development occurs prior to 36 months of age (Farkas & Beron, 2004). I chose to observe teachers of economically disadvantaged students because research indicates a gap in oral language development between students of low and high socio-economic statuses (e.g., Farkas & Beron, 2004; Graves & Slater, 1987; Locke, Ginsborg, & Peers, 2002). The age and economic status requirements necessary for my study match the age

and financial guidelines already set by the Early Head Start program. Although it may have been preferable to narrow the age range of children to whom the teachers were speaking, I could not narrow this range because of the structure of the Early Head Start program. Each center determines its own classroom age breakdowns based on the population which it serves. Again, my focus for this study was the teachers - the students were not subjects in this study. I selected the pool of teachers for this study based upon the population which they serve.

All 5 of the teachers involved in the study worked full time with children younger than 36 months at Early Head Start Programs. With the permission of the facility director, I selected the participating teachers based upon the requirements of the study and their willingness to allow me to observe. None of the facilities involved had multiple classrooms of the same age level, so there was no need to randomly select which classroom would be used for the study from that facility. All the teachers who participated in this study received an informational flier about the study (Appendix A) and gave their consent using an attached consent form (Appendix B). Each teacher was assigned a teacher code (A, B, C, D, E) to protect her anonymity.

Because of the nature of this study, no survey was given to teachers to gain information about their backgrounds. Some background information was able to be gathered, however, from informal sources. Information came from the teachers directly through informal conversations that occurred with me before and after the observations as well as indirectly from conversations that happened between the teacher and others during the observations. As a result, there is not parallel background information for all of the teachers involved in this study.

Teacher A was a single Caucasian woman in her thirties. She supervised up to four children in her classroom during the observational period. She had one co-teacher with her during all of the observations. A second additional co-teacher was in the classroom during some

of the observations. The children serviced in this classroom ranged in age from 6 weeks to 12 months. Teacher A and her co-teachers serviced no more than four children at a time in the classroom, but had 5 students rostered. There was one male student who appeared to be Caucasian. The female student and the remaining male students seemed to be of diverse ethnicities.

Teacher B was a single Caucasian woman in her twenties. She was Slavic in decent as evidenced by the relatively heavy Slavic accent in her speech. Teacher B had one co-teacher in the classroom who shared childcare responsibilities. Teacher B and her co-teacher serviced up to six children in her classroom throughout the observational period. The children serviced in this classroom ranged in age from 12 months to 23 months at the start of the study. There were 2 female students and 4 male students. The one female and three male students appeared to be Caucasian. The other female student and the remaining male students appeared to be of diverse ethnicities.

Teacher C was a Caucasian woman in her late twenties. I learned from informal conversations before and after observations that she was single and did not have any children of her own. Teacher C had one co-teacher throughout the observational period. She also had a volunteer who came in to help during one of the observations. Teacher C serviced up to eight children (1 female and 7 males) who ranged in age from 24 months to 36 months at the start of the study. The female and one male appeared to be Caucasian and the remaining males appeared to be of diverse ethnicities. One male student spoke predominately Spanish.

Teacher D was an African American woman in her twenties. During an informal conversation, she shared with me that she held a Master's degree in psychology. I also learned through my conversations that she had a young child of her own at home. Teacher D had one co-

teacher who came into the classroom as the number of children grew during the course of the day. Teacher D, and her co-teacher when she was there, cared for up to six children in their classroom during the observational period. These children ranged in age from 6 weeks to 23 months at the start of the study and appeared to be of diverse ethnicities. There were 2 female students and 4 male students in the classroom. All 6 children appeared to be of diverse ethnicities. It was apparent from some of the observations that Spanish was the primary language spoken in some of the homes serviced by this facility.

Teacher E was a Caucasian woman in her early thirties. I learned through informal conversations that she had her high school diploma and two children of her own at home. She had one co-teacher with a second additional co-teacher who was in the classroom during some of the observations. Teacher E had up to six children in her classroom during the observational period. The children in this classroom also ranged in age from 12 months to 23 months at the start of the study. There were 3 female students and 3 male students enrolled in this classroom. All of the students appeared to be of diverse ethnicities.

Procedures

Recruiting the Participants

The first step in my research was to enlist my teacher participants. I began by going online and finding the locations and contact information of Early Head Start Centers. Using this information, I contacted 4 regional administrators across 2 states via phone. I introduced myself, gave a brief explanation of my study, and set up an initial meeting with each of them. During the initial meeting, I gave each of the administrators an informational flier about my study (Appendix A). I used this flier to support my explanation of the purpose of my study. I then explained the participants I needed and the parameters under which the study would be

conducted. I made it very clear that the children in the classroom were not the focus of the study. I answered any questions the administrators had and asked their permission to run my study in their facilities with their teachers.

Once I got permission from the regional administrators to contact the center directors of the individual Early Head Start centers, either the regional administrator or I called the individual centers and set up a meeting with the center's director. At this meeting, I gave the center director a brief overview of the purpose and procedures involved with the study using my informational flier (Appendix A). I explained the purpose of my study, the participants I needed, and the parameters under which the study would be conducted. I answered any questions the directors had, and asked their permission to run my study in their facilities with their teachers. I met with 5 center directors and got permission from all of them to conduct my study.

The center directors then connected me with the specific teachers who became my participants. I scheduled and held meetings with the 5 of the 6 teachers that I was hoping to observe. In Classrooms A and B, the co-teachers attended the meeting along with the lead teacher that I was observing in order to learn more about what was going to occur. At these meetings I informed the teachers about this study. I gave all of the teachers who attended an informational flier (Appendix A) and used this flier as the basis for my discussion. I explained that the study's purpose was to look at how Early Head Start teachers speak to young children, but did not go into the specific data I would be collecting. I also explained the parameters under which the study would be conducted.

The 5 teachers who agreed to participate then signed a consent form (Appendix B), allowing me to come in and observe them and record their speech. Once I had a signed consent form, I scheduled my 1 pre-observation and 4 data collecting observations with the teacher. Each

of the 5 teacher participants was then assigned a teacher code (A, B, C, D, E) to protect her anonymity.

During this period I began having difficulty reaching the regional director of my sixth school. When I finally did reach her, I was told by the regional director that my sixth teacher would no longer be able to participate. The state in which my sixth classroom was located was under new leadership and, as a result of budget cuts, funding had been cut to support the center programs of Early Head Starts across the state. The regional director shared with me that she had to make 3 million dollars' worth of cuts to her budget within the next three days. She would be closing programs and laying-off workers and, therefore, would not be able to support my study within her region of the state any longer. She shared that neighboring regions within this state were also struggling with similar cuts. This left me with the 5 teachers who had already agreed to participate (and already scheduled observations) in my study.

I did not collect any specific data on the co-teachers, teacher aides, or parent volunteers that may have been in and out of the classrooms during this study. They were informed by the lead teacher or me that the focus of the observations was the lead teacher and not them. I also did not collect specific data on the children who attended the 5 selected teachers' classrooms. I did, however, notify parents about my presence in the classroom via a flier that I distributed through the teacher (Appendix C). I informed the parents that the focus of the study was the teacher, not the children.

As noted, the background information contained in this study regarding the 5 lead teachers was gained from informal conversations that occurred between the teacher and me either before or after observations or from conversations that occurred between the teachers and others during my observation times. No formal questionnaire was used to gather specific

information about the lead teachers; therefore, parallel background information is not available on all lead teachers.

Observations

I obtained 4 samples of teacher talk over a period of 5 observations in each of the 5 Early Head Start classrooms. I collected the samples through digital audio recordings. I timed each observation, using the counter in the recording device, to make sure each sample of dialogue was a consistent one hour in length. I took each sample of dialogue at a different time throughout the morning to minimize the impact that scheduling might have on the language experiences observed. I then transcribed the teachers' speech in the recordings for coding.

I set up the actual observations at each site to match the hours of the facility so that the entirety of a morning session was observed over a four week period. Each observation did occur on a different day of the week so that special events that might occur during a unique day of the week did not overly influence the outcome of the study. Table 4 shows the schedule that was followed during the observation period.

The first visit for each classroom did not involve data collection. The purpose of my first observation at each site was to find locations that were as unobtrusive as possible for my equipment and me and to begin to desensitize the teacher and her students to my presence and the presence of my equipment in the room. During the pre-observation visit at each site, I did not audio record the teacher's speech. Instead, I placed the three recording devices in potential locations around the room to check the viability of the locations and to make the teachers comfortable with the devices being in the room. I also used this time to find a location in which to sit during the remainder of my observations. I needed to find a location that was as unobtrusive as possible while giving a good vantage point from which to note the teacher's

interactions. It was also my hope to begin to desensitize both the teacher and the students to my presence in the room. I did not take notes during this pre-observation, but I had my tablet and pen with me.

Table 4

Observation Schedule

School	Observation	Week	Day	Time
A	Pre Observation	#1	Thursday	10:30-11:30
A	1	#2	Wednesday	9:30-10:30
A	2	#3	Monday	8:30-9:30
A	3	#4	Friday	10:30-11:30
A	4	#5	Tuesday	11:30-12:30
B	Pre Observation	#1	Friday	8:30-9:30
B	1	#2	Tuesday	8:30-9:30
B	2	#3	Thursday	9:30-10:30
B	3	#4	Monday	11:30-12:30
B	4	#5	Wednesday	10:30-11:30
C	Pre Observation	#1	Friday	9:30-10:30
C	1	#2	Tuesday	9:30-10:30
C	2	#3	Monday	10:30-11:30
C	3	#4	Friday	11:30-12:30
C	4	#5	Thursday	8:30-9:30
Y	Pre Observation	#1	Thursday	9:00-10:00
Y	1	#2	Friday	9:00-10:00
Y	2	#3	Monday	7:00-8:00
Y	3	#4	Tuesday	8:00-9:00
Y	4	#5	Thursday	10:00-11:00
H	Pre Observation	#1	Tuesday	9:30-10:30
H	1	#2	Thursday	8:00-9:00
H	2	#3	Monday	9:00-10:00
H	3	#4	Friday	10:00-11:00
H	4	#5	Wednesday	11:00-12:00

I also established four 1-hour long observation times in each teacher's classroom to collect data. The observations varied by time of day, day of week, and time of month (Table 4). During each observation I went into the participating teacher's classroom and obtained a one hour sample of the teacher's speech. I used the locations I found during my pre-observation for

myself and the devices – unless the class left the room or the teacher needed the space for classroom activities. I recorded the talk of each teacher using the three digital audio recorders. I also scripted as much of the teacher's speech as possible during the hour-long observations.

During my observations, I witnessed many of the same types of conversations and activities happening in all of the classrooms. In all five of the classrooms that I observed, the teachers engaged in both teacher/child conversations and teacher/adult conversations. I saw teachers engaging in diapering and/or bathrooming activities in all five classrooms. I also saw teachers preparing, serving, and feeding through mealtimes (both breakfast and lunch) in all five classrooms. I observed teachers preparing students to go outside by putting sunscreen on their students' skin and lining the children up or loading them into carriages. Finally, I saw free-play time within the classroom setting as well as free-play time that occurred in a setting outside the classroom (in a gym or on a playground) in all five classrooms.

I also observed some activities that were unique to each classroom. In classroom A, B, C, and E, I observed a morning welcome time involving singing and introducing all the students and teachers that were in class that day. In these same classrooms I also observed teachers singing with students during processes such as clean-up time, hand washing, and table time. In Classroom E, I observed calendar time, tooth brushing time, and book reading time. In classroom A, I observed the class taking a walk through the hallways in a six passenger carriage. In Classroom D, I observed the classroom teacher singing to herself as she worked. In classrooms E and B, I observed an art lesson and in classrooms B, C, and E, I observed preparation for naptime.

The total amount of time that was required of each teacher was about 6 hours. This time included 1 hour for the initial meeting with me, about 1 hour of pre-observation classroom time, and about 4 hours of observation time for data collection.

Data and Data Analysis

Transcribing Observational Notes and Audio Recordings

Once the observations were complete, I began the transcription process. I started by typing my written notes from each of the observation into the computer. During this process, I typed each utterance so that one utterance would be separated from another by an empty line. Once I had typed all my scripted notes, I began to transcribe the audio recordings. Any statements that were missing from my initial scripts were added and any errors that were made in the original transcriptions were corrected. I reviewed each audio recording at least two times. I accessed multiple audio recordings during the transcription process whenever it was difficult to hear the teacher's speech due to teacher movement and/or the level of noise in the room.

As I transcribed, I noticed that there were times that the teacher used voiced sounds that were not words (such as "Shh", "Aww", "Eww"). Although I did initially transcribe these sounds, I later removed them from transcripts so I could get a total word count using only words. The only exception to this in coding was letter names. Since some of the teachers spent time identifying or using letter names, I decided that since these were truly names of a letter of the alphabet, I would count them as individual words for the purpose of this study. Therefore, to ensure that letter names would be recognized by the computer in my total word count, I typed each letter name separately in my transcripts.

Coding the Transcripts

The nature (amount, richness, sophistication) of teacher language. Following a research design similar to that of Hart and Risley (1995), I began coding the transcript to find the data needed to calculate the amount and richness of the language the teachers used. Like Hart and Risley (1995), I needed to identify each of the vocabulary types (noun, verb, modifier, functors) spoken by each teacher during each observation. (See Chapter 1 for definitions of terms.)

I began by printing out each observation. I went through each observation and highlighted all the nouns the teacher used. As mentioned previously, I decided to count letter names (such as A, B, C) as individual nouns. I decided to count two-part people names (such as Mrs. Smith or John Carter) as one noun. I also decided to count contractions containing nouns (such as "Bob's" in the sentence "Bob's going home.") as nouns. (I counted all contractions twice, once for each of its grammatical elements.) Once I highlighted all the nouns, I then went back through the observation and numbered and counted all highlighted words. During this second time through the observation, I also checked for any nouns I may have initially missed.

I then repeated a similar process to identify the verbs each teacher used during each hour long observation. I went through each transcript and used a different colored highlighter to identify all the verbs and linking verbs the teacher used. I decided to count contractions containing verbs (such as "Bob's" in the sentence "Bob's going home.") as verbs. (I counted all contractions twice - once for each of its grammatical elements.) I also decided to identify slang words (such as "wanna" and "gotta") containing verbs as verbs. (If these slang words were made up of two words blended together, I counted each of the slang words twice - once for each of its grammatical elements.) Once I had highlighted all of the verbs, I went back through the

observation and numbered each newly highlighted word. While I numbered, I checked the transcript to ensure that I did not miss any verbs during the highlighting process.

Next, I worked to identify all the modifiers each teacher used per hour. I went through each transcript and used yet a different colored highlighter to identify all the modifiers the teacher used during the observation. I decided to identify contractions containing modifiers (such as "where's" in the sentence "Where's the horse?") as modifiers. (I counted all contractions twice - once for each of its grammatical elements.) I also decided to identify all times (such as 8:30) as one word. Once I all the modifiers were highlighted, I went back through the transcripts and numbered each newly highlighted word. Once again, during this second time through the transcript looking for modifiers, I checked the transcript to ensure that I did not miss any modifiers during the highlighting process.

I repeated this process one final time to identify the functors each teacher used during the one hour observation. Again I went through each observation and, using yet a different colored highlighter, I identified all the functors the teacher used. I decided to identify contractions containing functors (such as "couldn't" in the sentence "We couldn't go home.") as functors. (I counted all contractions twice - once for each of its grammatical elements.) I also decided to count slang words (such as "wanna" and "gotta") containing functors as functors. (If these slang words were made up of two words blended together, I counted each of the slang words twice - once for each of its grammatical elements.) Once I all the functors were highlighted, I went back through the transcript a second time and numbered each newly highlighted word. As I numbered, I checked that I did not miss any functors during the highlighting process.

Finally, I went through each of the transcripts and counted the number of utterance lines in each. I did this two times for each observation to ensure the accuracy of each count.

To further explore the nature of teacher language, I needed to identify the amount of sophisticated language used during each of the one hour observations. Following a research design similar to Weizman and Snow (2001), I did additional coding to each transcript in order to identify all the sophisticated words contained therein. (See Chapter 1 for definitions of terms.)

I opened the Dale-Call List of 3,000 Familiar Words on my computer as Word document (Throndsen, 2013). I then went through each observation looking for words that were not on this list. I did this by typing each word or part of the word from the transcript into the Find function of Microsoft Word. If the word was on the list it would highlight in the document. This meant the word was a simple word and I would do nothing to that word in the transcript. If I found the word was not on the Dale-Chall List, I coded the word by circling it. Like Weizman and Snow (2001), I did not include plural forms of nouns created by adding an "s" or "es" (regular plurals) in the initial coding of sophisticated words.

As I went through this process I, like Weizman and Snow (2001), noticed that many of the words I was circling were words of low frequency in the larger community, but were not words of low frequency in these classrooms. Therefore, after I identified all the words in each transcript whose singular forms were not on the Dale-Chall List, I went back through each transcript and looked at frequently used words. Proper names comprised many of the frequently used words in each of the classrooms. (See Table 9 in Chapter 4.) Therefore, like Weizman and Snow who removed the proper names of family members from the list of sophisticated words during their study, I removed the proper names of people in the classroom environment from the list of sophisticated words. I then recoded the transcripts to reflect this change.

In reviewing the transcripts, I also noticed that several teachers had a habit of filling space during conversations with the words "okay" and "alright". Neither of these words is on the

Dale Call List, but since these two words were used so frequently by the teachers (see Table 9 in Chapter 4), I decided that they too should be excluded from the list of sophisticated words. Weitzman and Snow (2001), although not specifically mentioning these two words, followed a similar process of removing words of low frequency in the larger community but high frequency in the observational setting for words such as "ain't" in their study. I then recoded the transcripts removing the words "okay" and "alright" from the list words identified as sophisticated words.

Like Weizman and Snow (2001), I also noticed that many of the verbs and modifiers that I had identified as not being on the Dale-Chall List were not specifically unique words. (See Table 6 in Chapter 4.) Instead, they were just words that were on the Dale-Chall List with the addition of suffixes or prefixes. (For example, "jump" was on the list while "jumping" was not.) So, like Weizman and Snow, I eliminated these words from my count of sophisticated words.

Finally, I coded any words that were completely unique words – singular words that were not proper names, not "okay" or "alright", and not simple words with prefixes or suffixes that were not on the Dale-Chall list of 3,000 Familiar Words - as truly sophisticated words.

The type and quantity of teacher supports. I also coded the transcript to identify the types of conversational supports (instructional, helpful, neutral) offered around sophisticated words during each of the one hour observations. (See Chapter 1 for definitions of terms.) Using Weizman and Snow's (2001) support descriptions, I identified each of the teacher supports that corresponded to the use sophisticated words.

I coded each sophisticated word occurrence with an *I* if the teacher used an instructional support. A conversational support was coded as *Instructional* if the teacher offered informative and scaffolded support to the student(s) when using a sophisticated word in conversation (Weizman & Snow, 2001). Below is an example of an instructional support used by Teacher E

for the sophisticated word *magnetic* during the course of this study. She and a student were playing with a toy train that contained a magnet during this conversation.

> *"Look! We can connect them together." (The teacher puts the ends of the train cars near one another and the magnets pull the trains together to connect the cars.)*
>
> *"Watch!" (The teacher repeats the movement for the child.)*
>
> *"Look." (Again, teacher puts the ends of the train cars near one another and the magnets pull the trains together to connect the cars.)*
>
> *"Look." (The teacher repeats the movement for the child.)*
>
> *"Look." (The teacher repeats the movement for the child.)*
>
> *"What did I do?" (The teacher repeats the movement for the child.)*
>
> *"They're magnetic. The magnets hold the cars together."*

In this example, the teacher is using the conversation with the child as an opportunity to informally teach the child about the word "magnetic" through both a demonstration of the concept of an object being "magnetic" and through her use of descriptive words.

I coded each sophisticated word occurrence with an *H* if the teacher used a helpful support. A conversational support was coded as *Helpful* if the teacher offered some form of scaffolding – either physical or contextual in nature without directly attempting to define or teach the sophisticated word (Weizman & Snow, 2001). Below is an example of a helpful support used by Teacher A for the sophisticated word *clipboard* during the course of this study. Teacher A was preparing to take the class outside. On her shoulder she has a diaper bag and in her hand she had a clipboard. She says the following sentences to her co-teacher.

> *"Alright, you got everything?"*

"Yeah, I got the bag and the clipboard." (Teacher A holds up the bag and the clipboard as she mentions each word.)

In this example the teacher is not using the conversation with the child as an opportunity to informally teach the child about the sophisticated word "clipboard". But, because she references the object as she says the word "clipboard", this support is "helpful" in connecting the word and its meaning.

Finally, I coded each sophisticated word occurrence with an *N* if the teacher used a neutral support. A conversational support was coded as *Neutral* if the teacher offered no form of scaffolding to support the meaning of the sophisticated word being used during a conversation (Weizman & Snow, 2001). Below is an example of a neutral support used by Teacher D for the sophisticated word *vacation* during the course of this study.

"Almost!" (The teacher is holding the child's hand and helping the child to walk.)

"Almost!"

"Are you going to come back and walk?"

"Are you going to come back from vacation and walk?"

"You're so proud of yourself."

In this example the teacher does not reference the meaning of the sophisticated word *vacation* either physically or contextually. Therefore, this conversation support is neutral in natural because it does not offer any extra support for the child in understanding the meaning of the sophisticated word being used by the adult.

All of the aforementioned coding was done for each of the observations. The coded data from the timed observations allowed me to calculate the amount of language, the language

richness/utterance, the amount of sophisticated language, and amount and type of conversational supports that occurred during each one hour period. The coded data also allowed me to calculate the amount of language across the four observations, the mean language richness/utterance across the four observations. I also determined the average level of language sophistication and the average amount of conversational supports that occurred over the four hours of observations. In Chapter 4, I report my findings.

CHAPTER 4 – RESULTS

This study investigated the oral language patterns of Early Head Start teachers who work with low SES children up to 36 months of age in a classroom setting. For this investigation, I analyzed the amount, richness, and sophistication of the oral language input that is offered by Early Head Start teachers to their students. I also analyzed the quality and quantity of the conversational supports that these teachers offered their students during encounters with sophisticated words.

In this chapter, I report my findings. I present these findings so that they align with my research question and subordinate questions. The research question for this study is: How do Early Head Start teachers talk to their students? To find the answer to this question, I addressed the following subordinate questions:

- What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?
- What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?

The data I collected to investigate these questions was related to the speech of the five previously identified Early Head Start teachers, described in Chapter 3.

In the first section of this chapter, I will examine the nature of the vocabulary input that Early Head Start teachers provide their students. I will examine the amount of vocabulary, the richness of vocabulary, and the sophistication of vocabulary used by Early Head Start teachers during a series of one-hour observations. In the second section of this chapter, I will report the type and quantity of conversational supports used by the Early Head Start teachers during these

same observations. In addition, I will present an analysis of the data as a part of each section. The chapter concludes with a brief summary of the information shared in this chapter.

The Nature of the Vocabulary Input that Early Head Start Teachers Provide Their Students

The first question I addressed was, "What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?" I did this by exploring each of the three parts of this question during a series of 4 one-hour observations. First, I found the amount of language each teacher used during each one-hour observation. Next, I explored the richness of the teachers' language by looking at the quality features of their speech in relation to the number of utterances for each observation. Then I determined the sophistication of the teachers' language by looking at the number of sophisticated words used by each teacher. Finally, I revisited this data for each teacher across the time frame of a four-hour morning (i.e., the totals for all four observations).

Amount of Vocabulary

To investigate the amount of vocabulary the teachers used during an observation, I first found the total number of words per hour spoken by each teacher during each 1 hour observation. I did this using the Word Count feature of Microsoft Word. This feature of Microsoft Word automatically keeps a running count of the number of words used by a writer in a document.

In some of the observations the teachers identified letters by name. For the purpose of this study, I wanted to count these letter names as words so, prior to getting the final word count, I made sure that I had typed each letter that was being used as the name of a letter symbol was separated by a space. In this way, I could assure that the computer would identify the letters as

words in its count. I counted any times that were mentioned (such as 8:30) by the teachers as single words. I also deleted all of the teacher voiced sounds (such as, “Aww” or “Eww” or “Shh) that I had initially transcribed. When all this was done, I looked at the final word count for each transcript in the program. I used this number as the Total Words that each teacher spoke per 1 hour observation. See Table 5, Column 3, for this information.

To find the Total Words used by each teacher across a morning (4 hour period), I looked at the data that I had calculated regarding the Total Words each teacher had used during a 1 hour period. For each teacher, I summed the Total Words used per observation from the four observations to get the Total Words used per morning. See Table 6, Column 2, for this data.

To determine the Total Different Words used by each teacher per 1 hour observation, I typed all the words from each observation into a single column in Microsoft Excel – each observation had its own sheet. Again, I typed letter names into the spreadsheet as if they were individual words. I also typed any times that the teachers mentioned (such as 8:30) into the spreadsheet as single words. I then sorted the words into alphabetical order and got rid of all duplications. I looked at the number attributed to the last column on the Excel sheet to determine the number of words that remained. I used this number as the Total Different Words spoken by the teacher per hour. See Table 5, Column 4, for this information.

Since the speech samples I collected were over the time frame of a complete morning, I also wanted to determine the total number of different words these students might be exposed to during a typical 4 hour morning. To do this, I summed the Total Different Words from the four observations for each of the five sites. These totals became the Total Different Words per morning (4 hour period) for each classroom. See Table 6, Column 3, these results.

Table 5

Amount of Vocabulary - Teacher Words Used per Observation (1 Hour)

Teacher	Observation	Total Words	Total Different Words	Total Nouns	Total Verbs	Total Modifiers	Total Functors
A	1	2185	400	489	686	433	779
A	2	2465	482	321	751	486	1070
A	3	2503	507	379	725	472	1011
A	4	2552	458	299	805	474	1123
B	1	3949	565	617	1089	592	1383
B	2	3346	499	463	768	365	948
B	3	2580	518	485	889	553	1266
B	4	3418	508	516	1019	622	1386
C	1	3287	518	652	963	643	1195
C	2	4540	601	745	1416	838	1809
C	3	4168	584	685	1289	729	1679
C	4	3460	561	633	1101	504	1425
D	1	2706	526	290	852	449	1262
D	2	2055	485	295	744	309	918
D	3	2396	518	321	703	432	1074
D	4	2498	473	408	778	464	1069
E	1	6331	637	920	2083	1129	2462
E	2	6452	752	1006	1997	1149	2621
E	3	5187	650	619	1634	843	2100
E	4	5185	665	806	1648	937	2137

To find the total number of nouns used by each teacher during a one-hour observation, I looked back at the coded transcripts. Since I had counted and numbered the nouns during the coding process, I simply found the highest numbered noun in each transcript and that was the

number that was used as the Total Nouns per observation. I used this same process with verbs, modifiers, and functors in order to determine the Total Verbs, Total Modifiers, and Total Functors per observation. See Table 5, Columns 5-8 for these results.

Table 6

Amount of Vocabulary - Total Teacher Words Used per Morning (4 Hours)

Teacher	Total Words	Total Different Words	Total Nouns	Total Verbs	Total Modifiers	Total Functors
A	9705	1847	1488	2967	1865	3983
B	13293	2090	2081	3765	2132	4983
C	15455	2264	2715	4769	2714	6108
D	9655	2002	1314	3077	1654	4323
E	23155	2704	3351	7362	4058	9320

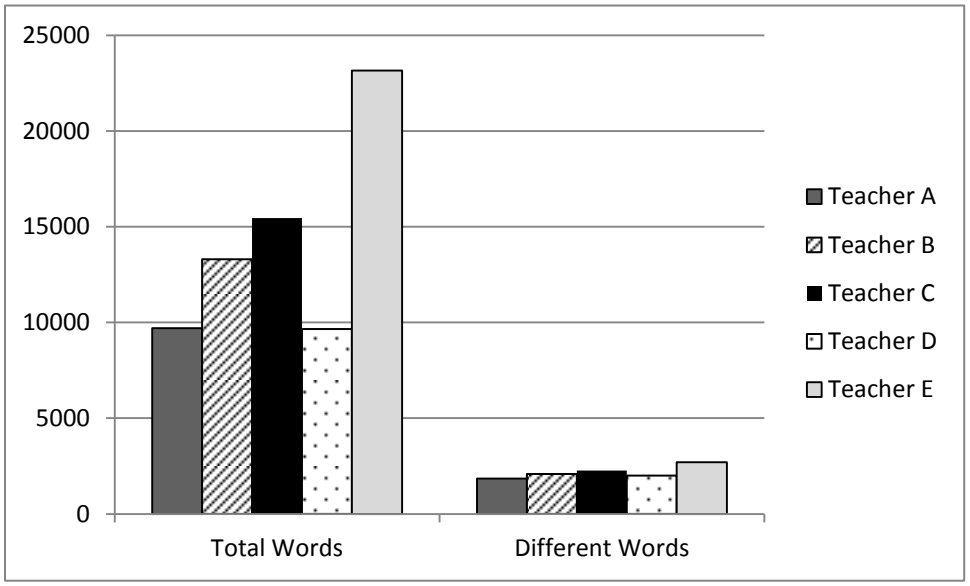
To find the Total Nouns used by each teacher during a morning (4 hour period), I summed the Total Nouns from the four observations for each of the five sites. These totals became the Total Nouns per 4 hour morning for each classroom. I then followed a similar process to calculate the Total Verbs used per 4 hour morning, the Total Modifiers used per 4 hour morning, and the Total Functors used per 4 hour morning. See Table 6, Columns 4-7 for this information.

When analyzing this data, I began by investigating the difference in Total Words spoken by each teacher over the period of a full morning. This four-hour sum yielded some striking similarities and differences across teachers. Teacher A (9,705 words) and Teacher D (9,655 words) were very similar in their Total Word use. Their overall totals for this category over the four-hour period differed by only 50 Total Words. On the other hand, there was a great a difference in Total Words between these two teachers and their peer from Classroom E. Teacher

E spoke more than twice the Total Words spoken by Teachers A and D. She spoke 23,155 Total Words during her 4 hours of observations. This total represents13,450 more Total Words than Teacher A and 13,500 more Total Words than Teacher D. The left-hand side of Figure 1 illustrates this data from the Total Words column of Table 6.

I also analyzed the Total Different Words used by a teacher across a morning. As in the individual observations, Teacher A delivered the fewest Total Different Words (1,897 different words) and Teacher E delivered the most Total Different Words (2,704 different words). This is a range of 807 Total Different Words over the course of a 4 hour morning. The right-hand side of Figure 1 illustrates this information from the Total Different Words column of Table 6.

Figure 1. Amount of Vocabulary - Total Words and Total Different Words Used per Morning (4 Hours)



As I reviewed the data surrounding the Total Nouns used over the complete four hour period, I observed notable similarities and differences in the number of Total Nouns spoken by the different teachers over the period of a full morning. Teacher A (1,488 Total Nouns) and Teacher D (1,314 Total Nouns) were the most similar in their use of nouns with a difference in

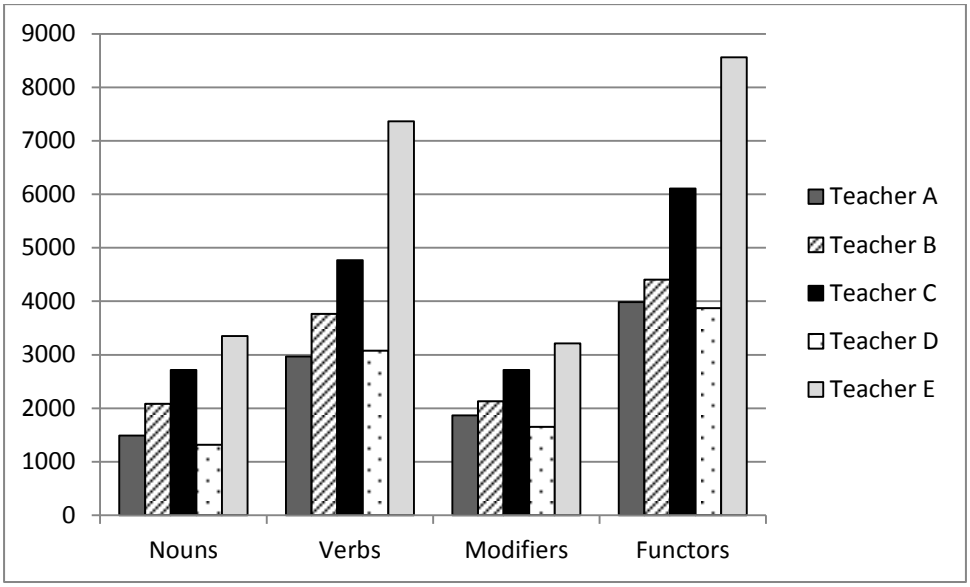
Total Nouns of only 147 nouns. However, this four-hour period also yielded a great difference in Total Nouns used by these two teachers at the low end of the range to Teacher E at the high end of the range of Total Nouns used. Teacher E used 3,351 Total Nouns. This is more than twice the Total Nouns used by Teachers A and D over the course of their 4 hours of observations. The first set of columns on the left-hand side of Figure 2 illustrate the data from the Total Nouns column of Table 6.

In examining the Total Verb use across the full 4 hour period, Teacher A and Teacher D were very similar in their Total Verb use. Teacher D used more verbs (3,077 Total Verbs) and Teacher A used slightly less (2,967 Total Verbs). Teacher E used the most verbs over the course of a morning. Her students were exposed to a total of 7,362 verbs during this 4 hour time period. Teacher A used the least verbs during the time frame of a morning. Her students were exposed to 2,967 Total Verbs during this same period. This is a difference between the two classrooms of 4,395 Total Verbs per morning. This data from the fifth column of Table 6 is illustrated in the second set of columns in Figure 2.

I also wanted to examine the teachers' use of modifiers over the 4 hour time frame of a morning. I noted that, like in the individual observations, Teacher D used the least number of modifiers during the four hours of observations at 1,654 Total Modifiers. Teacher E used the highest number of modifiers at 3,215 Total Modifiers. This is a difference of 1,561 modifiers spoken by the teachers in these two classrooms over a four-hour period. Teacher E used almost twice as many the modifiers during her 4 hours of observation than did her counterpart in Classroom D. The other three teachers' use of modifiers fell in between these two ends of this range of Total Modifier use. The third set of columns in Figure 2 shows this data from Table 6.

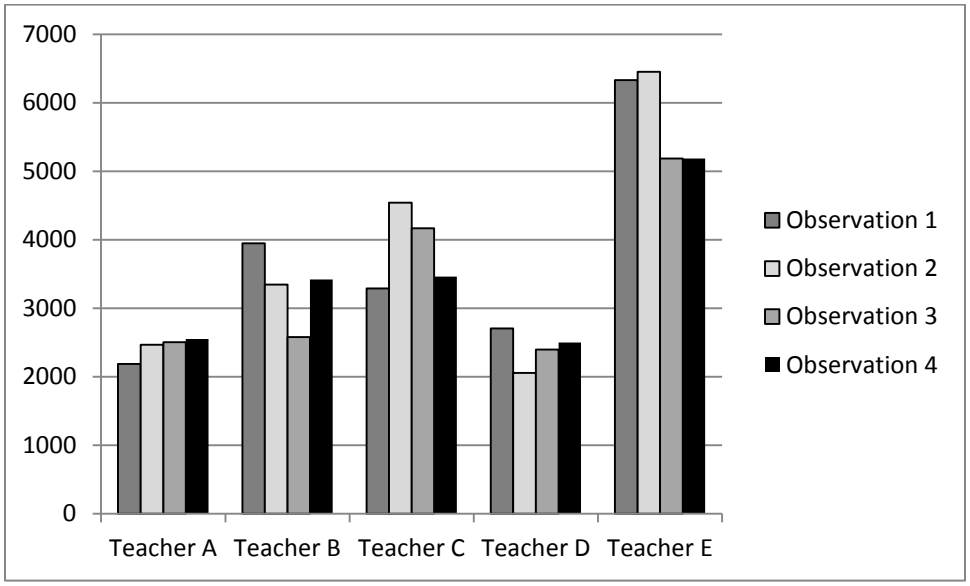
Finally, I examined the Total Functors teachers used over a 4-hour period. Again Teachers A and D were the most similar. Their Total Functors differed by only 340 functors. Teacher A used the least functors (3,983 Total Functors) over the course of a morning while Teacher E used the most (9,320 Total Functors). This is a difference of 5,101 functors used over the course of 4 hours. The last set of columns on the right-hand side of Figure 2 displays this data from Table 6.

Figure 2. Amount of Vocabulary - Total Teacher Grammar Usage per Morning (4 Hours)



I then decided to take a look the information contained within the individual hour-long observations that formed the base of the overall data just presented. I began by analyzing the consistency of the amount of words used by the same teacher across the 4 hours of observation within each classroom. During the individual observations, the difference between the lowest and the highest Total Words used by the same teacher within her own classroom across the four observations ranged from a 365 word difference in Total Words for Teacher A (low) to a 1,369 word difference in Total Words by Teacher B (high). Figure 3 displays the data from the Total Words column in Table 5 by teacher.

Figure 3. Amount of Vocabulary - Total Words per Observation by Teacher

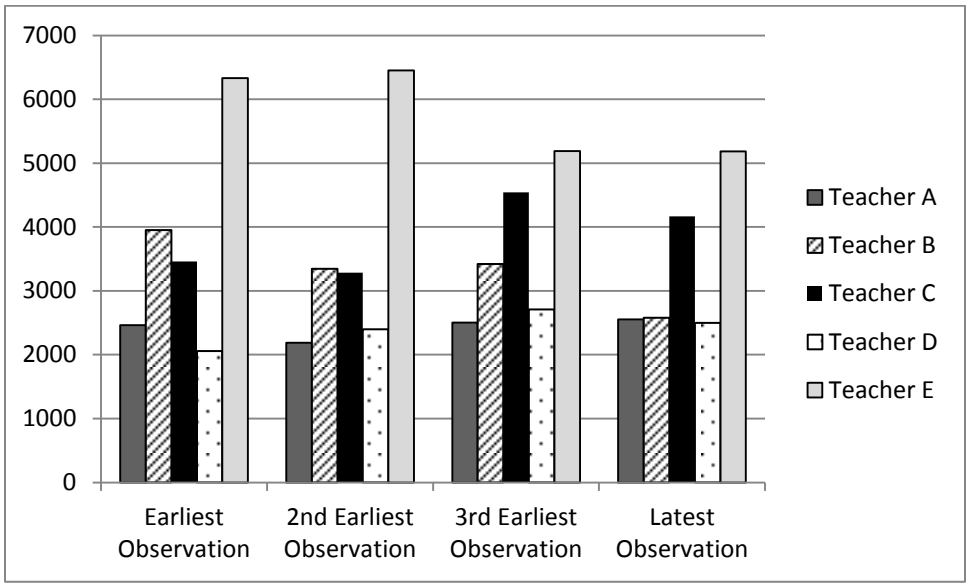


I also wanted to determine if there was a pattern with regard to amount of teacher speech and time of day within the classrooms. I wanted to try to determine if the time of day of the observation impacted the levels of the teachers' speech. No such pattern was evident. In one classroom the teacher did the greatest amount of speaking first thing in the morning (Teacher B), while in another classroom the end of the morning was the time of greatest amount of speech (Teacher A). In the other three classrooms, mid-morning was the time with the greatest amount speech (Teachers C, D, E). Figure 4 displays the data, from the Total Words column in Table 5, by time of day across a morning from earliest to latest observations.

I then examined the difference in Total Words between teachers across all observations. The Total Words used by teachers ranged from a low of 2,055 Total Words used by Teacher D during Observation 2 to a high of 6,452 Total Words used by Teacher E during Observation 2. This is a difference in Total Words used of 4,397 words. This difference between the two teachers means that during Observation 2, Teacher E's students were exposed to more than 3 times the Total Words that Teacher D's students were exposed to during her Observation 2.

Figure 4 uses the data from the Total Words column of Table 5 to show the results of this examination by time of day.

Figure 4. Amount of Vocabulary – Total Words per Observation by Time of Day



I then reviewed the Total Different Words used by teachers during the individual hour-long observations. The Total Different Words spoken by teachers ranged from a low of 400 Total Different Words spoken by Teacher A during Observation 1 to a high of 752 Total Different words spoken by Teacher E during Observation 2. This is a difference between highest and lowest level of Total Different Word exposure during a single observation of 352 words. See Column 4 of Table 5 for a complete listing of this information.

I also explored the difference in the total number of nouns used by teachers during individual observations. The Total Nouns ranged from a low of 290 nouns by Teacher D during Observation 1 to a high of 1,006 nouns used by Teacher E during Observation 2. This is a 716 word difference between the higher and lower Total Nouns during comparable one-hour periods of time. See the fifth column of Table 5 for this data.

The next part of teacher speech that I investigated was Total Verb use during an individual observation. During the one-hour observations, teacher verb use ranged from a low of 686 Total Verbs used by Teacher A during Observation 1 to a high of 2,083 Total Verbs used by Teacher E during her Observation 1. This difference between the highest and the lowest number of Total Verbs used during a one-hour observation was 1,397 verbs. This difference means that during Observation 1 the children in Classroom E were exposed to more than three times the verbs than the children in Classroom A were exposed to during Observation 1 in their classroom. See Column 6 of Table 5 for this data.

I then reviewed the Total Modifiers used by teachers during individual one-hour observations. The Total Modifiers per observation ranged from a low of 309 modifiers used by Teacher D during Observation 2 to a high of 1,143 modifiers used by Teacher E during her Observation 2. This is a difference of 840 modifiers used/hour. This difference means that during Observation 2 in Classroom E, the students were exposed to almost 4 times the number of modifiers that the students in Classroom D were exposed to during their Observation 2. See the seventh column of Table 5 for this information.

Next, I examined the number of functors used by teachers during individual observations. The Total Functors used by teachers ranged from a low of 779 functors used by Teacher A during Observation 1 to a high of 2,621 functors used by Teacher E during Observation 2. This is a difference of 1,842 functors used per hour. Therefore, Teacher E used more than 3 times the number of functors during her Observation 1 than Teacher A used during her Observation 2. See Table 5 for this data.

The findings in this section indicate that there is a difference in the amount of language to which the children in these Early Head Start programs are exposed. These differences in the

number (or amount) of words used were found in all the categories of speech that I examined and were substantial – particularly when looking at the speech of the teachers extreme ends of the data collected.

Figure 5. Amount of Vocabulary – Summary Teacher A Word Use per Morning

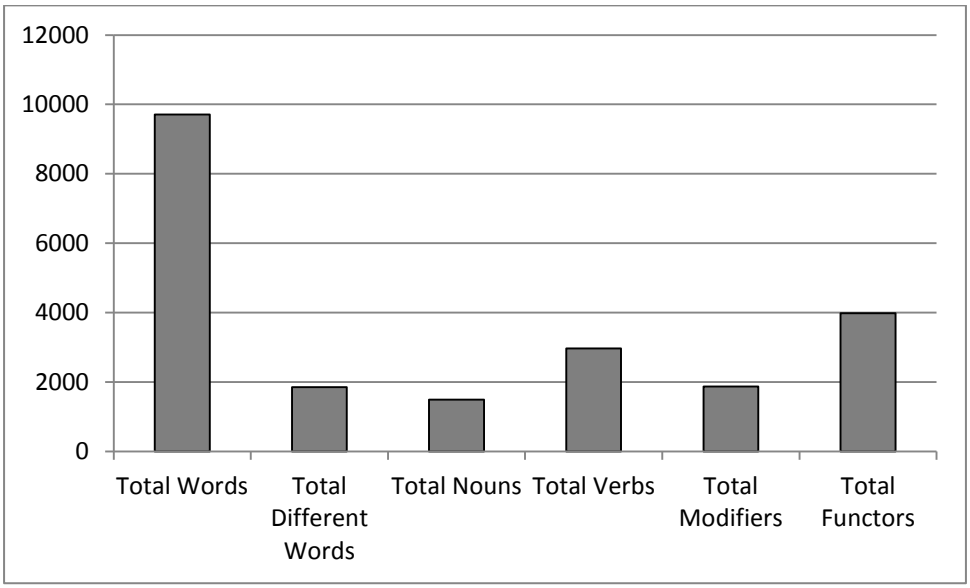


Figure 6. Amount of Vocabulary – Summary Teacher B Word Use per Morning

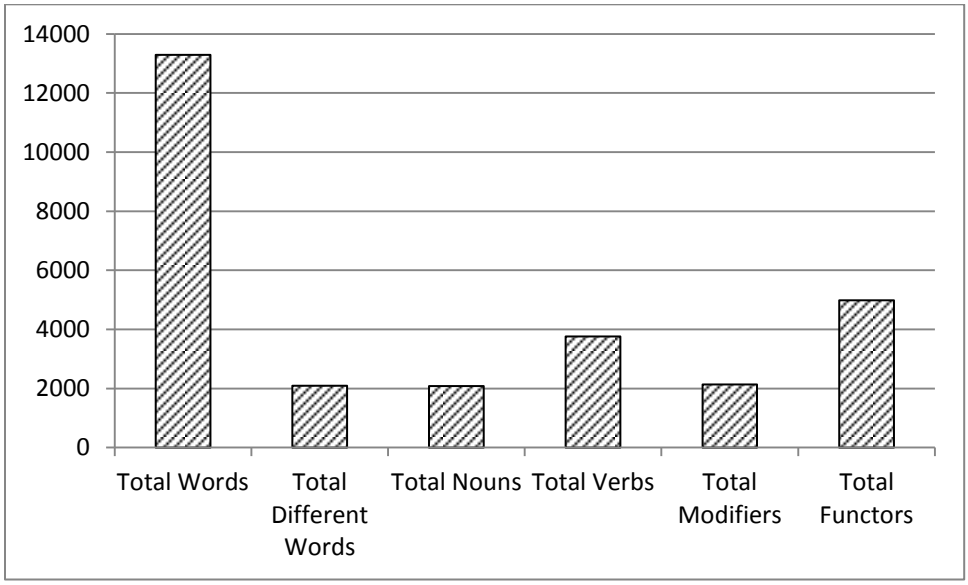


Figure 7. Amount of Vocabulary – Summary Teacher C Word Use per Morning

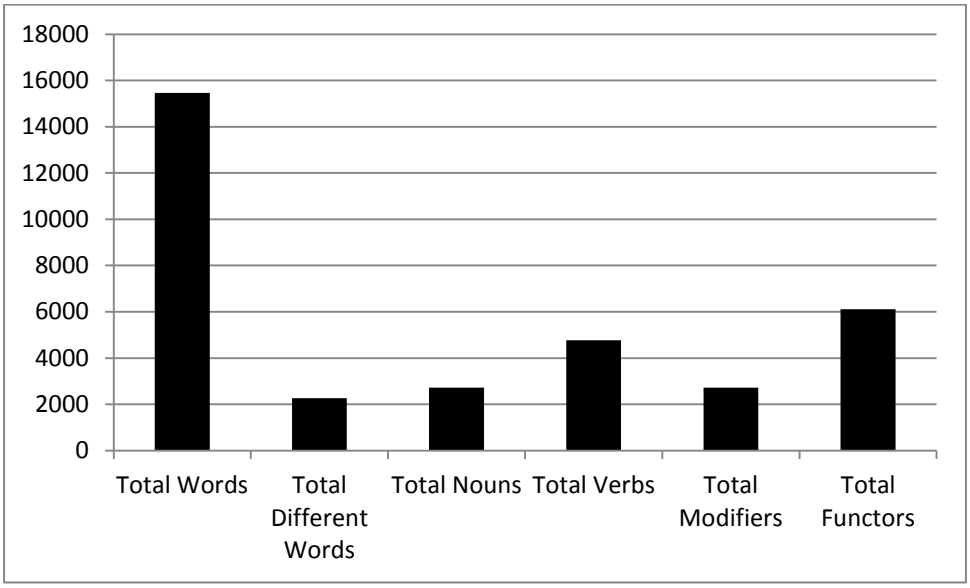


Figure 8. Amount of Vocabulary – Summary Teacher D Word Use per Morning

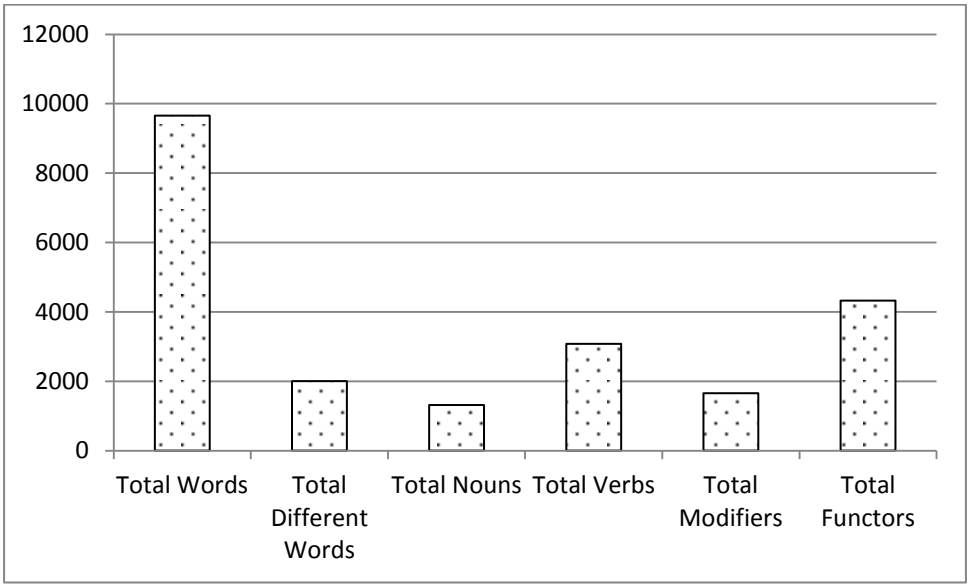
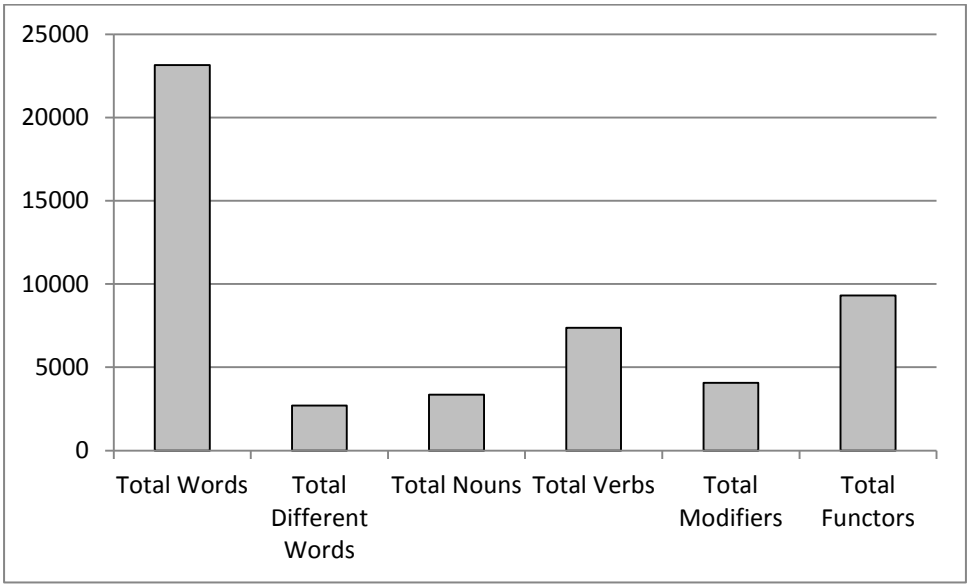


Figure 9. Amount of Vocabulary – Summary Teacher E Word Use per Morning



Richness of Vocabulary

In this section, I report my findings on the richness of the vocabulary of the five Early Head Start teachers who I studied. Richness was the second portion of my first subordinate question, "What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?" As in Hart and Risley (1995), in this study richness was calculated by dividing the number of each quality feature in each observation by the number of utterances in the observation and averaged. The resulting proportion is richness per utterance.

I began this process by finding the number of teacher utterances per observation. Once again I went back into the coded transcripts. I retrieved the number of utterance lines from each transcript. I then used the total number of utterance lines as the Total Number of Utterances per one-hour observation. See the third column in Table 7 for this data.

Table 7

Richness of Vocabulary - Mean Word Usage/Utterance per Observation (1 Hour)

Teacher	Observation	Total Number of Utterances	Mean Number of Words/Utterance	Mean Number of Different Words/Utterance	Mean Number of Nouns/Utterance	Mean Number of Verbs/Utterance	Mean Number of Modifiers/ Utterance	Mean Number of Functors/ Utterance
A	1	559	3.91	.72	.87	1.23	.77	1.39
A	2	516	4.78	.93	.60	1.46	.94	2.07
A	3	535	4.67	.95	.71	1.35	.88	1.89
A	4	567	4.50	.81	.53	1.42	.84	1.98
B	1	666	5.93	.84	.93	1.63	.89	2.08
B	2	571	5.86	.87	.81	1.34	.63	1.66
B	3	610	4.23	.85	.80	1.46	.91	2.08
B	4	654	5.22	.77	.79	1.55	.95	2.12
C	1	691	4.76	.75	.94	1.39	.93	1.73
C	2	873	5.20	.69	.85	1.62	.96	2.07
C	3	776	5.37	.75	.88	1.66	.94	2.16
C	4	666	5.19	.84	.95	1.65	.76	2.14
D	1	554	4.88	.95	.52	1.54	.81	2.28
D	2	422	4.87	.87	.70	1.76	.73	2.18
D	3	504	4.75	1.02	.64	1.39	.86	2.13
D	4	681	3.67	.69	.60	1.14	.68	1.57
E	1	983	6.44	.64	.94	2.12	1.14	2.50
E	2	1044	6.18	.72	.96	1.91	1.10	2.51
E	3	882	5.88	.73	.70	1.85	.96	2.38
E	4	973	5.33	.68	.83	1.69	.96	2.20

To find the Total Number of Utterances for each teacher during a morning (4 hour period), I summed the Total Number of Utterances from the four observations for each of the five teachers. These totals became the Total Number of Utterances per morning for each teacher. This data is reported in the second column of Table 8.

Next, I calculated the average number of words per utterance for each observation. To do this, I divided the Total Words per observation (from the third column of Table 5) by the Total Number of Utterances per observation (from the third column of Table 7). The quotient became the Mean Number Words per Utterance for each observation. I reported this data in the fourth column of Table 7.

Since the speech samples I collected were across the time frame of a complete morning, I also wanted to take a look at the richness of language that these students might typically be exposed to over this 4 hour period. I began by taking the Total Words used by each teacher per morning (from the second column of Table 6) and divided that number by the Total Number of Utterances spoken by that same teacher per morning (from the second column of Table 8). I labeled this quotient the Mean Number of Words/Utterance per Morning. This information is reported in the third column of Table 8.

I also calculated the average number of different words per utterance for each observation. To do this, I divided the Total Different Words per observation (from the fourth column of Table 5) by the Total Number of Utterances per observation (from the third column of Table 7). The quotient became the Mean Number of Different Words per Utterance for each observation. See the fifth column of Table 7 for the results of these calculations.

Table 8

Richness of Vocabulary – Mean Word Usage/Utterance per Morning (4 Hours)

Teacher	Total Number of Utterances	Mean Number of Words/Utterance	Mean Number of Different Words/Utterance	Mean Number of Nouns/Utterance	Mean Number of Verbs/Utterance	Mean Number of Modifiers/Utterance	Mean Number of Functors/Utterance
A	2177	4.48	.84	.68	1.36	.85	1.83
B	2501	5.31	.84	.83	1.51	.85	1.99
C	3006	5.14	.75	.90	1.59	.90	2.03
D	2161	4.47	.93	.61	1.42	.76	2.00
E	3882	5.96	.70	.86	1.90	1.04	2.40

I also wanted to find the average number of different words teachers used in each utterance across the time frame of a 4 hour morning. I took the Total Different Words per morning (from the third column of Table 6) and divided this number by the Total Number of Utterances per morning (from the second column of Table 8). I used the resultant number as the Mean Number of Different Words/Utterance per Morning. I presented this data in the fourth column of Table 8.

To calculate the average number of nouns per utterance for each observation, I divided the Total Nouns per observation (from the fifth column of Table 5) by the Total Number of Utterances per observation (from the third column of Table 7). I used this quotient as the Mean Number of Nouns/Utterance per observation. This information is reported in the sixth column of Table 7.

I followed a similar process to calculate the averages for each of the other parts of speech per utterance for each observation. To calculate the average number of verbs per utterance during

each observation, I divided the Total Verbs per observation (from the sixth column of Table 5) by the Total Number of Utterances per observation (from the third column of Table 7). I labeled this quotient the Mean Number of Verbs/Utterance. To calculate the average number of modifiers per utterance during each observation, I divided the Total Modifiers per observation (from the seventh column of Table 5) by the Total Number of Utterances per observation (from the third column of Table 7). I labeled this quotient the Mean Number of Modifiers/Utterance. Finally, to calculate the average number of functors per utterance for each observation, I divided the Total Functors per observation (from the final column in Table 5) by the Total Number of Utterances per observation (from the third column of Table 7). I labeled this quotient as the Mean Number of Functors/Utterance. See columns 7-9 of Table 7 for the itemization of this data.

I also needed to find the average use of each part of speech per utterance by each teacher over a 4 hour period. I began by calculating the Total Nouns/Utterance per morning for each teacher. I took the Total Nouns per morning (found in the fourth column of Table 6) for each teacher and divided this number by the Total Number of Utterances per morning (found in the second column of Table 8) for each teacher. I identified these quotients as the Mean Number of Nouns/Utterance per morning for each teacher. See the fifth column of Table 8 for this data.

I followed a similar process to calculate the averages for each of the other parts of speech used by each teacher per morning (4 hours). To calculate the average number of verbs used by each teacher per morning, I divided the Total Verbs per morning (from the fifth column of Table 6) by the Total Number of Utterances per morning (from the second column of Table 8). I labeled this quotient the Mean Number of Verbs/Utterance per Morning. To calculate the average number of modifiers used by each teacher per morning, I divided the Total Modifiers per morning (from the sixth column of Table 6) by the Total Number of Utterances per morning

(from the second column of Table 8). I labeled this quotient the Mean Number of Modifiers/Utterance per Morning. Finally, to calculate the average number of functors per morning, I divided the Total Functors per morning (from the seventh column of Table 6) by the Total Number of Utterances per morning (from the second column of Table 8). I labeled this quotient as the Mean Number of Functors/Utterance per Morning. See columns 6-8 of Table 8 for the itemization of this data.

I began the analysis of my data by looking at the number of Total Teacher Utterances at each site. Since this is the divisor being used to calculate the richness of all the other elements of teacher language, I thought it would be valuable to explore any patterns that might be connected to the number of utterances spoken by the teachers across a 4 hour morning time frame. Teachers A and D were very similar in the number of utterances they spoke. They had the fewest utterances during the four hours. Teacher A had the second lowest number of utterances per morning with a total of 2,177 utterances followed closely by Teacher D at 2,161 utterances. This was a difference between the two teachers of only 16 utterances. Teacher E had the most utterances during the four hours of observations. She had 3,882 Total Utterances. The difference between the highest and lowest Total Utterances across the four-hour morning time frame was 1,721 utterances. This data from the second column of Table 8 is shown on Figure 10.

When investigating the Mean Number of Words/Utterance per Morning, I found that Teacher D had the lowest Mean Number of Words/Utterance per morning at 4.47 words/utterance. Teacher A was very similar with a Mean Number of Words/Utterance per morning at 4.48 words/utterance. Teacher E had the highest Mean Number of Words/Utterance at 5.96 words/utterance. This is a difference of 1.49 words/utterance between the two extremes

of this data. The left-hand side of Figure 11 uses the data from third column of Table 8 to show the results of this investigation.

Figure 10. Richness of Vocabulary – Total Teacher Utterances per Morning (4 Hours)

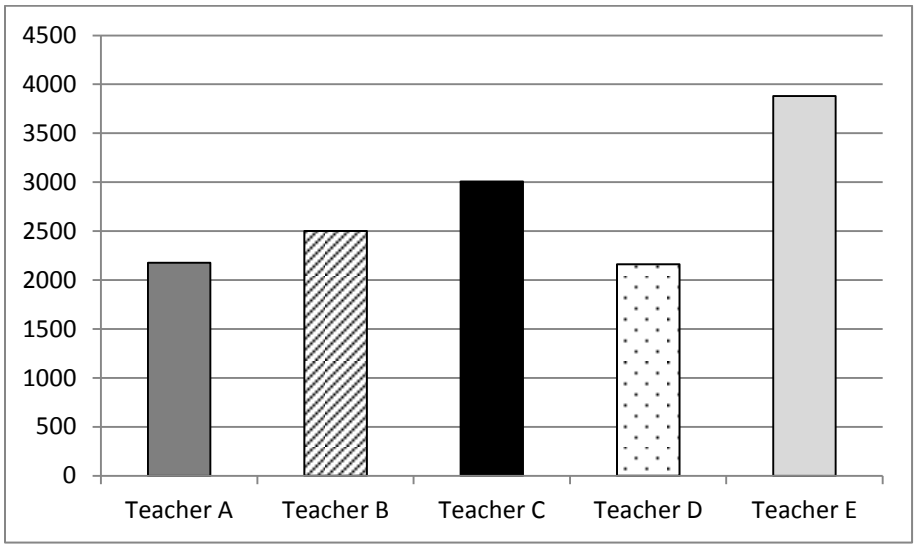
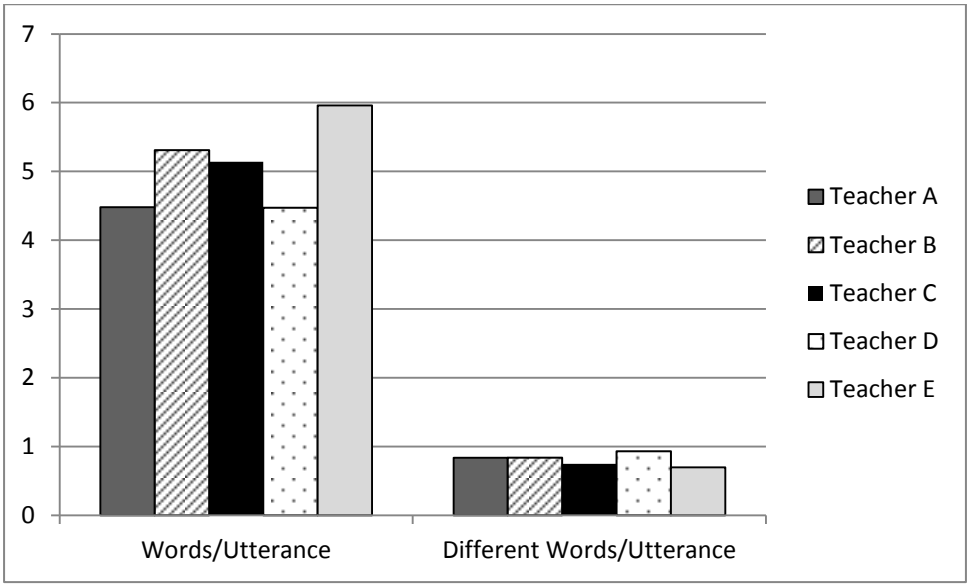


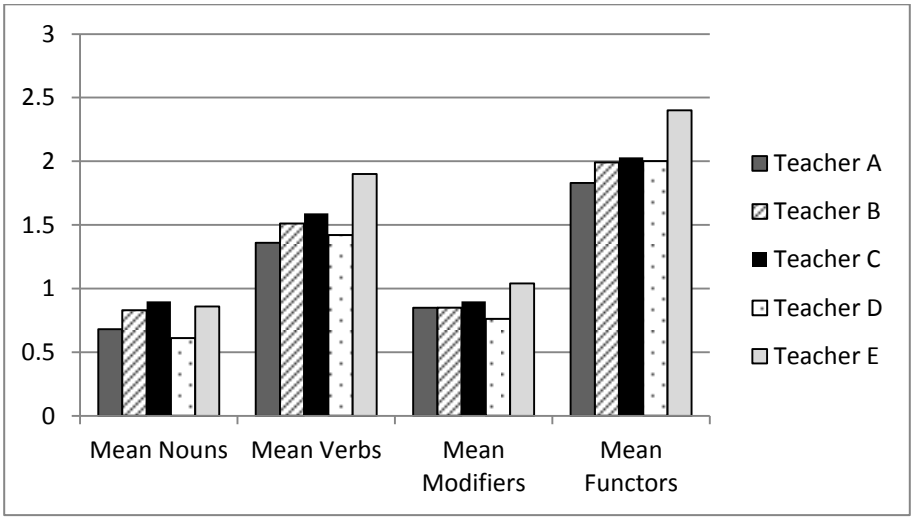
Figure 11. Richness of Vocabulary- Mean Words/Utterance and Mean Different Words/Utterance per Morning (4 Hours)



When I looked at the data related to the Mean Number of Different Words/Utterance across the time frame of a morning, the gap between teachers narrowed. The Mean Number of Different Words/Utterance spoken by teachers ranged from a low mean of .70 different words/utterance spoken by Teacher E during a morning to a high mean of .93 different words/utterance spoken by Teacher D during a morning. This is a difference in the in average number of different words/utterance across a morning of .23 different words/utterance. This data from the fourth column of Table 8 is shown on the right-hand side of Figure 11.

When I examined the average noun/utterance data over the period of a 4 hour morning, the highest Mean Number of Nouns/Utterance across a morning was spoken by Teacher C. Her mean was .90 nouns/utterance. The lowest Mean Number of Nouns/Utterance across a morning was spoken by Teacher D. This mean was .61 nouns/utterance. This is a difference of .29 mean nouns/utterance during a comparable morning time frame. The first set of columns on the left-hand side of Figure 12 illustrates this data from the fifth column of Table 8.

Figure 12. Richness of Vocabulary - Mean Grammar Usage/Utterance per Morning (4 Hours)



Teacher E had the highest Mean Number of Verbs/Utterance over the course of a 4 hour morning. Her students were exposed to a total of 1.90 Mean Verbs/Utterance over the time frame

of a morning. Teacher A had the lowest Mean Number of Verbs/Utterance during the time frame of a morning. Her students were exposed to a total of 1.36 Mean Verbs/Utterance during this same period. This is a difference in means of .64 verbs/utterance. This data from the sixth column of Table 8 is illustrated in the second set of columns in Figure 12.

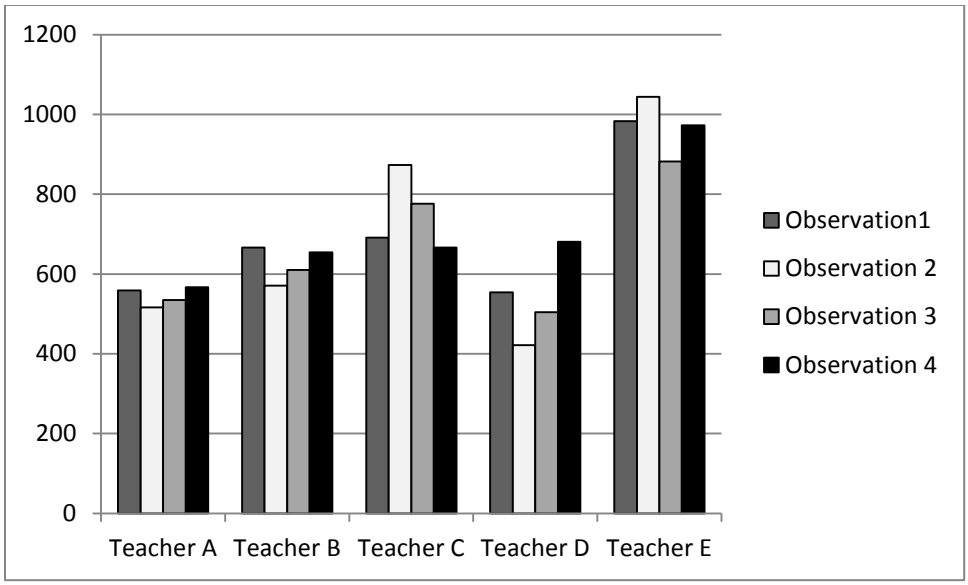
I also wanted to look at the teachers' mean use of modifiers/utterance over the 4 hour time frame of a morning. I noted that Teacher D had the lowest Mean Number of Modifiers/Utterance (.76 mean modifiers/utterance) and that Teacher E had the highest Mean Number of Modifiers/Utterance (1.04 mean modifiers/utterance) during a 4-hour morning. This is a difference in the mean of .28 modifiers/utterance spoken by the teachers. This also makes Modifiers/Utterance per morning the grammatical element with the smallest level of variance between teachers when it comes to richness of vocabulary. The third set of columns in Figure 12 shows this data from the seventh column of Table 8.

Finally, I determined the range of the Mean Number of Functors/Utterance that teachers used over a 4 hour morning period. The Mean Number of Functors/Utterance ranged from a low of 1.59 Mean Functors/Utterance used by Teacher A to a high of 2.20 Mean Functors/Utterance used by Teacher E. This is a difference in the Mean Number of Functors/Utterance used over the course of 4 hours of .61 functors/utterance. The final set of columns on the right-hand side of Figure 12 displays this data from the last column of Table 8.

As before, I thought it would also be interesting to analyze the teacher data by individual hour-long observations as well. I started by looking at the consistency of the number of utterances used by the same teacher across the 4 hours of observation within each classroom. The lowest variance in the number of utterances spoken by the same teacher within her own classroom over the four observations was a difference of 51 utterances between Observation 2

and Observation 4 for Teacher A. The highest variance in the number of utterances spoken by the same teacher within her own classroom over the four observations was a difference of 259 utterances between Observation 2 and Observation 4 for Teacher D. Figure 13 displays the data from the Total Number of Utterances from the third column in Table 7.

Figure 13. Richness of Vocabulary - Number of Utterances by Teacher per Observation



I also tried to determine if there was a pattern with regard to the number of utterances used by teachers and time of day within the classrooms. No such pattern was evident. In one classroom the teacher had the greatest number of utterances first thing in the morning (Teacher B) while in two other classrooms the end of the morning was the time of greatest number of utterances (Teachers A and D). In the other two classrooms, mid-morning was the time when teachers spoke the greatest number of utterances (Teachers C and E). Figure 14 displays the data from the Total Number of Utterance column in Table 7 by time of day across a morning from earliest to latest observations.

I then examined the data related to the Mean Number of Words/Utterance per observation. Teacher D had the lowest Mean Number of Words/Utterance. She averaged 3.67

words/utterance during Observation 4. Teacher E had the highest Mean Number of Words/Utterance. She averaged 6.44 words/utterance during Observation 1. This is a difference in Mean Words/Utterance between the highest and lowest data points of 2.77 words/utterance. Figure 15 illustrates this information from the fourth column of Table 7.

Figure 14. Richness of Vocabulary - Number of Utterances/Observation by Time of Day

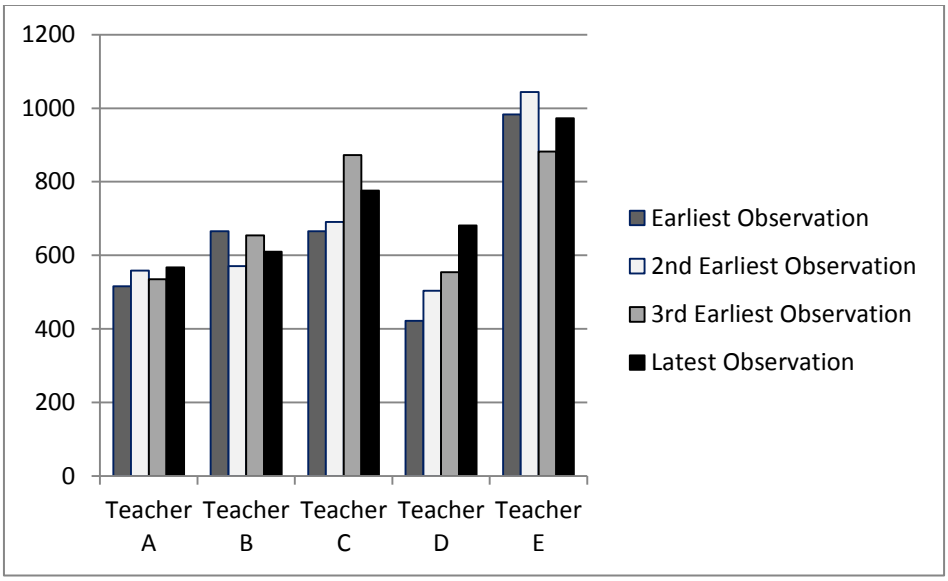
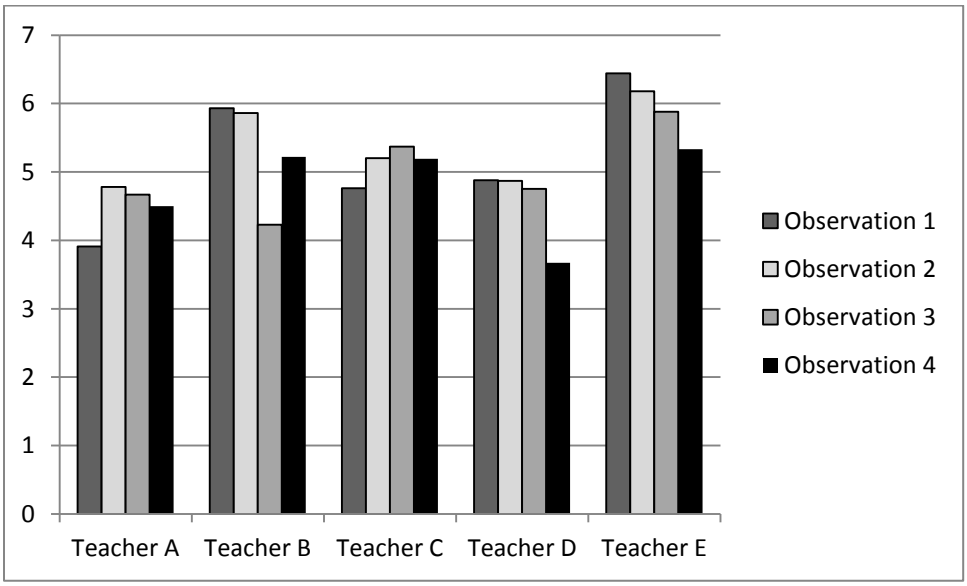


Figure 15. Richness of Vocabulary – Mean Words/Utterance per Observation by Teacher



Next, I reviewed the Mean Number of Different Words/Utterance spoken by teachers during the individual hour-long observations. The Mean Number of Different Words/Utterance spoken by teachers across observations ranged from a low average of .64 different words/utterance during Observation 1 by Teacher E to a high average of 1.02 different words/utterance during Observation 3 by Teacher D. This is a difference in the average number of different words spoken by these teachers of .38 different words/utterance. See the fifth column of Table 7 for this data.

Next, I explored the richness of the teachers' vocabulary by examining their utterances grammatically. First, I examined the differences in the mean number of nouns/utterance used by each teacher during individual observations. The highest Mean Number of Nouns/Utterance was spoken by Teacher E during Observation 2. This mean was .96 nouns/utterance. The lowest Mean Number of Nouns/Utterance was spoken by Teacher D during Observation 1. This mean was .52 nouns/utterance. This is a difference in the average number of nouns used per utterance of .44 nouns/utterance during a comparable one-hour period of time. So, Teacher D used approximately half the number of nouns/utterance on average during Observation 1 than Teacher E did in Observation 2. See the sixth column of Table 7 for further details about this information.

The next grammatical mean that I investigated was Mean Number of Verbs/Utterance during individual observations. During individual observations teacher verb use ranged from a low average of 1.14 verbs/utterance by Teacher D during Observation 4 to a high average of 2.12 verbs/utterance used by Teacher E during Observation 1. This is a difference between the highest and the lowest mean verbs/utterance of .98 mean verbs/utterance. See the seventh column of Table 7 for this data.

Next, I reviewed the data surrounding the Mean Number of Modifiers/Utterance teachers used during individual observations. The Mean Number of Modifiers ranged from a low mean of .63 modifiers/utterances used by Teacher B during Observation 2 to a high mean of 1.14 modifiers/utterance used by Teacher E during Observation 1. This is a difference in the average number of modifiers/utterance of .51 modifiers/utterance across the individual hour-long observations. See the eighth column of Table 7 for this information.

The largest range in mean grammatical use was in the teachers' use of functors. When I examined the mean number of functors/utterance used by teachers during individual observations, I found a range of 1.09 mean functors/utterance. The Mean Functors/Utterance used by teachers ranged from a low of 1.23 mean functors/utterance used by Teacher A during Observation 1 to a high of 2.32 mean functors/utterance used by Teacher E during Observation 1. See the last column of Table 7 for this data.

The findings in this section indicate that there is a difference in the richness of language to which the children in these Early Head Start programs are exposed. The significance of these differences varies from data point to data point. The categories in which there was the greatest difference in the richness of the language used by the teachers were the Mean Number of Words/Utterance and the Mean Number of Functors/Utterance – particularly when looking at the speech of the teachers extreme ends of the data collected. The category with the least substantial differences in richness between teachers was the Mean Number of Different Words/Utterance.

Figure 16. Richness of Vocabulary – Summary Teacher A Mean Word Use/Utterance per Morning

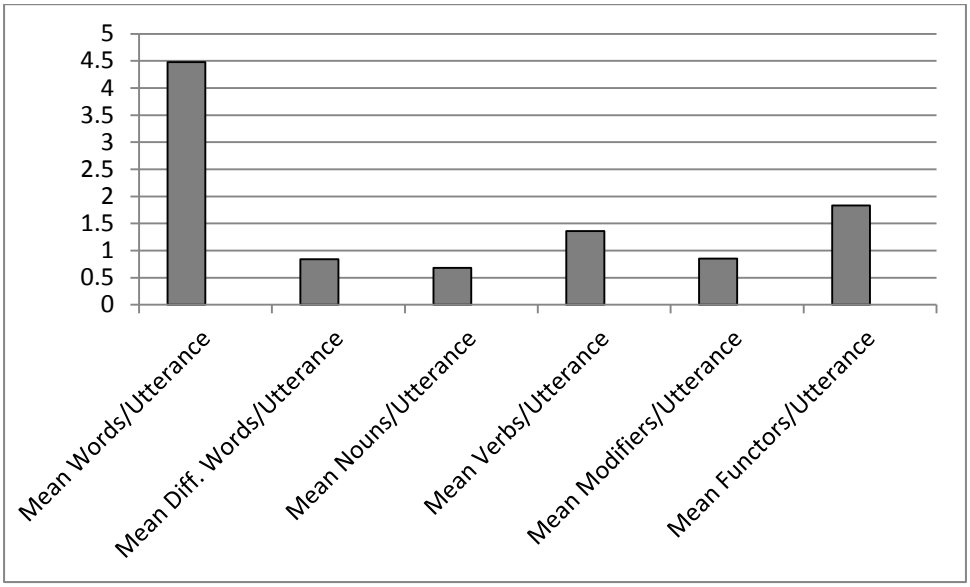


Figure 17. Richness of Vocabulary – Summary Teacher B Mean Word Use/Utterance per Morning

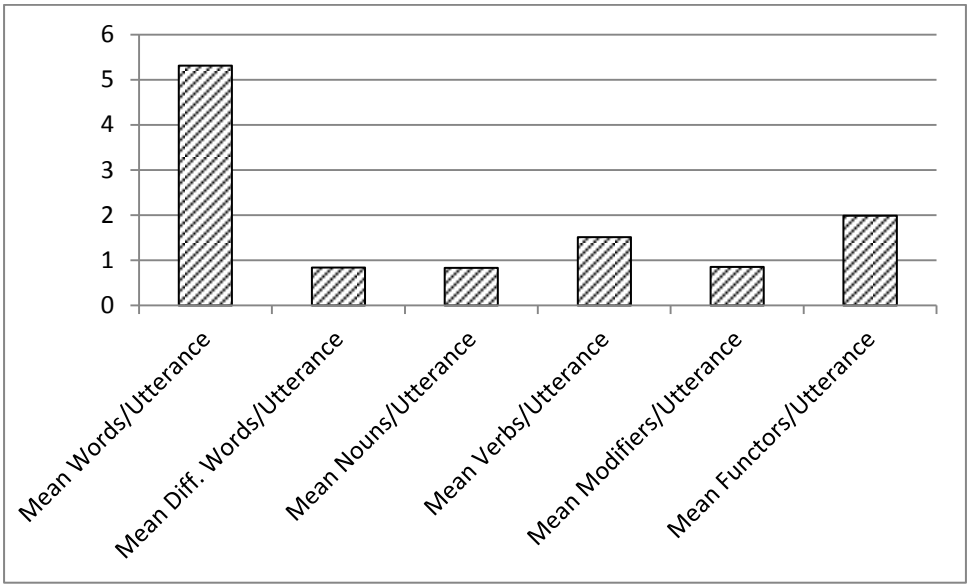


Figure 18. Richness of Vocabulary – Summary Teacher C Mean Word Use/Utterance per Morning

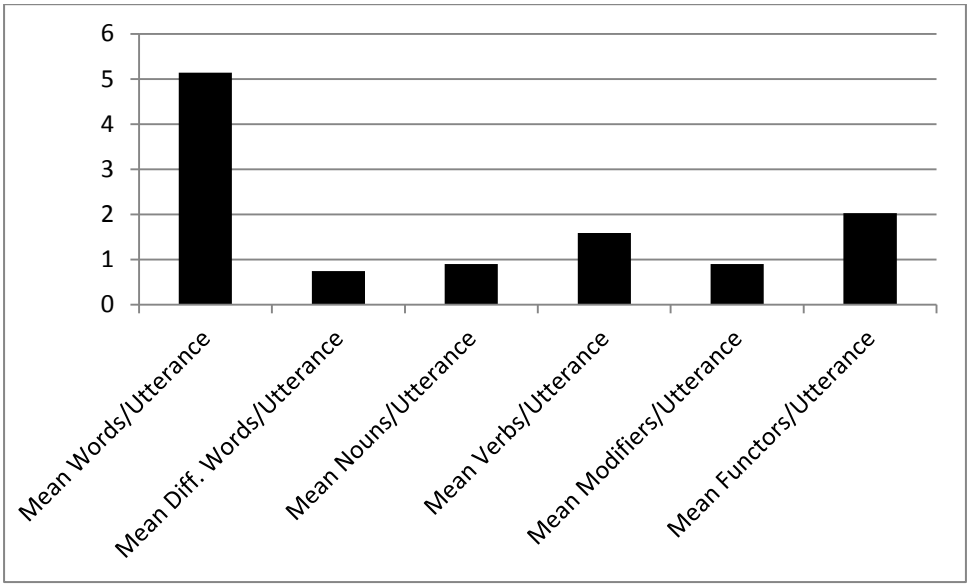


Figure 19. Richness of Vocabulary – Summary Teacher D Mean Word Use/Utterance per Morning

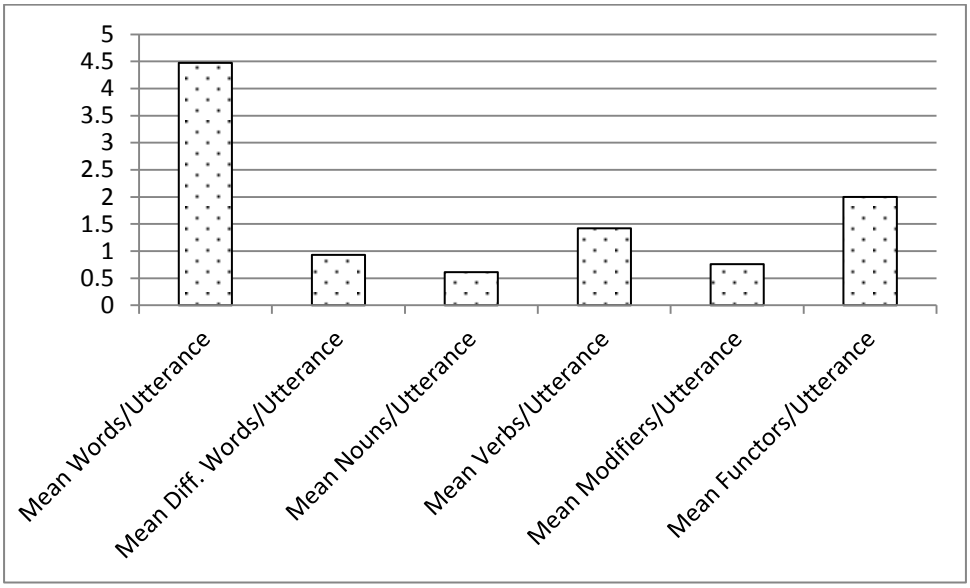
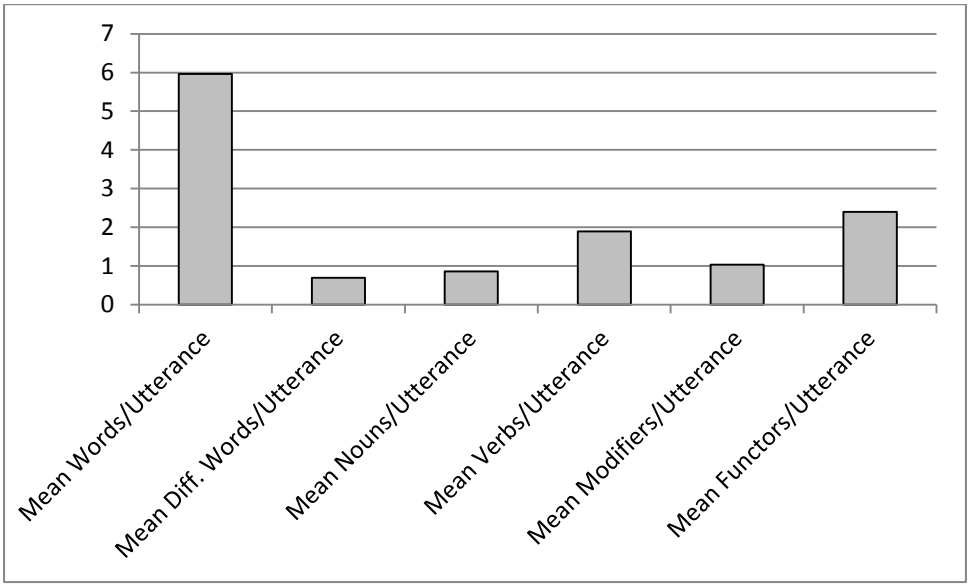


Figure 20. Richness of Vocabulary – Summary Teacher E Mean Word Use/Utterance per Morning



Sophistication of Vocabulary

Finally, I analyzed the data surrounding the third portion of the first research question. This data dealt with the sophistication of the teachers' language. I began by identifying the number of words from each observation that were coded because they were not on the Dale-Chall List of 3,000 Familiar Words (*http://opi.mt.gov/PUb/index.php?dir=RTI/Forms/School/Choteau/&file=The%20Dale-Chall%20Word%20List.doc*). The number that I found became the Total Words not on Dale-Chall List per one-hour observation. See the fourth column of Table 9 for this information.

To find the Total Words not on Dale-Chall List for each teacher during a morning (4 hour period), I summed the Total Words not on Dale-Chall List from the four individual observations for each of the five teachers. These totals became the Total Words not on Dale-Chall List per Morning for each classroom. I reported this data in the third column of Table 10.

Table 9

Sophistication of Vocabulary – Sophisticated Word Use per Observation (1 Hour)

Teacher	Observation	Total Words Used	Total not on Dale-Chall	Total not on Dale-Chall w/o Names	Total Not on Dale-Chall w/o Names and "okay"or "alright"	Chall w/o Names and "okay" or "alright" and Not a Derivation of a Dale-Chall Word (Sophisticated	Percent Sophisticated Words
A	1	2185	278	171	129	83	3.80%
A	2	2465	183	133	113	57	2.31%
A	3	2503	283	203	173	121	4.83%
A	4	2552	259	188	165	86	3.37%
B	1	3949	467	272	197	143	3.62%
B	2	3346	257	165	119	79	2.36%
B	3	2580	357	228	175	103	3.99%
B	4	3418	351	217	164	85	2.49%
C	1	3287	421	188	125	73	2.22%
C	2	4540	472	286	193	105	4.25%
C	3	4168	506	300	240	149	3.57%
C	4	3460	445	226	175	101	2.92%
D	1	2706	237	173	165	66	2.44%
D	2	2055	224	158	143	81	3.94%
D	3	2396	223	150	140	88	3.67%
D	4	2498	311	197	181	123	4.92%
E	1	6331	664	357	279	128	2.02%
E	2	6452	670	383	321	179	2.77%
E	3	5187	529	355	308	178	3.43%
E	4	5185	518	374	311	169	3.26%

Table 10

Sophistication of Vocabulary - Sophisticated Word Use per Morning (4 Hours)

Teacher	Total Words	Total not on Dale-Chall	Total Not on Dale-Chall w/o Names	Total Not on Dale-Chall w/o Names and "okay" or "alright"	Total Not on Dale-Chall w/o Names, and "okay" and "alright" and Not a Derivation of a Dale-Chall Word (Sophisticated Words)	Percent Sophisticated Words
A	9705	1003	695	580	347	3.58%
B	13293	1432	882	677	410	3.08%
C	15455	1844	1000	755	428	2.77%
D	9655	995	678	629	358	3.71%
E	23155	2381	1469	1219	654	2.82%

Since no proper names were on the Dale-Chall List, I wanted to eliminate the impact of teacher and student names on the count of sophisticated words for each observation. To do this, I used the number of names that I had coded as not on the Dale-Chall List. I subtracted that number from the Total Words not on Dale-Chall List (fourth column of Table 9) from each observation. This difference was identified as the Total Words not on Dale-Chall without Names per Observation. See the fifth column of Table 9 for a listing of this data.

To find the Total Words not on Dale-Chall without Names for each teacher during a four-hour morning period, I summed the Total Words not on Dale-Chall without Names (located in the fifth column of Table 9) from the four observations for each of the five teachers. These totals became the Total Words not on Dale-Chall without Names per Morning for each teacher. I reported this data in the fourth column of Table 10.

To eliminate the effect of two words that were inflating the number of Total Words Not on Dale-Chall List because of their overuse by some teachers as speech fillers, I identified the number of times the teacher used the terms "okay" and "alright" during coding. I subtracted this

number from the Total Words not on Dale-Chall without Names (located in the fifth column of Table 9). The difference gave me the Total Words Not on Dale-Chall without Names and "Okay" or "Alright". I reported this data in the sixth column of Table 9.

To find the Total Words Not on Dale-Chall without Names and "Okay" or "Alright", for each teacher during a morning, I summed the Total Words Not on Dale-Chall without Names and "Okay" or "Alright" (from the sixth column of Table 9) from the four observations for each of the teachers. These totals became the Total Words Not on Dale-Chall w/o Names and "Okay" or "Alright" per Morning for each teacher. See the fifth column of Table 10 for this information.

Finally, I counted the number of verbs and modifiers that were not on the Dale-Chall List only because of a suffix. (For example, "jump" was on the list while "jumping" was not.) I subtracted this number from the Total Words Not on Dale-Chall without Names and "Okay" or "Alright". I identified this difference as the Total Words Not on Dale-Chall without Names and "Okay" or "Alright" and Not Derivations of Dale-Chall Words or truly Sophisticated Words. See the seventh column of Table 9 for a reporting of this data.

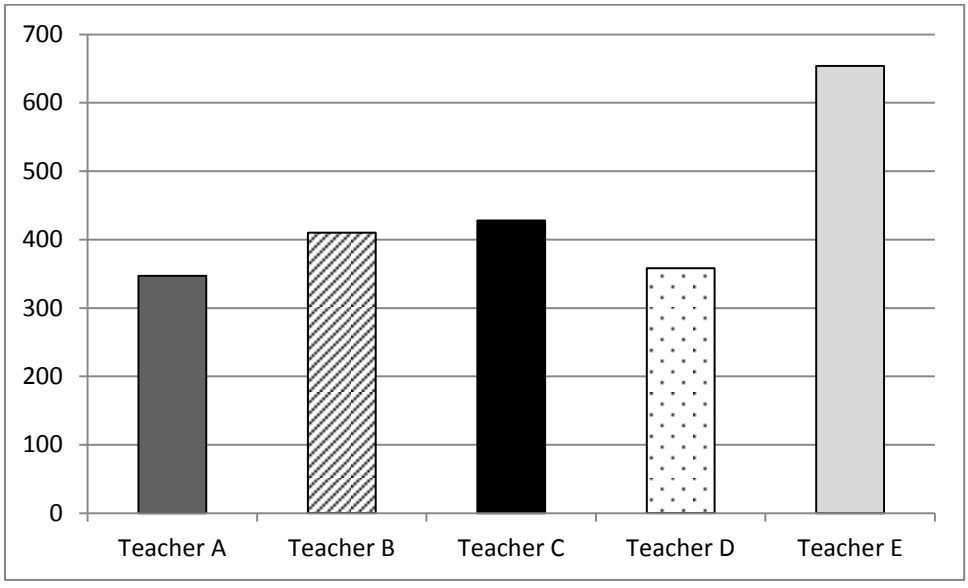
To find the number of Sophisticated Words for each teacher during a morning (4 hour period), I summed the Sophisticated Words from the four observations (reported in the seventh column of Table 9) for each of the five teachers. These totals became the Sophisticated Words per Morning for each teacher. I reported this date in the sixth column of Table 10.

To determine the percent of the Total Words used per observation that were Sophisticated Words, I divided the number of Sophisticated Words used per observation (from the seventh column of Table 9) by the Total Words Used per observation (from the third column of Table 9). I then converted each of the quotients into a percent. This data is located in the final column of Table 9.

To calculate the Percent of Sophisticated Words used per morning (4 hour period), I summed the Sophisticated Words from the four observations for each of the five teachers (from the seventh column of Table 9). I divided each of these sums by the Total Words used per morning for each teacher (from the second column of Table 10). I then converted the quotient from each calculation into a percent. The final column of Table 10 shows these results.

When I reviewed the total number of sophisticated words used by each teacher across a morning, I found that Teacher E had used the most sophisticated words. Teacher E used 654 sophisticated words during the course of the four hours of observation. Teacher A used the smallest number of sophisticated words. She used a total of 347 sophisticated words during this same observational period. This is a difference of 307 sophisticated words over a four-hour period. Figure 21 shows this data from the sixth column of Table 10.

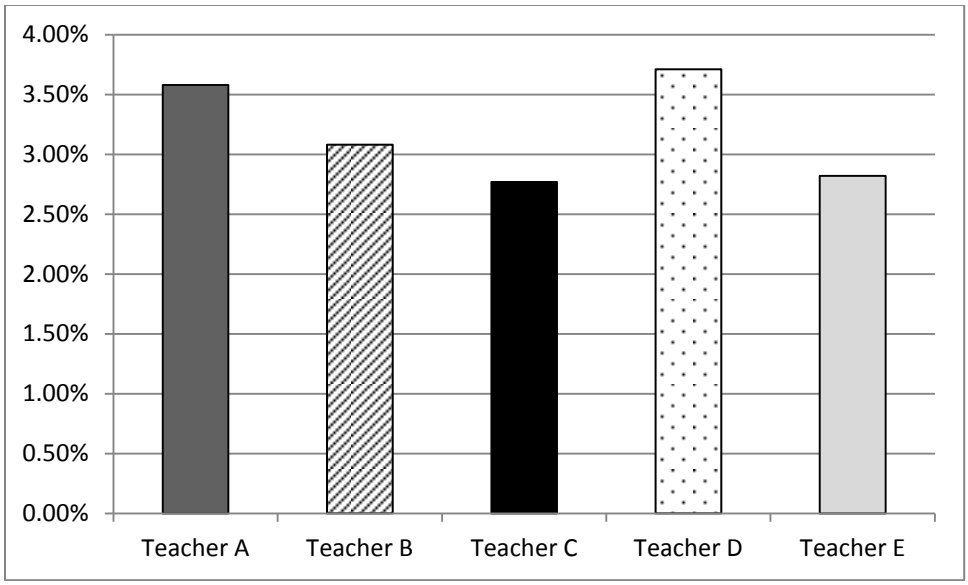
Figure 21. Sophistication of Vocabulary – Number of Sophisticated Words Used per Morning (4 Hours) by Teacher



Interestingly, the percentage of total words for each teacher that were sophisticated words across a morning, however, shows a very different picture. At 3.71%, Teacher D used the

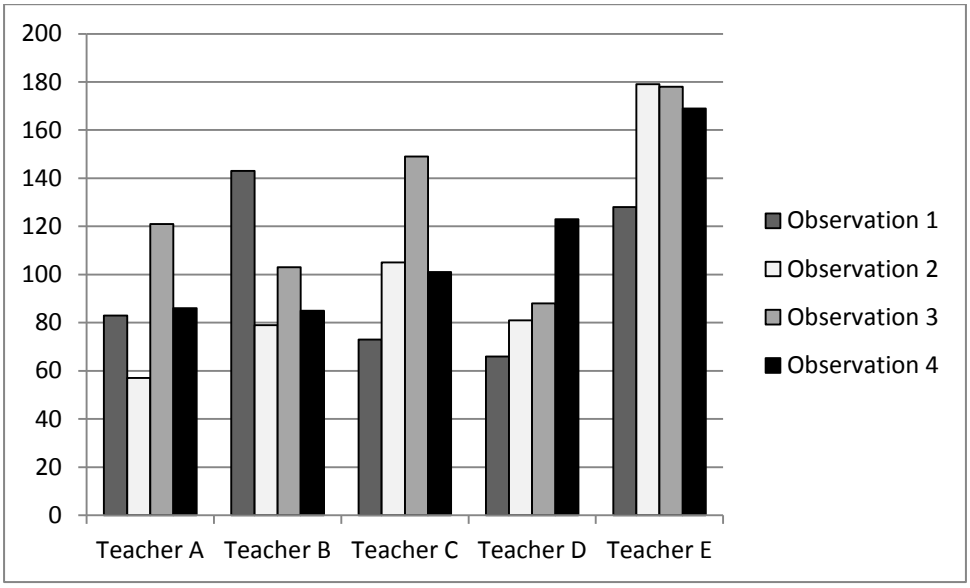
greatest percentage of sophisticated words. While Teacher C at 2.77% used the smallest percentage of sophisticated words. The remainder of the teachers fell within this range. Figure 22 illustrates this information from the seventh column of Table 10.

Figure 22. Sophistication of Vocabulary - Percent Teacher Sophisticated Word Use per Morning (4 Hours)



As I was analyzing the sophistication of the language of the Early Head Start Teachers, I thought it would be interesting to look at the consistency in the number of sophisticated words used by the same teacher across the 4 hours of observation within the same classroom. During the individual observations, the difference between the lowest and highest number of sophisticated words used by the same teacher within her own classroom ranged from a 38 word difference for Teacher A (low) to a 76 word difference by Teacher C (high). Figure 23 displays this data from the seventh column of Table 9.

Figure 23. Sophistication of Vocabulary – Number of Sophisticated Words Used by Teachers Across a Morning by Observation



I also wanted to look at the consistency of the Percent of Sophisticated Language used by each teacher across the 4 hours of observation. During the individual observations, Teacher E had the smallest variance in the percent of sophisticated words within her own classroom. This difference between the lowest and highest percent of sophisticated words used within Teacher E's classroom was a difference of 1.41% of the total words spoken. Teacher A had the greatest variance in the percent of sophisticated words used within a classroom. Teacher A had a difference of 2.52% of the total spoken words. Figure 24 displays this data from the last column of Table 9.

I also tried to determine if there was a pattern with regard to the amount of sophisticated words used by the teachers based on the time of day. To do this, I looked for a pattern in the number of sophisticated words spoken by teachers based upon the time of day. No such pattern could be determined. Figure 25 illustrates this data for each teacher.

Figure 24. Sophistication of Vocabulary - Percentage of Sophisticated Words Used by Teachers Across a Morning by Observation

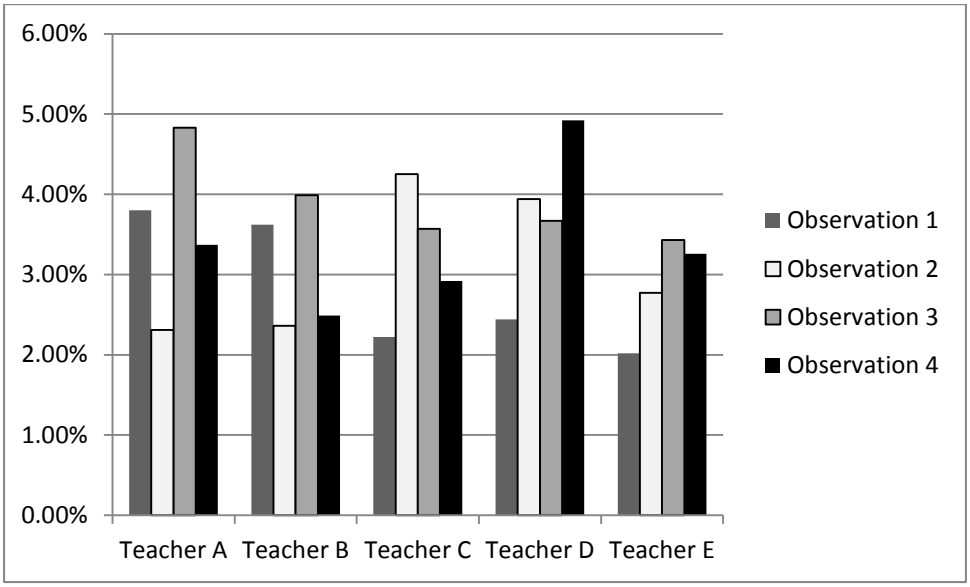
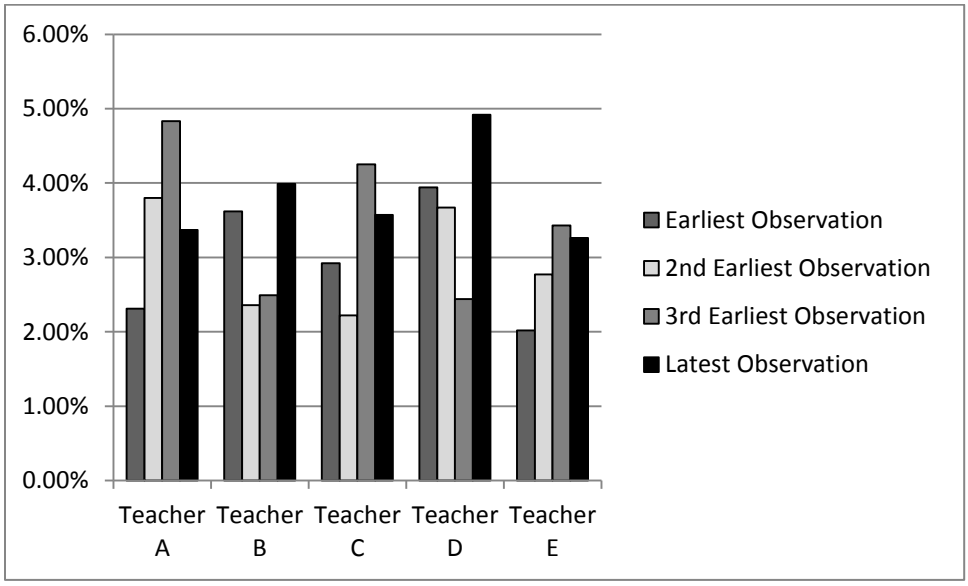


Figure 25. Sophistication of Language - Number of Sophisticated Words Used by Teachers Across a Morning by Time of Day



The findings in this section indicate that there is a difference in the sophistication of language to which the children in these Early Head Start programs are exposed. The significance

of these differences varies from data point to data point. The greatest difference is in the total number of sophisticated words that are used by the teachers, while the actual percentage of total words used by the teachers that were sophisticated words was more similar.

The Type and Quantity of Conversational Supports Used By Early Head Start Teachers

The next set of data with which I worked was related to the second subordinate question in my research into how Early Head Start teachers talk to their students. This question was, "What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?" Weizman and Snow (2001) identified three types of conversational supports used by adults in their interactions with children - *Instructional Supports*, *Helpful Supports*, and *Neutral Supports.* In this portion of my study I investigated the use of these supports by the 5 Early Head Start teachers.

Using the description given by Weizman and Snow (2001) of *Instructional Supports*, *Helpful Supports*, and *Neutral Supports*, I went back into the transcripts and looked at the supports surrounding each of the Sophisticated Words that were used. I had already coded each complex word occurrence with an *I* for each instructional support, an *H* for each helpful support, or an *N* for each neutral support used by the teacher. This is how I found the total number of each type of support used during each observation. See the fourth, sixth, and eighth columns of Table 11 for this information.

To calculate the number of each of the three types of supports used per morning (4 hour period), I totaled the number of each form of support used from the four observations for each of the five sites. First, I totaled the number of instructional supports used by each teacher per morning by summing the Total Instructional Supports per Morning (from the fourth column of

Table 11) for each teacher. Then I totaled the number of helpful supports used by each teacher per morning by summing the Total Helpful Supports per Morning (from the sixth column of Table 11) for each teacher. Then I totaled the number of neutral supports used by each teacher per morning by summing the Total Neutral Supports per Morning (from the eighth column of Table 11) for each teacher. These calculations gave me the number of supports that were instructional supports, helpful supports, and neutral supports for each teacher per morning. See the third, fifth, and seventh columns of Table 12 for a listing of this data.

Next, I calculated the percentage of each type of conversational support used per observation. I began by identifying the total number instructional supports used by each teacher during each observation (from the fourth column of Table 11). I divided each of number by the Total Sophisticated Words used per observation (from the third column of Table 11). I then converted the quotient from this calculation into a percent. This gave me the Percent of Total Supports that were Instructional Supports. I used this same process by using the data from the sixth column of Table 11 to calculate the Percent of Total Supports that were Helpful Supports and by using the data from eighth column of Table 11 to calculate the Percent of Total Supports that were Neutral Supports. See the fifth, seventh, and ninth columns of Table 11 for the results of these calculations.

I also wanted to calculate the percentage of each type of conversational support used per morning for each teacher. I did this by dividing the total number of each category of conversational support (Instructional Supports from the third column of Table 12, Helpful Supports from the fifth column of Table 12, and Neutral Supports from the seventh column of Table 12) for a morning by the Total Sophisticated Words used per morning (from the second column of Table 12). I then converted the quotient from this calculation into a percent. This gave

me the Percent of Supports that were Instructional Supports, Percent of Supports that were Helpful Supports, and the Percent of Supports that were Neutral Supports per Morning (4 hour period). These results are reported in the fourth, sixth, and eighth columns of Table 12.

Table 11

Type of Conversational Supports - Amount per Hour

Teacher	Observation	Total Sophisticated Words	Total Instructional Supports	Percent of Total Supports that were Instructional Supports	Total Helpful Supports	Percent of Total Supports that were Helpful Supports	Total Neutral Supports	Percent of Total Supports that were Neutral Supports
A	1	83	5	6.02%	47	56.63%	32	38.55%
A	2	57	6	12.77%	21	44.68%	30	63.83%
A	3	121	5	4.13%	16	13.22%	100	82.64%
A	4	86	15	17.44%	46	53.49%	25	29.07%
B	1	143	2	1.40%	32	22.38%	109	76.22%
B	2	79	26	32.91%	36	45.57%	17	21.52%
B	3	103	1	.97%	69	66.99%	33	32.04%
B	4	85	14	16.47%	46	54.12%	25	29.41%
C	1	73	2	2.74%	47	64.38%	24	32.88%
C	2	105	18	17.14%	71	67.62%	16	15.24%
C	3	149	37	24.83%	100	67.11%	12	8.05%
C	4	101	12	11.88%	68	67.33%	21	20.79%
D	1	66	3	4.55%	30	45.45%	33	50.00%
D	2	81	14	17.28%	32	39.51%	35	43.21%
D	3	88	27	30.68%	30	34.09%	29	32.95%
D	4	123	15	12.20%	39	31.71%	69	56.10%
E	1	128	14	10.94%	78	60.94%	36	28.13%
E	2	179	19	10.61%	99	55.31%	61	34.08%
E	3	178	19	10.67%	136	76.40%	23	12.92%
E	4	169	23	13.61%	114	67.46%	32	18.93%

Table 12

Teacher Conversational Supports per Morning (4-Hour Period)

Teacher	Total Sophisticated Words	Total Instructional Supports	Percent of Supports that were Instructional Supports	Total Helpful Supports	Percent of Supports that were Helpful Supports	Total Neutral Supports	Percent of Supports that were Neutral Supports
A	347	31	8.93%	130	37.46%	187	53.89%
B	410	43	10.49%	183	44.63%	184	44.88%
C	428	69	16.12%	286	66.82%	73	17.06%
D	358	59	16.48%	131	36.59%	166	46.37%
E	654	75	11.47%	427	65.29%	152	23.24%

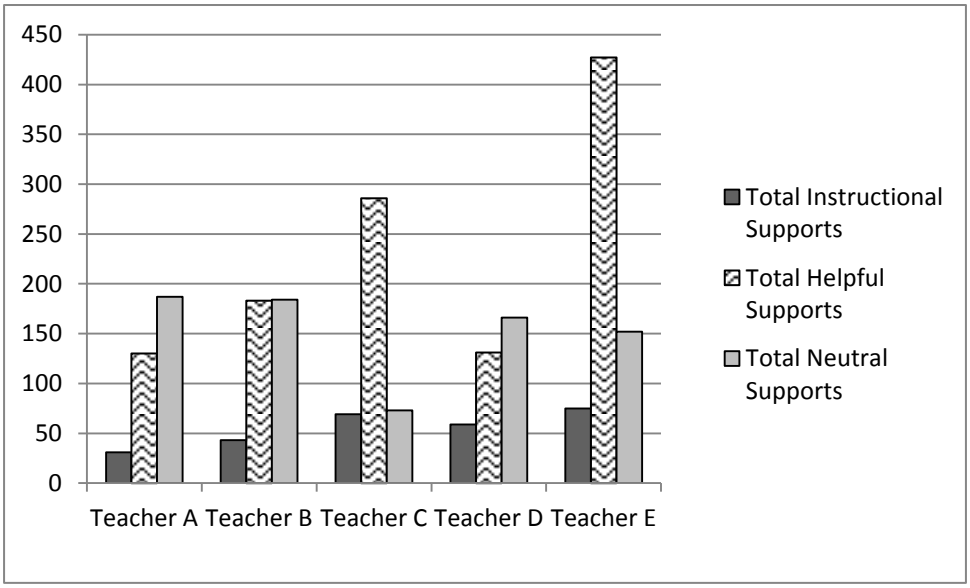
I began the analysis of the data related to the total number of each type of conversational support used by teachers over four-hour morning by looking at the data connected to the teachers' use of instructional supports per morning. I found that the Total Instructional Supports per Morning for each teacher (from the third column of Table 12) had the smallest range of values. Teacher E used the most instructional supports over the course of a four-hour period. Her total was 75 instructional supports. Teacher A used the fewest Total Instructional Supports at 31. This data (from the third column of Table 12) is represented by first column in each teacher's grouping in Figure 26.

The teachers' Total Helpful Supports and Total Neutral Supports across a four-hour morning were less consistent. Teacher E used the greatest number of helpful supports during her four hours of observation. Her total for the four hours was 427 helpful supports. Teacher A and Teacher D were similar in their use of helpful supports. They had the lowest Total Helpful Supports at 130 and 131 respectively. This indicates that Teacher E used more than 3 times the Total Helpful Supports during her four hours of observation than Teacher A and Teacher D did

during theirs. This data (from the fifth column of Table 12) is represented by second column in each teacher's grouping in Figure 26.

Teacher A and Teacher B used the greatest number of neutral supports during their four hours of observations. Teacher A had 187 Total Neutral Supports followed closely by Teacher B with 184 Total Neutral Supports. Teacher C had the lowest number of neutral supports at 73. This indicates that Teachers A and B used more than 2 times the Total Neutral Supports during their four hours of observations than Teacher C did during hers. This data (from the seventh column of Table 12) is represented by third column in each teacher's grouping in Figure 26.

Figure 26. Conversational Supports - Number per Morning (4-Hour Period) by Teacher

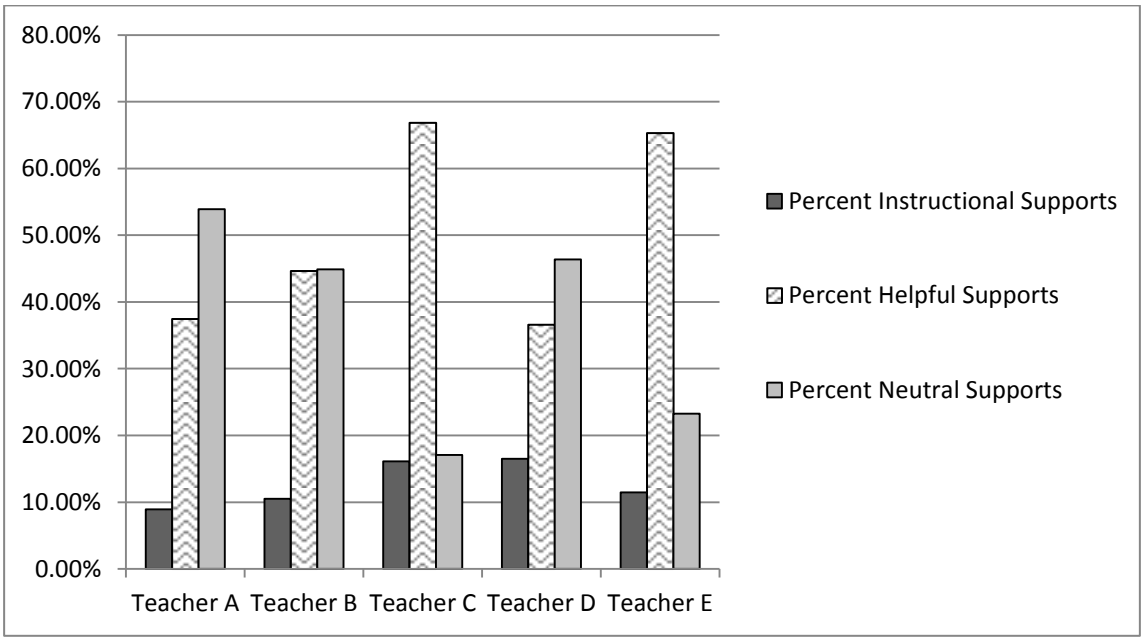


In analyzing the information surrounding the percentage of teachers' use of conversational supports across a morning, I immediately noticed a commonality between all classrooms. The form of conversational support that was used the least by all the teachers was instructional supports. Teacher D had the largest Percent of Supports that were Instructional Supports at 16.48%. Teacher A had the smallest Percent of Supports that were Instructional

Supports at 8.93%. The first column for each teacher in Figure 27 illustrates this data from the fourth column of Table 9.

Teacher C and Teacher E had the highest Percent of Supports that were Helpful Supports. Teacher C and Teacher E had the highest percent of helpful supports at 66.82% and 65.29% each. Teacher A and D had the smallest Percent of Supports that were Helpful Supports at 37.46% and 36.59% respectively. The second column for each teacher in Figure 27 illustrates this data from the sixth column of Table 12.

Figure 27. Conversational Supports – Percent per Morning (4-Hour Period) by Teacher

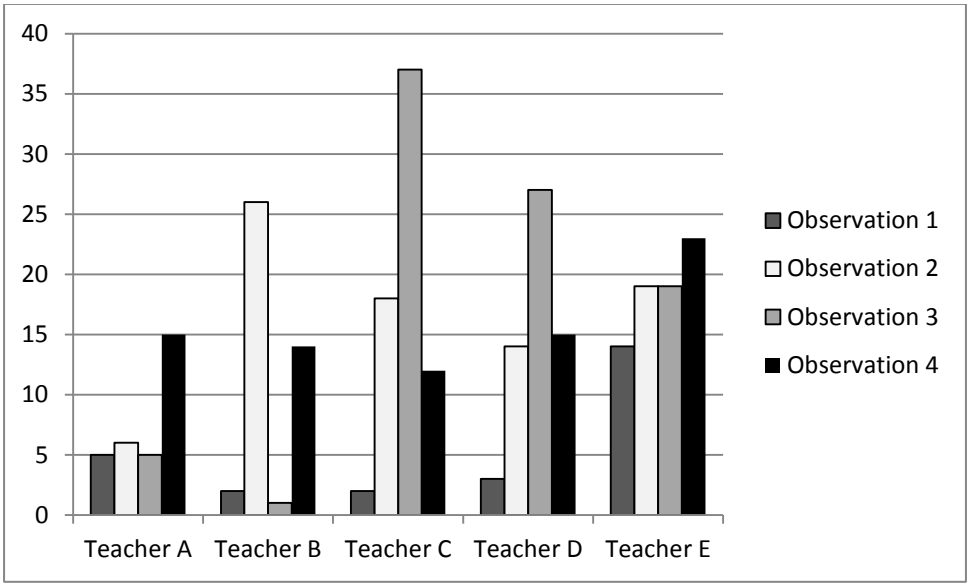


Teacher A had the highest Percent of Supports that were Neutral Supports at 53.89% neutral supports. Teacher C had the smallest Percent of Supports that were Neutral Supports at 17.06%. The third column for each teacher in Figure 27 illustrates this data from the last column of Table 12.

I then took a look at the conversational support data by individual observation. I began by looking at the consistency of the number of conversational supports used by the same teacher

across the 4 hours of observation within each classroom. First, I looked at the number of instructional supports used by the same teacher within her own classroom over the four observations. Teacher E had the smallest range between observations in the use of instructional supports with a difference of 9 between the highest use and lowest use of instructional supports. She was followed very closely by Teacher A with a difference of 10 between the highest use and lowest use of instructional supports. Teacher C had the greatest range between observations with a difference of 35 between the highest use and lowest use of instructional supports. Figure 28 shows this data from the fourth column of Table 11.

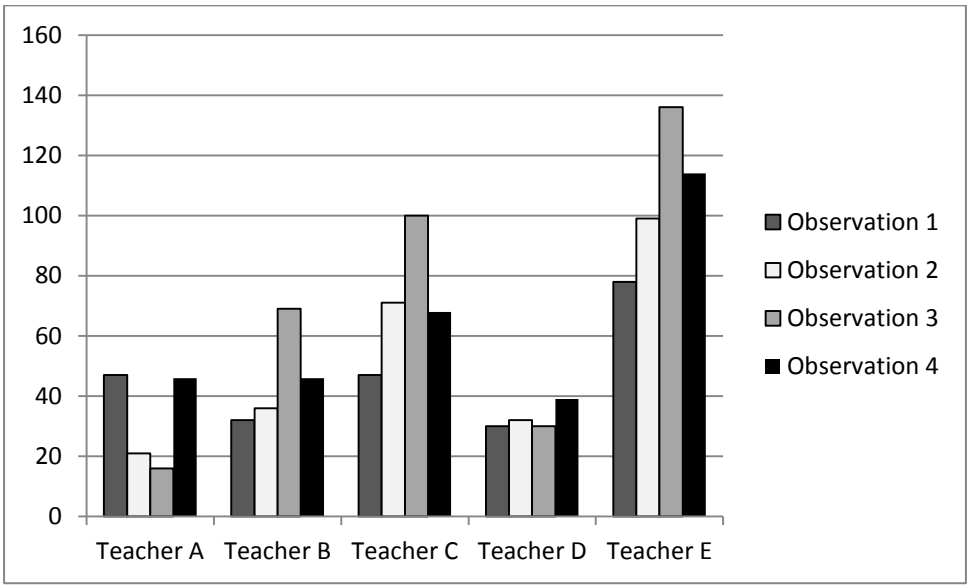
Figure 28. Conversational Supports – Number of Instructional Supports by Teacher per Observation



I then investigated the consistency in the number of helpful supports used by the same teacher within her own classroom during each of the observations. Teacher D had the smallest range between observations in the use of helpful supports with a difference of 9 between the highest use and lowest use of helpful supports. Teacher E had the greatest range between

observations with a difference of 58 between the highest use and lowest use of helpful supports. Figure 29 illustrates this data from the sixth column of Table 11.

Figure 29. Conversational Supports – Number of Helpful Supports by Teacher per Observation

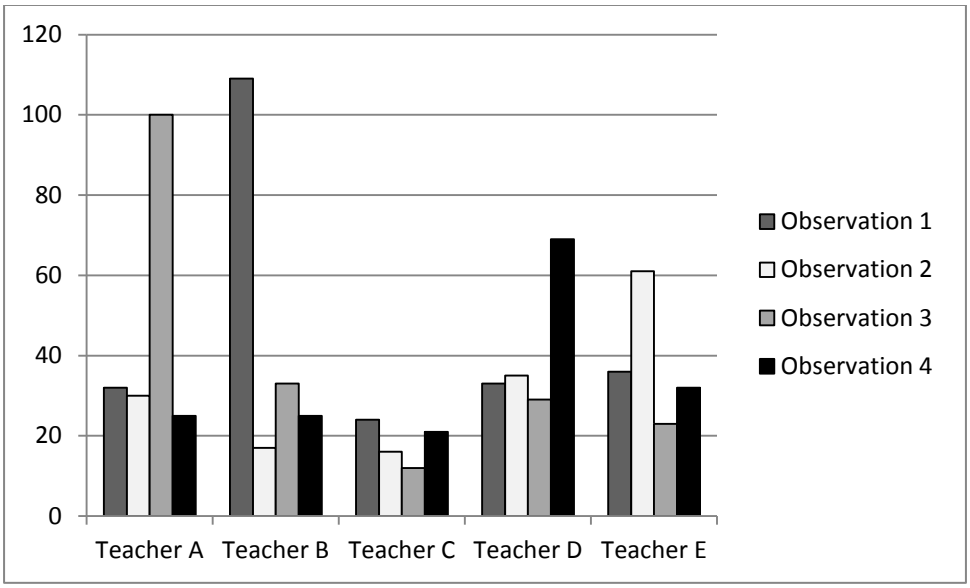


I then evaluated consistency in the number of neutral supports used by the same teacher within her own classroom across each of her observations. Teacher C had the smallest range in the use of neutral supports between observations with a difference of 12 between the highest use and lowest use of neutral supports. Teacher A and Teacher B had the greatest range between observations. Each of these teachers had a difference of 75 between the highest use and lowest use of neutral supports within their own observations. This data from the eighth column of Table 11 is illustrated in Figure 30.

The findings in this section indicate that there is a difference in the quality and quantity conversational supports used by the teachers from these Early Head Start programs when confronting sophisticated speech. The significance of these differences varies from data point to data point. The greatest difference is in the total number of instructional supports verses the other

forms of conversational supports. Instructional supports had the least number of incidences of occurrence, while the Total Helpful Supports and Total Neutral Supports used by the teachers that were more similar in their overall use.

Figure 30. Conversational Supports – Number of Neutral Supports by Teacher per Observation



Summary

In this Chapter, I presented the data from this study as it related to the research question and the subordinate questions which I posed. My research question is: How do Early Head Start teachers talk to their students? During my analysis, I first addressed the data associated with the following subordinate question: What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students? I found that there was a difference in the amount of talk that occurred in the five different classrooms. I also found that the richness of teacher utterances varied from teacher to teacher. In addition, I found that the sophistication of teacher language to which children are exposed varies from teacher to teacher.

I also analyzed the data surrounding the second subordinate research question: What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary? The data shows that these five teachers used all three types of supports, but at varying levels.

In Chapter V, I discuss the results of this study. I also discuss the implications of this study for research and for Early Head Start programs.

CHAPTER 5 - DISCUSSION

Introduction

For more than a century cognitive psychologists, policymakers, and educators alike have looked for ways to address the needs of low-achieving socially disadvantaged students. In the 1960's two pieces of federal legislation, the *Economic Opportunity Act* (1964) and the *Elementary and Secondary Education Act* (1965) established Head Start and Title One programs to try to better meet the needs of disadvantaged and low-achieving children.

In 2001 another piece of federal legislation was passed with the intent of forcing the educational system to find a way to meet the educational needs of all children. *No Child Left Behind* (2001) required school systems to show academic improvement in their students – as a whole school and within aggregated sub-groups – or face penalties such as public black-listing, school improvement plans, and restaffing. With the passing of *No Child Left Behind* (2001) came the onslaught of high-stakes testing and measures of Adequate Yearly Progress. In 2011, the Obama Administration announced that, in the absence of the reauthorization of *No Child Left Behind* (NCLB), states could request waivers in order to have some flexibility in meeting some of the law's requirements. Since February of 2012, forty-three states and the District of Columbia have been granted waivers (in those states in which waivers have been not been granted, NCLB remains in full effect). Some of the reforms that states set in motion through the adoption of these waivers have been controversial. From the development of these waivers has come the adoption of new policies such as the *Common Core Curriculum* (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). The adoption of these waivers is also impacting annual student achievement targets that states have set; states' new systems for measuring school quality and/or identifying schools for

improvement; and states' plans to implement teacher and principal evaluations based in part on student test scores (New America Foundation, 2014).

Despite the controversy connected to many of the policies related to NCLB waivers, it appears likely that waivers will continue to serve as de facto federal policy until NCLB is reauthorized. These pieces of legislation from State Departments of Education along with the remaining impact of NCLB, and funding/grant programs such as *Race to the Top* – part of the American Recovery and Reinvestment Act (2009) - have left schools still trying to meet a diversified set of educational standards.

Despite the creation of these outcome-based programs, there is great evidence that the gap between low SES students and their higher SES peers continues to exist. The results of the 2013 National Assessment of Educational Progress (NAEP) (National Center for Statistics, 2013) is one such piece of evidence. The NAEP results indicate that fourth-grade students whose family income qualified them for the free lunch program scored an average of 29 points less their non-free lunch program peers on the reading subtest.

So, how do we as educators begin to close this gap? The results of studies such as Hart and Risley's 1995 study and Weizman and Snow's 2001 study, would seem to suggest that educational interventions should be early and involve exposure to high quantities of language, exposure to rich quality language experiences, exposure to sophisticated words, and the use of instructive or helpful supports. Early Head Start programs offer educators early access to students from low SES homes and the opportunity to provide these students with these early language interventions. But little is known about the language patterns used in Early Head Start classrooms.

The purpose of my study was to investigate the oral language patterns of Early Head Start teachers who work in Early Head Start preschool centers. Specifically, the research question was: How do Early Head Start teachers talk to their students? To answer this question, I collected and analyzed data related to the following subordinate questions:

- What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?
- What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?

To accomplish my purpose, I observed five Early Head Start teachers in order to learn more about the amount, richness, and sophistication of the teacher talk that may occur during typical morning activities in an Early Head Start classroom. I also used this opportunity to learn about the supports that these five Early Head Start teachers used when their students were confronted by sophisticated vocabulary.

I will begin this chapter by discussing my findings in relation to my subordinate research questions. I will then review the limitations of this study and discuss the possible implications of my study for future research, as well as possible implications for the field of education. I close this chapter with the conclusions I have drawn as a result of conducting this study.

The Nature of Vocabulary Input Provided by Early Head Start Teacher

In this section, I examine the results related to the first sub-question of this study - What is the nature of the vocabulary input that Early Head Start teachers are providing their students? First, I explore the results surrounding the amount of the vocabulary input that Early Head Start teachers are providing their students. Then I explore the results related to the richness of the of

the vocabulary input that Early Head Start teachers are providing their students. Finally, I explore the sophistication of the Early Head Start teachers' vocabulary input.

Amount of Vocabulary

Many researchers have studied and confirmed the importance of exposing young children to large amounts of vocabulary. Hart and Risley (1995) found that children in low SES homes were less likely to be exposed to high quantities of language within their homes than were their higher SES peers. Extending the scope of Hart and Risley's research, Weizman and Snow (2001) found vast differences in the quantity of the vocabulary exposure among low income children in the home. Rowe (2012) found that for 18-month-old children, the quantity of parent input was most related to subsequent vocabulary skills when SES and previous vocabulary ability were controlled. Drawing on such research on the importance of exposure to high amounts of vocabulary, particularly with very young students, I looked at the quantity of vocabulary that Early Head Start teachers used with low SES children.

I began by looking at the consistency of the amount of words used by the same teacher. I wanted to see if the amount of teacher speech changed from hour to hour within the same classroom. To do this, I observed 5 different teachers on 4 four different occasions. These observations occurred across the timeframe of a morning. The results of this study indicate that the amount of speech from one individual teacher can vary greatly from hour to hour. It should be noted, however, that some teachers had larger hour-to-hour differences than others. For example, as reported in detail in Chapter 4, Teacher A had the smallest difference in the greatest amount and the smallest amount of words used by the same teacher: 365 words. Teacher B had the largest difference in the greatest amount and the smallest amount of words used by the same teacher: 1369 words.

I thought that the difference in amount of speech used by a teacher within her own classroom might be related in part to the time of day in which these observations occurred. Therefore, I tried to determine if there was a relationship between the amount of teacher speech and time of day within the classrooms. No such pattern could be found. In one classroom the teacher did the greatest amount of speaking first thing in the morning, while in another classroom the end of the morning was the time of greatest amount of speech. The teachers in the three other classrooms had mid-morning as the time of greatest speech. The lack of relationship between time of day and level of teacher speech would seem to indicate that specific, time-related, common activities that occurred during these times – such as diapering, feedings, free play, etc. did not specifically elicit more speech by a given teacher.

During this study, I also looked at the difference in the total number of words the teachers used during individual observations in relation to one another. This data indicates there were vast differences in the number of words used by the different teachers during the individual hour-long observations. Large differences in the total number of words used by the teachers continued to appear when examined as a sum over the course of a four-hour morning. For example, Teacher D spoke a total of 9,655 words over the four 1 hour observations, while Teacher E spoke 23,155 words during this same amount of time.

The results of this study indicate that these five Early Head Start teachers were very different in the amount of words they used on a daily basis in their classrooms. These differences appear to be greatest between teachers in different classrooms, but differences within classrooms by individual teachers seem to occur as well. Previous research indicates that very young children and English Language Learners (ELL) need repeated exposure to high-frequency words in order to lay the foundations of language (Barnes, et al., 1983; Bowers & Vasilyeva, 2011; Hart

& Risley, 1995: Hoff-Ginsburg, 1985; Hoff-Ginsburg, 1991; Rowe, 2012). Thus, since pre-school is one of their main sources of language exposure, the differences in Total Words spoken by teachers in a preschool setting over the course of a year may well impact students' overall language development and thus suggests the need for additional research to explore the effects of these differences.

Next, I reviewed the data related to the Total Different Words used by teachers during the individual hour-long observations. I found that there were great differences between teachers when it came to the total number of different words used during the individual observations. I also investigated whether differences remained when the results from the individual observations were summed by teacher over the course of a four-hour morning. I found that differences in the amount of vocabulary used between the teachers did remain. The results indicate large differences in the Total Different Words Used across a morning.

As noted, for many Early Head Start children, pre-school is one of their main sources of language exposure. Research has shown that once students have established their foundational language, diversity in caregiver vocabulary becomes particularly relevant. Children with their foundational language established show greater growth in vocabulary development when exposed to high levels of diverse language by their caregivers (Hoff, 2006; Weizman & Snow, 2001; Bowers & Vasilyeva, 2011; Rowe, 2012). Therefore, for Early Head Start students whose foundational language has been established, teacher use of diverse vocabulary could be very important in aiding the development of their students' vocabulary. The results of this study indicate that these five Early Head Start teachers are dissimilar in the number of different words they use in their classrooms on a daily basis. During the four hours of observation, Teacher A used 1,847 different words while Teacher E used 2,704.

I also reviewed the data for the total number of nouns, verbs, modifiers, and functors used by teachers during individual observations. When I examined at the results for all four of these grammatical features, I found that there were great differences in the amount of use of each of these parts of speech by the Early Head Start Teachers during the individual hour-long observations. I also reviewed the data related to these grammatical features to see if there were notable differences between teachers in the number of total nouns, verbs, modifiers, and functors they used over a period of a full morning. The data showed great differences between the teachers remained even when averaged over the course of the timeframe of a morning.

Hart and Risley (1995) found that children of higher SES parents were exposed to higher numbers of nouns and modifiers and past-tense verbs than their lower-SES peers. Their research indicated large differences in the amount of experience children from the different SES groups had with these grammatical features. Hart and Risley's findings suggest the possibility that the differences in the use of these grammatical features by these 5 Early Head Start teachers could potentially impact their students' experience with these grammatical features.

In short, my findings related to the amount of vocabulary indicate that there is a great difference in the amount of language to which children in these five Early Head Start programs are exposed. The differences in the total amount of vocabulary used by these Early Head Start teachers were vast. The variety of words spoken as measured in Total Different Words also indicated great differences between these Early Head Start teachers. These differences in amount were also evident in the amount of each of the four quality features of language used by these teachers. This sampling of Early Head Start teacher speech could suggest that there is a variation in the amount of language used by Early Head Start teachers in general, and therefore a differing amount of language exposure experienced by the children in their care.

Richness of Vocabulary

Hart and Risley (1995) found that children in the low SES homes they studied were less likely to be exposed to rich language experiences within their homes than were their higher SES peers. Bowers and Vasilyeva (2011) found a positive relationship between richness of teacher vocabulary and vocabulary growth for English speaking Head Start (ages 4-5) students. Drawing on such research on the importance of exposure to high quality vocabulary, I investigated the quality of the vocabulary that Early Head Start teachers used with low SES children.

I began my analysis for this portion of my study by reviewing the information related to the total number of utterances spoken by individual teachers during each of the one-hour observations. There was a quite a difference in the Total Utterances spoken by the different teachers during individual observations. Interestingly, there were also strong differences in the Total Utterances spoken by the same teacher during different observations.

I also examined the data related to the Total Utterances spoken by the same teacher by time of day try to determine if there were any patterns. Upon review, I found that one teacher had the greatest number of utterances first thing in the morning while in two other classrooms the end of the morning was the time that the teacher spoke the greatest number of utterances. Meanwhile, in the other two classrooms mid-morning was the time when teachers spoke the greatest number of utterances. Consequently, I was unable to find any pattern connecting Total Utterances and time of day. The lack of relationship between time of day and number of teacher utterances would once again seem to indicate that specific, time-related, common activities that occurred during these times – such as diapering, feedings, free play, etc. did not specifically illicit greater utterances by the teachers.

The final piece of data that I reviewed regarding the total utterances spoken by teachers was Total Utterances per morning. I compared total the number of utterances spoken by each of the teachers across a 4 hour morning. Here again I found large differences in the Total Utterances spoken by these Early Head Start teachers during a 4-hour morning.

Richness of vocabulary is not simply based on the total number of utterances spoken. Instead, richness of vocabulary is determined by calculating Mean Number of Words/Utterance per observation for the teachers. I began the review of the actual richness of vocabulary by examining this data for my five Early Head Start teachers. The data revealed that there was a great difference in mean number of words spoken per utterance between these five teachers during their individual observations.

I then examined the Mean Number of Words/Utterance data as the sum the four observations covering of a full morning timeframe. In this data, I found somewhat less of a difference in the Mean Number of Words/Utterance, but differences nonetheless. Teacher D had a Mean Number of Words/Utterance of 4.47 while Teacher E had a Mean Number of Words/Utterance of 5.96. The differences are important to consider when examining the needs of Early Head Start students. In a study with older Head Start students, Bowers and Vasilyeva (2011) found a positive relationship between richness of teacher vocabulary and vocabulary growth for English speaking Head Start (ages 4-5) students. Interestingly, Bowers and Vasilyeva also found a negative relationship between vocabulary richness and vocabulary growth for Head Start ELL students. They believed this difference might be related to the fact that the monolingual Early Head Start students had already established their language foundation and therefore were ready to more fully develop and diversify their language. They hypothesized that ELL students' vocabulary development may be still in the foundational stage and therefore the

ELL students benefitted more from short simple utterances. Bowers and Vasilyeva's findings suggest that the differences in the richness of vocabulary that were found in these Early Head Start teachers could be positive or negative depending upon the vocabulary development needs of the children they are teaching.

Next, I reviewed data related to the Mean Number of Different Words/Utterance. First, I reviewed the data related to the Mean Number of Different Words/Utterance spoken by each of the teachers during the individual hour-long observations and found a great difference in the Mean Number of Different Words/Utterance spoken by each of the teachers during the individual hour-long observations.

When I looked at the data related to the Mean Number of Different Words/Utterance across the time frame of a morning, the gap between the Mean Number of Different Words/Utterance narrows. As in the individual observations, there is a difference in the Mean Number of Different Words/Utterance spoken by each of the teachers. However, this difference is smaller when looked at across the timeframe of a morning.

Next, I explored the data connected to the teachers' vocabulary by examining the grammatical richness their utterances. As I examined the mean number of nouns/utterance, verbs/utterance, modifiers/utterance, and functors/utterance used by each teacher during individual observations. I found differences in the richness of the teachers' use of the various parts of speech during the individual observations. The grammatical feature that showed the greatest difference in use by the Early Head Start teachers in this study was functors. This could be related to the length of the sentences used by the teachers - the longer the utterance, the greater the need for functors to connect the nouns, verbs, and modifiers together, while the shorter the utterance, the less need for such a grammatical tool.

The findings in this section indicate that there is a difference in the richness of language used by the Early Head Start teachers observed. Research has shown that the potential impact of these differences on student vocabulary development may vary based upon the developmental stage of the children with whom the teacher is working. If the children have their foundations of language in place, it is critical that they be exposed to a diet of rich vocabulary. If the children do not have this foundation in place, due to their developmental stage or due to second language complexities, richness of vocabulary may be of less importance than repetition of the foundational elements of language. Therefore, the differences in the richness of vocabulary of the Early Head Start teachers with this age group may impact the children they teach differently depending upon the child's language developmental level.

Sophistication of Vocabulary

Weizman and Snow (2002) found that children in low SES homes were less likely to be exposed to sophisticated language within their homes than were their higher SES peers. Rowe (2012) found that 30-month-old children in low SES homes who were exposed to larger amounts of sophisticated vocabulary had larger vocabularies one year later. Using this knowledge of the research regarding the importance of exposure to sophisticated vocabulary, I took a look at the sophistication of the vocabulary that Early Head Start teachers used with low SES children. In this section, I discuss the results related to the "sophistication" portion of my first subordinate question.

I found that the total sophisticated words used by teachers during individual observations varied from observation to observation. There was also discrepancy in the total number of sophisticated words used by each teacher over a period of a 4 hour morning. I found that this period yielded a difference in usage of sophisticated words ranging from a low of 378 words to a

high of 744 words. This is a 366 word difference in the use of sophisticated words by a teacher over the course of a four-hour morning.

The data from the observations indicate inconsistencies in the teachers' use of sophisticated language. These findings are important to consider when examining the needs of Early Head Start students. In a study with older Head Start students, Bowers and Vasilyeva (2011) found a positive relationship between richness of teacher vocabulary and vocabulary growth for English speaking Head Start (ages 4-5) students. Interestingly, Bowers and Vasilyeva also found a negative relationship between vocabulary richness and vocabulary growth for Head Start ELL students. They believed this difference might be related to the fact that the monolingual Early Head Start students had already established their language foundation and therefore were ready to more fully develop and diversify their language. They hypothesized that ELL students' vocabulary development may be still in the foundational stage and therefore the ELL students benefitted more from short simple utterances. Bowers and Vasilyeva's findings suggest that the differences in the richness of vocabulary that were found in these Early Head Start teachers could be positive or negative depending upon the vocabulary development needs of the children they are teaching.

Summary

Based on the data explored in this section, the answer to the question, "What is the nature (amount, richness, sophistication) of the vocabulary input that Early Head Start teachers are providing their students?" for these five teachers is - the amount, richness, and sophistication varied greatly across the five teachers. Because of the importance of the three factors of vocabulary explored in this section, I had hoped to see consistently high levels of these three vocabulary factors in a program that is designed to support the growth of very young students

from low socio-economic homes. In the next section, I will focus on the second subordinate question of my research.

Type and Quantity of Conversational Supports

My second subordinate research question was, "What type and quantity of conversational supports do Early Head Start teachers use when their students are confronted with sophisticated vocabulary?" In this section, I examined the teachers' use of three types of conversational supports – *instructional, helpful,* and *neutral* –when using sophisticated language with their students.

When I began to look at the data related to my second subordinate research question, I first considered the number of instructional supports used by the same teacher within her own classroom over the four observations. In reviewing the data, I found that some teachers were more consistent in their use of instructional supports in relation to sophisticated words than others. Teacher E had the smallest difference in the number of instructional supports used in her classroom. There was a difference of 9 instructional supports from her highest use to her lowest use across observations in the amount of supports. Teacher C had the largest difference in the use of instructional supports. There was a difference of 35 from her highest use of instructional supports during a one-hour observation to her lowest. Weizman and Snow (2001) noted the link between caregiver use of instructional supports and the increased vocabulary development in older preschool students.

As I continued my analyses of the data related to the number of conversational supports, I did find one consistent pattern across the verbal interactions of all five teachers. Instructional supports were not the conversational supports used by teachers most often in situations involving sophisticated language in any of the classrooms. In fact, in 14 of the 20 observations, helpful

supports comprised the majority of supports teachers used surrounding sophisticated words. In the other 6 observations, I found neutral supports to be the type of support most heavily used. In all but 3 of the observations teachers used Instructional Supports surrounding sophisticated words least.

The results indicate inconsistent use of the three types of conversational supports by these 5 Early Head Start teachers both within and across classrooms. The results also indicate that the most supportive type of conversational support - as defined by Weizman and Snow (2001) – is the one that these teachers consistently used least in their classroom conversations.

Limitations

In this section, I review the limitations of this study. There were three main factors that potentially impacted the findings of this study. These factors were sample-size, observer effect, and size of the research team.

One potential limitation of this study was the size and scope of the teacher sample used for this study. Early Head Start is a federal program that has centers across the country. In this study, I was able to collect data from five Early Head Start teachers whose centers of employment were located within 100 miles of one another. In order to get a more generalizable picture of the language patterns of Early Head Start teachers, a larger sample size on a national scale would be preferable.

Another potential limitation of this study was observer effect. Although I did my best to have my person and my equipment be as unobtrusive as possible during my observational/ recording periods in the classrooms, there is the potential that my presence in the teachers' classrooms may have impacted their speech patterns. As explained in Chapter 3, I sought to address this issue by being in each classroom with the recording equipment for a session before

data collection started. However, it is possible that more such sessions might have been needed prior to the actual data collection.

Finally, a potential limitation of this study is that it was done by an individual rather than by a team. If additional researchers had been involved with the study, inter-rater and inter-observer reliability could have been checked to confirm the accuracy of the transcriptions and the coding. However, to in order to insure the accuracy of my transcription, I completely reviewed the final transcript twice after the initial transcription was finished. I also checked my coding and counting by reviewing both results at least one additional time to ensure the accuracy of my results.

Implications for Research

In this study I collected data on five Early Head Start teachers in relation to the research question - How do Early Head Start teachers talk to their students? This study revealed differences in the amount, richness, and the sophistication of the language of these five Early Head Start teachers. It also revealed differences in the amount and types of language supports used by these Early Head Start teachers. In this section, I will discuss the implications of my study on future research.

Since my study was limited in both size and scope, future researchers should consider larger studies similar to this study to determine if the results found in these 5 schools are indeed representative of those that in Early Head Start programs across the country. If, as in this study, other larger studies indicate that Early Head Start teachers do not offer consistently strong oral language patterns in their programs, it would be important that work be done within the Early Head Start teacher education and curriculum development programs to increase and equalize the levels of teacher oral language patterns across teacher and across programs.

Another feature that future researchers might also consider investigating is the teacher characteristics that might be associated with higher and lower levels of teacher language in Early Head Start Classrooms. Since this study indicates variation in the levels of teacher speech from teacher to teacher, future research seems warranted to determine what characteristics might correlate to higher teacher language levels. Researchers could consider studying the impact of variables such as levels of teacher education, teacher certifications, and teacher socioeconomic status in relation to the levels of language used by the teachers. Research by Wayne and Youngs (2003) and Boyd, Grossman, Lankford, Loeb, and Wyckoff (2009) suggest that such teacher characteristics may have an impact students' future academic success.

Although the majority of language supports by teachers in this study were largely helpful or neutral in nature, I did witness one teacher in particular using a great deal of Instructional language supports during conversations with her students. Because of the parameters of this study, many of these instructional supports did not appear in her count because they occurred in relation to simple words that were on the Dale-Chall Word List rather than sophisticated words. Often this teacher's use of Instructional language supports occurred during teacher-student interactions that involved simple words such as color words, day-to-day objects, and common animal names. Future researchers may want to investigate the amount and type of language supports that teachers use in general – not just the supports around sophisticated words. Since these very young children are so early in the process of developing their receptive and expressive vocabularies, many simple words are still new words to them. Therefore, future researchers may want to further investigate the impact of the use of instructional language supports for all levels of vocabulary for students of this age.

Future researchers may want to consider the addition of a student pre and post-test component such as the Test of Language Development-Primary: Fourth Edition (Hammill & Newcomer, 2008) to determine their specific student strengths and weaknesses in oral language skills. The use of a student pre- and post-test component may allow researchers to examine relationships between of the various components of the teachers' language and the relative growth in children's receptive and expressive language levels over the study's timeframe.

This type of future research could help point to ways to strengthen of Early Head Start center programs. Such research has the potential to impact the levels of the language used by teachers in Early Head Start classrooms as well as impact the curriculum and the professional development goals for these programs. Such research could be the means to find characteristics of teacher vocabulary that impact students the most and therefore begin to identify vocabulary exposure strategies that may help to level the vocabulary playing field for the lowest SES children.

Implications for Instructional Research

The findings in this study indicate a large difference in the amount, richness, and sophistication of vocabulary used across teachers in these five Early Head Start classrooms. If the data presented here is representative of what is typically occurring in these Early Head Start classrooms, the children in these Early Head Start programs are exposed differing amounts, richness, and sophistication of vocabulary during the course of the day depending upon the teacher they have. The findings also indicate a large difference in the amount and types of conversational supports used by the teachers in these five Early Head Start classrooms. If these findings are representative of what is typically occurring in these Early Head Start classrooms, the children in these Early Head Start programs are offered very different amounts of

conversational supports for sophisticated language depending upon the teacher. Based on the data I collected, there are several recommendations for instructional research that I would offer.

The first instructional research recommendation is for research to be done on the impact of preschool teacher's speech on children under the age of 3. Although there is a great deal of research on the impact of parental speech on younger children (Hart & Risley, 1995; Weizman & Snow, 2001; Rowe, 2008; Rowe, 2012) as well as research on the impact of teacher talk on older preschool children (e.g., Perry, et al., 1986; Polyzoi, 1997; Wasik, et al., 2006; Turnbull et al., 2009; Bowers & Vasilyeva, 2011), there is very little research that investigates the impact of the amount, richness, and sophistication of teacher vocabulary and the use of conversational supports by teachers on preschool children younger than 3. If researchers can further identify the teacher language inputs and instructional supports that this specific group needs, early education programs can better adjust their curriculums and instructional plans to maximize the vocabulary development of these youngest of learners.

The second instructional research recommendation is for research to be done specifically on the impact of preschool teacher's speech on ELL children under the age of 3. As stated before, Bowers and Vasilyeva (2011) found a positive relationship between richness of teacher vocabulary and vocabulary growth for English speaking Head Start (ages 4-5) students. On the contrary, Bowers and Vasilyeva found a negative relationship between the richness of teacher of vocabulary and vocabulary growth for Head Start ELL students (ages 4-5), but a positive relationship between amount of teacher vocabulary and vocabulary growth for Head Start ELL students (ages 4-5).

Since approximately to 20% of all Early Head Start students speak Spanish at home (Vogel, 2011), it would be helpful for researchers to identify the best way to support the

vocabulary development of younger ELL students as well. Since the research indicates that there may be differences in the vocabulary input needs off older ELL students, perhaps there are differences in the vocabulary input needs of younger ELL students as well. Although there is some research on the impact of caregiver speech on older bilingual children (Dockrell, Stuart, & King, 2010; Thordardottir, 2005; Silverman, 2007; Silverman, Proctor, Harring, Doyle, Mitchell, & Meyer, 2013), there is very little research that investigates the impact of the amount, richness, and sophistication of teacher vocabulary and the use of conversational supports on bilingual preschool children younger than 3. Perhaps, if such studies were done, researchers could further identify the teacher language inputs and instructional supports that this specific group of learners need, early preschool education programs can better adjust their curriculums and instructional plans to maximize the vocabulary development of these youngest language learners.

Finally, further research is needed on vocabulary as it relates to specifically to aspects of the Early Head Start curriculum. Once the ideal levels of language inputs (amount, richness, and sophistication) and conversational supports for teacher vocabulary and the use of conversational supports on preschool children younger than 3 are found, research should be done to investigate the best techniques to deliver a program that includes age appropriate and consistent teacher verbal interactions with children. Although certain practices such as bathrooming, feeding, circle time, free play time, etc. were fairly consistent across the five Early Head Start classrooms I observed, no standard curriculum seemed to be in place, let alone one specifically designed to support the vocabulary development of these youngest of children.

Conclusion

Although this study was small in scale and, therefore, should be considered suggestive rather than definitive, this examination of how Early Head Start teachers talk to their students

outlines a prospectively useful direction for future research. This examination of how Early Head Start teachers talk to their students found great differences in the amount, richness, and sophistication of the language being used with these young learners. Differences were also found in the Early Head Start teachers' use of conversational supports when exposing young children to sophisticated language.

If teachers are to truly make the most of their time with these youngest of students, further studies need to be done to better identify the impact of teacher talk on children of this age and how to best support their vocabulary development needs. This study is an initial step in attempting to examine what is currently occurring in Early Head Start programs in relation to developing student vocabulary through exposure to teacher talk.

Appendix A
Informational Flier

Information About The Study

About the Researcher: Mrs. Kristine Strausbaugh is a Doctoral Candidate at the University of Maryland, College Park and is completing this study as a part of her dissertation work. Mrs. Strausbaugh currently serves as a principal in a local public school district. Mrs. Strausbaugh is also the mother of three children ages 10, 7, and 5 years.

Purpose of the Study: This study will investigate how Early Head Start teachers talk with their students.

How the Study Impacts You: Mrs. Strausbaugh will be in your classroom for 1 hour on 5 different occasions recording and observing your verbal interactions with the class. The first visit will be for you to become comfortable with Mrs. Strausbaugh's presence in the classroom and to become comfortable with the audio equipment she will be using. The last 4 sessions will be for data collection.

Confidentiality: Mrs. Strausbaugh will do her best to keep your personal information confidential. To help protect your confidentiality your name will not be included on any collected data. If a report or article is written about this research project, your identity will be protected to the maximum extent possible.

Potential Risks: There may be some risks from participating in this research study. These risks include the possibility that your may feel uncomfortable during the observations. Mrs. Strausbaugh will do her best to be as unnoticeable as possible during her time in the classroom. She will work to make you feel comfortable with her presence and the presence of the equipment in the room by doing pre-study visits with you.

Additional Questions? Contact Kristine Strausbaugh at (717) 632-0646 or kris_strausbaugh@swsd.k12.pa.us

Appendix B
Teacher Consent Form

Initials _____ Date _____

CONSENT FORM

Project Title	*Teacher Talk in Early Head Start Classrooms*
Purpose of the Study	*This is a research project being conducted by Kristine-Marie B. Strausbaugh under the supervision of Dr. Mariam Jean Dreher at the University of Maryland, College Park. We are inviting you to participate in this research project because you teach in an Early Head Start classroom. The purpose of this research project is to learn more about how Early Head Start teachers verbally interact with preschool children.*
Procedures	*The procedures involve attending a 1 hour informational meeting during which time the study will be presented to you. This will be followed by 1 one-hour pre-observation and 4 one-hour observations of your classroom. During these observations your interactions with students will be audio recorded.*
Potential Risks and Discomforts	*There may be some risks from participating in this research study. These risks include the possibility that you may feel uncomfortable during the observation process. To try to avoid this risk, Mrs. Strausbaugh will meet with you prior to the start of the study and talk to you about what will be occurring during the observations and about the study itself. In addition, Mrs. Strausbaugh will come to your classroom with her equipment prior to the start of the study. This will offer you the opportunity to familiarize yourself with her and her equipment, and become more comfortable with their presence in the classroom.*
Potential Benefits	*The benefits to you include the opportunity to reflect upon your own verbal interactions with students. We hope that, in the future, other people might benefit from this study through improved understanding of how Early Head Start teachers verbally interact with children.*
Confidentiality	*Any potential loss of confidentiality will be minimized by (1) not including your name on any of the collected data; (2) coding any collected data; (3) using an identification key so that the researcher can link your data to your identity; (4) only allowing the researcher to have access to the identification key. All hard copies of information (including all audiotapes) will be stored in a locked filing cabinet in Mrs. Strausbaugh's home. All electronic information will be stored in password-protected computer files. All audio recordings will be destroyed after a period of 5 years. If we write a report or article about this research project, your identity will be protected to the maximum extent possible.* *If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may*

	be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law. *This research project involves making 4 audio recordings of your interactions with students in the classroom. These recordings are being made so that the researcher can analyze your talk with your students. As stated previously, all audio recordings will be stored in locked filing cabinets/storage areas and will be destroyed after a period of 5 years.* ___ *I agree to be audio taped during my participation in this study.* ___ *I do not agree to be audio taped during my participation in this study.*	
Right to Withdraw and Questions	*Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.* *If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Mariam Jean Dreher from the Curriculum and Instruction Department at the University of Maryland, 2311 Benjamin Building, College Park, MD or at (301) 405-3158 or at mjdreher@umd.edu. You may also contact Kristine-Marie B. Strausbaugh at 270 Hobart Rd., Hanover, PA 17331 or at (717) 632-0646 or at kris_strausbaugh@swsd.k12.pa.us.]*	
Participant Rights	*If you have questions about your rights as a research participant, please contact:* **University of Maryland College Park** **Institutional Review Board Office** **1204 Marie Mount** **College Park, Maryland, 20742** **E-mail: irb@umd.edu** **Telephone: 301-405-0678** *This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.*	
Statement of Consent	*Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.* *If you agree to participate, please sign your name below.*	
Signature and Date	**NAME OF SUBJECT [Please Print]**	
	SIGNATURE OF SUBJECT	
	DATE	

Appendix C
Parent Cover Letter

Date

Dear Parents,

My name is Kristine Strausbaugh and I am a doctoral student at the University of Maryland. I am also an elementary school principal at West Manheim Elementary and a mother of 3 elementary-aged children.

I am writing to make you aware that I will be in your child's classroom on five occasions within the next 6 weeks. While I am there I will be collecting information about your child's teacher for my doctoral work. I am looking at teacher talk in Early Head Start classrooms. Please know that my focus will be strictly on the teacher and not on the children. I am simply writing to make you aware of my presence in the classroom.

If you have any questions about me or my research, please feel free to contact me at (717) 633-4890 or kris_strausbaugh@swsd.k12.pa.us.

Sincerely,

Kristine-Marie B. Strausbaugh

Appendix D – Field Study

This observational study investigated the oral language patterns of preschool teachers who work with 12-36 month-olds. Specifically, this study analyzed the amount and type of dialogue that occurs between preschool teachers and their students and examined the impact of these interactions on the children's expressive and receptive language development.

Research Design

This study was an observational study that investigated the amount and type of dialogue that occurred between a preschool teacher who works with 18-30 month-olds in a preschool which serves predominantly professional families and their students. This study also examined the impact of this teacher's interactions with the children on the children's oral language development.

Setting

The study involved parents, teachers, and students from a preschool that is located in a suburban location in a Mid-Atlantic state. The preschool in this study services mainly children from professional homes as determined by an occupation/education level survey of the parents from the school and from the Stevens and Cho Socioeconomic Index Scale (1985).

Participants

Teacher

One preschool classroom teacher was observed for this field study. The teacher that participated in this study has 3 years of experience at this particular daycare and 3 years of experience in the field of early childhood education. This teacher reported her childhood socio-economic information, as well as current socio-economic and educational levels (Appendix G, Table G-1) using the Teacher Education/Occupation Survey (Appendix F, Form 1). She currently

works with children between the ages of 18-30 months at the preschool for at least 40 hours per week. The teacher in this study was assigned the pseudonym Miss Snyder to protect her anonymity.

Students

Sixteen children were involved in this research. All 16 of the children who participated in this field study were in Miss Snyder's classroom for at least 40 hrs per week, were 12-30 months of age at the start of the study, and had parent permission to participate in this study. The age span of 12-30 months at the start of the study was selected because studies indicate that the principal effect of SES on oral language development occurs prior to 36 months of age (Farkas & Beron, 2004). Since the duration of this study was 3 months, this starting age allowed for student development to occur within the three-month study period, and yet kept the participants within the 12-36 month time frame. The required 40 hours/week of preschool attendance is based on Hart and Risley's (1995) recommendation for effective intervention. All student participants in this study were assigned student numbers to protect their anonymity.

Parents

The parents who gave their consent for their child to participate were also involved in this research. The parents of the participants were asked to complete a researcher-designed occupational/educational survey (Appendix F, Form 2) to gather background information on the families and to determine the families' SEI level (Appendix G, Table G-2). All parent responses in this study were marked with their child's student number to protect their anonymity. Thirteen of the 16 surveys were returned for analysis.

Based on the information provided by the 13 parents who participated in completing the Parent Economic/Educational Background Survey (Appendix F, Form 2) 11 of the 13 students in

this pre-school Classroom Ead 2 parents at home. Eleven of the 13 homes had a total income of $75,000 or more and none of the homes received governmental income such as welfare or social security. All 13 of the mothers who returned the survey reported having at least some college and all but one were employed outside the home. All of the 11 fathers that returned the survey indicated they had completed high school, but only 8 had completed any additional college. All of the fathers also reported being employed outside of the home (Appendix G, Table G-2).

Measures

Teacher Occupational/Educational Survey

The participating teacher completed a researcher designed teacher survey (Appendix F, Form 1) based in part on the Stevens and Cho (1985) SEI occupational classification scheme. The information from this survey was be used to gather background information on the teacher.

Parent Occupational/Educational Survey

Parents of participating students were asked to complete a researcher designed occupational/educational survey (Appendix F, Form 2) based on the information needed for household categorization for the Stevens and Cho (1985) Social Economic Index (SEI) occupational classification scheme.

Observation and Coding Analyses

Once a month for 3 months, the researcher oCained a sample of the dialogues that occurred between the teacher and her students in the preschool classroom. The samples were one hour in length and were collected through video recordings. The teacher's speech in the recordings was transcribed for coding. The coding was done to find the number of utterances, number of words, vocabulary type (noun, verb, modifier, functors), sentence type (length and verb tense), discourse function (declarative, imperative, question type), adjacency conditions

(initiation, response, floorholding), valence (affirmative, prohibitive), and group sizes (whole, small, individual) for teacher-student interactions during each observation. This allowed for the calculation of amount of language/hour, amount of interactions/hour, language richness/ utterance, and interaction richness/utterance that occurred. This was done for each of the three observations (Appendix G, Tables G-3 – G-5 and Tables G-7 – G-9). At the end of three months of observations, the average amount of language/hour, amount of interactions/hour, language richness/utterance, and interaction richness/utterance, number of words, vocabulary type, sentence type, discourse function, adjacency conditions, valence, and group size interaction was found for the teacher (Appendix G, Tables G-6 and G-10). This information was then analyzed for the five components which Hart and Risley (1995) identified as causing the most variance in children's accomplishments by age three - language diversity, feedback tone, symbolic emphasis, guidance style, and responsiveness (Appendix G, Tables G-11 and G-12).

Procedures

The researcher enlisted the help of the preschool by meeting with the center's director and giving a brief overview of the purpose and procedures involved with the study. Once oCaining the director's permission to conduct the study, the researcher met with the classroom teacher (Miss Snyder) to give her a brief overview of the proposed study and to get her permission to use her classroom to run the study. After receiving verbal permission to run the study in her room, the researcher asked Miss Snyder to sign a permission form and to complete the teacher occupational/educational survey.

Miss Snyder and the researcher then chose a parent meeting date. A flyer (Appendix F, Form 3) was given to all parents - as they picked-up their children - inviting them to attend the meeting. This meeting was held in Miss Snyder's classroom.

Eight students had parents representing them at the actual meeting. During the meeting a brief overview of the proposed study was given. Recording procedures and security precautions were also described to the parents. All parents in attendance signed permission (Appendix F, Form 4) and the completed parent occupation/education surveys (Appendix F, Form 2).

A second set of letters were given to the parents who could not attend the informational meeting. This set of letters contained a cover letter (Appendix F, Form 5), a permission form (Appendix F, Form 4), and a parent occupational/educational survey (Appendix F, Form 2). Between the meeting and the letters sent home, the researcher did receive permission for all 16 students in the class to participate in the study.

Thirteen of the 16 students who participated in the study returned their parent occupation/education surveys (Appendix F, Form 2). The data from the 13 parent occupational/educational surveys from the preschool was gathered and analyzed to determine the average SEI level of the families which the school services. First, the overall SEI level for individual families within the school was determined by assigning each parent's occupation scores based on Steven and Cho's (1985) SEI. The level assigned to each family was based on either the individual parent's score on this index (in the case of a single parent household) or the average level of both parents (in the case of two-parent household). If the time was split between multiple households, the household in which the child spent the greatest amount of the school year was the one which was considered for the study. The individual family results were then averaged to determine the overall SEI of the families which the school serves.

Then, once a month for 3 months (November, December, and January), the researcher went into Miss Snyder's classroom and oCained a sample of the dialogue that occurred between her and her students. The observation times varied by time of month, day of week, and time of

day throughout the 3 month research period (although all samples were taken in the morning because of scheduling concerns in the afternoon – i.e. naps and student pick-ups). The samples were all one hour in length and were collected through video recordings.

The recordings were then transcribed by the researcher for coding. The coding was used by the researcher to find the number of utterances, number of words, vocabulary type (noun, verb, modifier, functors), sentence type (length and verb tense), discourse function (declarative, imperative, question type), adjacency conditions (initiation, response, floorholding), valence (affirmative, prohibitive), group size (whole, small, individual) for the teacher during each observation. This data allowed for the calculation of amount of language/hour, amount of interactions/hour, language richness/utterance, and interaction richness/utterance that occurred during each of the observations (Appendix G, Tables G-3 - G-5 and Tables G-7 – G-9).

At the end of the 3 months of observations, the average amount of language/hour, amount of interactions/hour, language richness/utterance, and interaction richness/utterance, number of words, vocabulary type, sentence type, discourse function, adjacency conditions, valence, and group size interaction was found for the teacher (Appendix G, Tables G-6 and G-10). The researcher then analyzed this information for the five components which Hart and Risley (1985) identified as causing the most variance in children's accomplishments by age three - language diversity, feedback tone, symbolic emphasis, guidance style, and responsiveness (Appendix G, Table G-11). The researcher also calculated the average language diversity, feedback tone, symbolic emphasis, guidance style, and responsiveness of the parents involved in Hart and Risley's (1995) study to be used for later reference (Appendix G, Table G-12).

Data

The occupational/educational data on the teacher, Miss Snyder, revealed that she was from a two-parent home in which neither parent had continued their education beyond high school. Miss Snyder was a high school graduate and earned approximately $0-25,000/year in income (Appendix G, Table G-1).

The occupational/educational data that were collected on the class revealed much about the homes from which these students came. Twelve out of 13 students came from two-parent homes in which both parents worked. All but 2 of the parents reported a total family income over $75,000. All of the mothers had participated in at least some college classes: 3 had their Associate's, 6 had their Bachelor's or Master's degree, and 2 had doctorates. The fathers' educational level was, overall, lower than the mother's. Three fathers reported having completed high school. Six fathers had completed their Associate's or Bachelor's degrees and 1 father reported completing a Master's degree. No parents received support monies from governmental agencies (Appendix G, Table G-2).

The language data were collected using the audio component of a video camera. The audio was transcribed and coded by the researcher. The coding indicated the number of utterances, number of words, vocabulary type (noun, verb, modifier, functors), sentence type (length and verb tense), discourse function (declarative, imperative, question type), adjacency conditions (initiation, response, floorholding), valence (affirmative, prohibitive), group size (whole, small, individual) for the teacher during each observation (Appendix G, Tables G-3 – G-5). The researcher also calculated the averages for each of these categories for the three observations (Appendix G, Table G-6).

Using the information described above, the researcher then calculated the amount of language/hour, amount of interactions/utterance, language richness/utterance, and interaction richness/utterance that occurred in each of these areas during each observation period as well as on average (Appendix G, Tables G-3 – G-10). This information was then used to determine indicated levels of Language Diversity, Feedback Tone, Symbolic Emphasis, Guidance Style, and Responsiveness (Appendix G, Table G-11) - the five components which Hart and Risley (1985) identified as causing the most variance in children's accomplishments by age three.

The researcher calculated Language Diversity levels for each observation by adding the number of different nouns and modifiers/hour. Feedback Tone for each observation was calculated by dividing the amount of positive feedback/hour by all feedback/hour. Symbolic Emphasis for each observation was determined by adding the total number of nouns, modifiers, past-tense verbs/hour and dividing it by the number of utterances/hour. The teacher's Guidance Style for each observation was calculated by dividing the number of auxiliary-fronted yes/no questions by the sum of auxiliary-fronted yes/no questions and number of imperatives. Finally, teacher Responsiveness for each observation was determined by taking the number of teacher responses/hour minus initiations/hour and dividing this result divided by responses/hour. The teacher's averages in each area across the three observations was also calculated (Appendix G, Table G-11).

For data analysis purposes, averages in the 5 categories of significant family experience before age 3 were also calculated by the researcher for each SEI parent group from Hart and Risley's (1995) study (Appendix G, Table G-12). This calculation was done for each subgroup – upper, middle, low, and welfare.

Results

A comparison of the 5 Qualities of Family Experience identified by Hart and Risley (1995) – Language Diversity, Feedback Tone, Symbolic Emphasis, Guidance Style, and Responsiveness – indicates that children in this preschool have a "family experience" that varied by category (Figure 1). In the category of Language Diversity, the data indicates that, on average, students in this class had a higher level of language diversity (165 different nouns and modifiers/hour) that that of the average Upper SEI child (150 different nouns and modifiers/hour) in Hart and Risley's (1995) study. In Feedback Tone, the data indicates that, on average, the students in this study experienced positive feedback (49% affirmatives) at levels between those provided on average by parents of the children in Welfare (29%) and Lower SEI families (58%). Miss Snyder's average Symbolic Emphasis was at 1.74 nouns, modifiers, and/or past-tense verbs/utterance. These average levels were higher than any average SEI levels recorded by Hart and Risley - even more than that of a typical Professional household which was found by Hart and Risley to be at .87 nouns, modifiers, and/or past-tense verbs/utterance on average. Miss Snyder's average Guidance Style (33% of the directives were phrased as questions) was 1% lower than the average Guidance Style of parents from Lower SEI households. Finally, Miss Snyder's teacher Responsiveness levels were lower (39% of her responses to children were not preceded by her own initiations) than that of those of parents in Welfare homes (64%).

Figure #1 – 5 Qualities of Family Experience: A Comparison of Study Results

	Miss Snyder	Upper Income Parents (Hart and Risley, 1995)	Middle Income Parents (Hart and Risley, 1995)	Lower Income Parents (Hart and Risley, 1995)	Welfare Parents (Hart and Risley, 1995)
Average Language Diversity	165	150	99	77	42
Average Feedback Tone	.49	.86	.62	58	.29
Average Symbolic Emphasis	2.33	.87	.76	.63	.54
Average Guidance Style	.33	.40	.53	.34	.11
Average Responsiveness	.39	.83	.71	.74	.64

Implications

This study was critical in the development of my proposed doctoral study. By conducting this study I found that I would not need to run one of the measures I had initially planned to run on my student participants. I also found that the transcription and coding of the student portion of the dialogue was not necessary in order to gain the information necessary to answer my study's research questions.

The biggest problem I had with this study was with the quality of the sound recordings that I was able to make. The sound quality of the audio recorder I used was poor, therefore, I was dependent on the audio from the video recording for my transcriptions. These recordings were good, but as I look to the future I will need to get a better audio recorder.

I am concerned about the amount of time that the transcription, typing, and coding took for me to complete after running my field study. For the doctoral study, I would like to hire a

transcriptionist or get voice-to-type software to help with the transcription/typing. I am also looking into software that will help with the coding for the parts of speech.

The results of this field study could be used by the actual classroom teacher and her supervisor to identify areas of strength and weakness in teacher-student dialogue in this classroom. The teacher can use this information to do self-reflection and self-monitoring of her own speech patterns in order to change her Guidance Style and to increase her Responsiveness levels to better reflect those qualities found in the Professional home (as described by Hart and Risley, 1995).

More broadly, the results of this field study might indicate that preschools do not all support all 5 of the language experiences identified by Hart and Risley (1995) to their fullest potential. If the time spent by a child with this particular teacher in this setting, does not meet or exceed the language experiences of that that they might get in a Professional home, what might be happening in other preschool settings?

Findings from this field study indicate that a further broader study may help to identify language patterns in teacher dialogue with preschool age children. Further, such study might also identify differences in the cultures of preschools which serve different SEI levels of students. Perhaps, changes could be identified that might be made to improve oral language development for low SES children who attend daycare/preschool facilities based on the information that could be found in a larger/broader such study. Future research might also focus on the extent to which these cultural differences occur within preschool settings, the impact of these differences on students' oral language development, and strategies to strengthen oral language development in preschools (particularly those serving low SEI students) which are weak in this area.

Appendix E
Field Study Forms
Form 1 - Teacher Economic/Educational Background Survey

Teacher Code _____
School Code _____

TEACHER SURVEY

1. What was the highest educational level that your father attained?

_____ Did not receive a diploma/degree
_____ High School Diploma
_____ Associate's Degree
_____ Bachelor's Degree
_____ Master's Degree
_____ Doctorate

2. What does/did your father do for a living? _____

_____

3. What was the highest educational level that your mother attained?

_____ Did not receive a diploma/degree
_____ High School Diploma
_____ Associate's Degree
_____ Bachelor's Degree
_____ Master's Degree
_____ Doctorate

4. What does/did your mother do for a living? _____

_____

5. What is your current educational degree status?

_____ Have not received a diploma/degree
_____ High School Diploma
_____ Associate's Degree
_____ Bachelor's Degree
_____ Master's Degree
_____ Doctorate

6. What is your current household income?

- O $0-$25,000
- O $25,000-$50,000
- O $50,000-$75,000
- O $75,000-$100,000
- O $100,000+

Form 2
Parent Education/Occupation Survey

Student Code _____
Teacher Code _____
School Code _____

PARENT SURVEY

Please complete the following information about your household…

1. The number of adults over the age of 18 living on a full-time basis in the home. _____

2. What is your current total household income?
   - O $0-$25,000
   - O $25,000-$50,000
   - O $50,000-$75,000
   - O $75,000-$100,000
   - O $100,000+

Please complete the following information about yourself…

1. Your relationship to child _____

2. What is the highest educational level that you have attained?

_____ Did not receive a diploma/degree

_____ High School Diploma

_____ Associate's Degree

_____ Bachelor's Degree

_____ Master's Degree

_____ Doctorate

3. What do you do for a living? _____

_____

4. Are you currently receiving any governmental income supports such as welfare or social security benefits?

_____

If there are additional adults living full time in your home, please turn this form over and complete the same information for them.

Please complete the following information about any other adults living in the home…

1. Second adult's relationship to child _____

2. What is the highest educational level that this person has attained?

_____ Did not receive a diploma/degree

_____ High School Diploma

_____ Associate's Degree

_____ Bachelor's Degree

_____ Master's Degree

_____ Doctorate

3. What does he/she do for a living? _____

_____

4. Is he or she currently receiving any governmental income supports such as welfare or social security benefits?

_____

1. Third adult's relationship to child _____

2. What is the highest educational level that this person has attained?

_____ Did not receive a diploma/degree

_____ High School Diploma

_____ Associate's Degree

_____ Bachelor's Degree

_____ Master's Degree

_____ Doctorate

3. What does he/she do for a living? _____

_____

4. Is he or she currently receiving any governmental income supports such as welfare or social security benefits?

Form 3
Invitation Flier

You Are Invited to Attend an

Informational Meeting.

Your child's class has been selected to participate in a study of…

Teacher –Student Verbal Interactions in the Pre-school Classroom

An informational meeting will be held on…

Date: Wednesday, November1, 2006

Time: 5:30-6:00

Place: Daycare

During this meeting you will learn more about the study and have the opportunity to meet Mrs. Kristine-Marie B. Strausbaugh, M.S. – the researcher who will be interacting with your child's class. While the adults meet, the children will be treated to some fun storybook activities. Refreshments will be served to all who attend.

Hope to see you there!

Form 4
Parent Consent Form

Initials _____Date _____

CONSENT FORM

Project Title	*Teacher Talk in Early Head Start Classrooms*
Why is this research being done?	*This is a research project being conducted by Kristine-Marie B. Strausbaugh under the supervision of Dr. Mariam Jean Dreher at the University of Maryland, College Park. We are inviting your child to participate in this research project because your child attends an Early Head Start classroom. The purpose of this research project is to learn more about how Early Head Start teachers talk with preschool children.*
What will my child be asked to do?	*The procedures involve 5 one-hour observations of your child's classroom. During these observations, the teacher's interactions with students will be audio and videotaped. As a result, your child's interactions with the teacher may be captured as well.*
What about confidentiality?	*We will do our best to keep your child's personal information confidential. To help protect his/her confidentiality, (1) his/her name will not be included on any of the collected data; (2) a code will be placed on any collected data; (3) through the use of an identification key, the researcher will be able to link your child's data to his/her identity; (4) only the researcher will have access to the identification key, (5) all hard copies of information (including all audio and videotapes) will be stored in locked filing cabinets/storage areas, (6) all electronic information will be stored in password-protected computer files, (7) all audio and videotapes will be destroyed after a period of 5 years. If we write a report or article about this research project, your child's identity will be protected to the maximum extent possible. Your child's information may be shared with representatives of the University of Maryland, College Park or governmental authorities if he or she or someone else is in danger or if we are required to do so by law. In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning child abuse or neglect or potential harm to your child or others.* *This research project involves making 5 audiotapes/videotapes of your child's teacher interacting with students in the classroom. These tapes are being made so that the researcher can analyze your child's teacher's talk with children. All audio and videotapes will be stored in a locked file and will be destroyed after a period of 5 years.* ___ *I agree to my child being videotaped/audiotaped during his/her teacher's participation in this study.* ___ *I do not agree to my child being videotaped/audiotaped during his/her teacher's participation in this study.*

Project Title	*Teacher Talk in Early Head Start Classrooms*
What are the risks of this research?	*There may be some risks from participating in this research study. These risks include the possibility that your child may feel uncomfortable during the observation process. To try to avoid this risk, Mrs. Strausbaugh and her equipment will visit your child's classroom 2 times before the start of the study. This will offer your child the opportunity to get to know the researcher, see the equipment, and become more comfortable with Mrs. Strausbaugh and her equipment being in the classroom before the start of the study.*
What are the benefits of this research?	*This research is not designed to help your child personally, but the results may help Mrs. Strausbaugh learn more about how Early Head Start teachers talk with preschool children. In the future, other people might benefit from this study through improved understanding of how Early Head Start teachers talk with preschool children.*
Does my child have to be in this research? **May my child stop participating at any time?**	*Your child's participation in this research is completely voluntary. You may choose not to have your child take part at all. If you decide to allow your child to participate in this research, you may stop his/her participation at any time. If you decide not to allow your child to participate in this study or if you stop your child's participation at any time, your child will not be penalized or lose any benefits to which he/she otherwise qualifies.*
What if I have questions?	*This research is being conducted by Kristine-Marie B. Strausbaugh under the supervision of Dr. Mariam Jean Dreher from the Curriculum and Instruction Department at the University of Maryland, College Park. If you have any questions about the research study itself, please contact Kristine-Marie B. Strausbaugh at: 270 Hobart Rd., Hanover, PA 17331 or at (717) 632-0646 or at kris_strausbaugh@swsd.k12.pa.us. Or you can contact Dr. Mariam Jean Dreher at: 2311F Benjamin Building, UMD, College Park, MD 20742 or at (301)405-3158 or at mjdreher@umd.edu. If you have questions about your rights as a research subject or wish to report a research-related injury, please contact:* **Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@deans.umd.edu; (telephone) 301-405-0678** *This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.*

Initials _____ Date _____

Project Title	*Teacher Talk in Early Head Start Classrooms*	
Statement of Age of Subject and Consent	*Your signature indicates that:* *you are at least 18 years of age;* *the research has been explained to you;* *your questions have been fully answered; and* *you freely and voluntarily choose to allow your child to participate in this research project.*	
Signature and Date	**NAME OF SUBJECT**	
	SIGNATURE OF SUBJECT'S PARENT	
	DATE	

Form 5 - Parent Cover Letter

Date

Hello!

My name is Kristine Strausbaugh and I am contacting you through this letter to offer you some important information about a study that I would like to do in your child's classroom. This study will help me complete my doctoral dissertation work at the University of Maryland.

Attached you will find two forms. The ivory form is an informational sheet about who I am and about the study I am hoping to run. The green form is a copy of the parent/student consent form that I will need completed by you in order for your child to be able to participate in my study. Being a school principal and a mother of three young children, I know how very busy you are, but I am hoping that you will take just a few minutes to review the attached forms.

I will be happy to answer any questions that you might have about the study, the forms, and my program at any time. Please feel free to contact me at (717) 633-4890 during the day or at (717) 632-0646 in the evening to answer any questions.

Thank you again for taking the time to look over these forms. I look forward to seeing you on the (DATE)!

Sincerely,

Kristine Strausbaugh
Doctoral Student
University of Maryland

(717) 633-4890 daytime
(717) 632-0646 evening

Form 6
Informational Pamphlet from Field Study

Information About The Study

About the Researcher: Mrs. Kristine Strausbaugh is a Doctoral Candidate at the University of Maryland, College Park and is completing this study as a part of her dissertation work. Mrs. Strausbaugh currently serves as a principal, reading specialist, and instructional support teacher in a local public school district. Mrs. Strausbaugh is also the mother of three children ages 5, 3, and 1 year.

Purpose of the Study: This study will investigate the oral language patterns of teachers who work with 12-36 month-olds in preschools. Specifically, it will investigate the amount and type of talk that occurs between preschool teachers and their students and examine the impact of these teacher's talk on the children's oral language development.

How the Study Impacts Your Child: If you choose to allow your child to participate, you will be asked to complete a Parent/Student Consent Form and a Parent Economic/Educational Background Survey. The researcher will be in your child's classroom for 1 hour once a month recording and observing the teacher's verbal interactions with the class.

Duration of the Study: The study will last for about four months. During the first month the researcher will familiarize herself with the teacher and students involved in the study. She will do this by visiting the classroom on 2 or 3 different occasions while class is in session. The researcher will then visit the class once a month for the next 3 months. During these visits the researcher will record and observe the interactions between the classroom teacher and the students involved in the study. Each of the 3 observational periods will last 1 hour.

Confidentiality: The researcher will do her best to keep your child's personal information confidential. To help protect your child's and your confidentiality: (1) neither your name or your child's name will be included on any collected data; (2) a code will be placed on any data that is collected; (3) through the use of an identification key, the researcher will be able to link your child's collected data to your child's identity; and (4) only the reseacher will have access to the identification key. If a report or article is written about this research project, your child's identity will be protected to the maximum extent possible.

Potential Risks: There may be some risks from participating in this research study. These risks include the possibility that your child may feel uncomfortable during the observations. There are no known long-term effects associated with participation in this study.

Additional Questions? Mrs. Strausbaugh can be reached at 270 Hobart Rd., Hanover, PA 17331 or at (717) 632-0646 or at kris_strausbaugh@swsd.k12.pa.us. Her supervisor, Dr. Dreher, can be reached at: 2311F Benjamin Building, UMD, College Park, MD 20742 or at (301) 405-3158 or at mjdreher@umd.edu.

Appendix F
Field Study Results

Table F-1 – Overview of Teacher Background, Educational, and Economic Information

Teacher	Adults in home	Parent #1	Parent #1 Ed. Level	Parent #1 Job Title	Parent #2	Parent #2 Ed. Level	Parent #2 Job Title	Teacher's Income	Teacher's Current Ed. Level
1	2	Mother	High School	Sales Associate	Father	High School	Factory Worker	0-25	High School

Table F-2 – Overview of Parent Educational/Occupational Information

Student	Adults in home	Income in $1,000	Adult #1	Adult #1 - Ed. Level	Adult #1 - Job Title	Adult #1 – Gov. Income	Adult #2	Adult #2 – Ed. Level	Adult #2 - Job Title	Adult #2 - Gov. Income
1	2	75-100	Mother	Master's	Teacher	N	Father	Bachelor's	Land Surveyor	N
2	2	75-100	Mother	Bachelor's	Sales Rep.	N	Father	Bachelor's	CPA	N
3	2	100+	Mother	Doctorate	Assistant Principal	N	(NA)	(NA)	(NA)	(NA)
4	2	75-100	Mother	Bachelor's	Accounting	N	Father	High School	Bridge Inspector	N
5	2	100+	Mother	Bachelor's	Homemaker	N	Father	Associate's	Airline Pilot	N
6	1	75-100	Father	Doctorate	Family Physician	N	-	-	-	-
7	2	100+	Mother	Associate's	Accountant	N	Father	Master's	Accounting Manager	N
8	2	50-75	Mother	Master's	Teacher	N	Father	Bachelor's	Construction Laborer	N
9	2	75-100	Mother	Bachelor's	Sales Rep	N	Father	Bachelor's	Accountant	N
10	2	75-100	Mother	Associate's	Daycare Director	N	Father	Some college	Retail Manager	N
11	2	100+	Mother	Associate's	Interior Designer	N	Father	High School	Account Manager - Sales	N
12	2	75-100	Mother	Some college	Senior Underwriting Assistant	N	Father	Bachelor's	Account Manager - Bank	N
13	2	25-50	Mother	Some college	Preschool Teacher	N	Father	High School	Retail Sales Management	N
14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table F-3 – Amount of Teacher Language and Interaction with Students

Observation #1

Set of Variables / Data Variables		Amount per hour: Language														Amount per hour: Interactions													
			Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
			Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Utterances	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functors	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		289	342	71	99	80	92	1630	238	369	246	777	58	18	13	145	82	116	44	72	45	88	142	59	17	47	1	28	259

Table F-4 – Amount of Teacher Language and Interaction with Students

Observation #2

Set of Variables / Data Variables		Amount per hour: Language														Amount per hour: Interactions													
			Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
			Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Utterances	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functore	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		258	330	66	103	80	81	1,516	272	323	241	680	61	21	8	112	59	133	41	92	45	67	147	44	65	37	0	18	240

Table F-5 – Amount of Teacher Language and Interaction with Students

Observation #3

Set of Variables / Data Variables		Amount per hour: Language														Amount per hour: Interactions													
			Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
			Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Utterances	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functors	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		645	373	90	102	108	73	3094	570	647	692	1185	113	11	21	254	347	143	49	83	49	160	231	254	125	135	70	12	563

Table F-6 – Average Amount of Teacher Language and Interaction with Students Over 3 Month Period

Set of Variables / Data Variables		Amount per hour: Language														Amount per hour: Interactions													
			Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
			Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Utterances	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functore	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		331	348	76	101	89	82	2080	360	446	393	881	77	17	14	170	163	131	45	82	46	105	173	119	69	73	24	19	354

Table F-7 – Richness of Teacher Language and Interaction with Students

Observation #1

Set of Variables / Data Variables		Richness per utterance: Language													Richness per utterance: Interactions													
		Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
		Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functore	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		1.18	.26	.34	.28	.32	5.64	.82	1.27	.85	2.69	.20	.06	.04	.50	.28	.40	.15	.25	.16	.30	.49	.20	.06	.16	.00	.10	.90

Table F-8 – Richness of Teacher Language and Interaction with Students

Observation #2

Set of Variables / Data Variables		Richness per utterance: Language													Richness per utterance: Interactions													
		Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
		Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functore	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		1.28	.26	.40	.31	.31	5.88	1.05	1.25	.93	2.64	.24	.08	.03	.43	.23	.52	.16	.36	.17	.26	.57	.17	.25	.14	.00	.07	.93

Table F-9 – Richness of Teacher Language and Interaction with Students

Observation #3

Set of Variables		Richness per utterance: Language													Richness per utterance: Interactions													
		Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
Data Variables		Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functore	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		.58	.14	.16	.17	.11	4.80	.88	1.00	1.07	1.84	.18	.02	.03	.39	.54	.22	.08	.13	.08	.25	.36	.39	.19	.29	.11	.02	.87

Table F-10 – Average Richness of Teacher Language and Interaction with Students Over 3 Month Period

Set of Variables		Richness per utterance: Language													Richness per utterance: Interactions													
		Vocabulary										Sentences			Discourse Functions						Adjacency Conditions			Valence		Group Size		
Data Variables		Different					All Words						Verb Tense				Questions											
Teacher	SEI School	Words	Nouns	Verbs	Modifiers	Functors	Words	Nouns	Verbs	Modifiers	Functore	2+ Clause	Past	Future	Declaratives	Imperatives	All	Wh-	Yes/No	Aux-fronted	Initiate	Respond	Floorhold	Affirm	Prohibit	Whole	Small	Individual
1		1.01	.22	.30	.25	.25	5.44	.92	1.17	.95	2.39	.21	.05	.04	.44	.35	.38	.13	.25	.14	.32	.52	.36	.17	.20	.04	.06	.90

Table F-11 – Categories of significant family experience before age 3 at Observed Daycare

Observation Event	Language Diversity	Feedback Tone	Symbolic Emphasis	Guidance Style	Responsiveness
#1	151	.27	1.74	.47	.38
#2	146	.64	2.07	.61	.54
#3	198	.48	1.97	.19	.31
Average	165	.49	2.33	.33	.39

Table F-12 – Categories of significant family experience before age 3 by SEI as reported by Hart and Risley (1995)

SEI Level of Parent	Average Language Diversity	Average Feedback Tone	Average Symbolic Emphasis	Average Guidance Style	Average Responsiveness
Upper SEI	150	.86	.87	.40	.83
Middle SEI	99	.62	.76	.53	.71
Lower SEI	77	.58	.63	.34	.74
Welfare	42	.29	.54	.11	.64

REFERENCES

Advameg, Inc. (2013). City-Data. Retrieved February 2, 2014 from http://www.city-data.com.

American Recovery and Reinvestment Act of 2009, Public Law 111-5 (2009).

Anderson, L. W. (2003). Benjamin Bloom: His life, his works, his legacy. In B. J. Zimmerman & D. H. Schunk (Eds.), *Educational psychology: A century of contributions* (pp. 367-389). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Aukrust, V. G. (2007). Young children acquiring second language vocabulary in pre-school group-time: Does amount, diversity, and discourse complexity of teacher talk matter? *Journal of Research in Childhood Education*, *22*(1), 17-37.

Barnes, S., Gutfreund, M., Satterly, D., & Wells, G. (1983). Characteristics of adult speech which predict children's language development. *Journal of Child Language*, *10*, 65-84.

Bates, E., Bretherton, L., Snyder, M., Beeghly, C., Shore, S., McNew, V., et al. (1988). *From first words to grammar: Individual differences and dissociable mechanisms*. New York: University Press.

Beck, I. L., McKeown, & Kucan, L. (2008). *Creating robust vocabulary: Frequently asked questions and extended examples.* New York: The Guilford Press.

Bloom, B. S. (1966). Stability and change inhuman characteristics: Implications for school reorganization. *Educational Administration Quarterly*, *2*, 35-49.

Bloom, B. S., Davis, A., & Hess, R. (1965). *Compensatory education for cultural deprivation*. New York: Holt, Rinehart & Winston.

Bornstein, M. H. (1989). Between caretakers and their young: Two modes of interaction and their consequences for cognitive growth. In M. H. Bornstein (Ed.), *Interaction in human development* (pp. 197-214). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Bowers, E. P., & Vasilyeva, M. (2011). The relation between teacher input and lexical growth in preschoolers. *Applied Psycholinguistics, 32,* 221-241.

Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement, *Education Evaluation and Policy Analysis, 31*(4), 416-440.

Brandone, A., Salkind, S., Golinkoff, R. M., & Hirsh-Pasek, K. (2006). Language development. In G. Bear & K. Minke (Eds.), *Children's needs: Development, prevention, and intervention* (pp. 499-514). Bethesda, MD: National Association of School Psychologists.

Bredekamp, S. (1987). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (Exp. ed.). Washington, DC: National Association for the Education of Young Children.

Bredekamp, S., & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs* (Rev. ed.). Washington, DC: National Association for the Education of Young Children.

Catts, H. W. (1993). The relationship between speech-language impairment and reading disabilities. *Journal of Speech and Hearing Research, 36*(5), 948-959.

Catts, H. W., Fey, M. E., Tomblin, J. B., & Zhang, X. (2002). A longitudinal investigation of reading outcomes in children with language impairments. *Journal of Speech, Language, and Hearing Research, 45*(6), 1142-1158.

Caughy, M. O., DiPietro, J. A., & Strobino, D. M. (1994). Day-care participation as a protective factor in the cognitive development of low-income children. *Child Development, 65,* 457-471.

Chall, J. S., & Dale, E. (1995). *Readability Revisited: The new Dale-Chall readability formula.* Newton Upper Falls, MA: Brookline Books/Lumen Editions.

Cherry, L. (1975). The preschool teacher-child dyad: Sex differences in verbal interaction. *Child Development, 46*, 532-535.

Chilcoat, G. W. (1987). Teacher talk: Keep it clear! *Academic Therapy, 22*(3), 263-271.

Commissioner's Office of Research and Evaluation And the Head Start Bureau Administration on Children, Youth and Families Department of Health and Human Services. (2011). *Building Their Futures: How Early Head Start Programs Are Enhancing the Lives of Infants and Toddlers in Low-Income Families: Volume I: Technical Report.* Retrieved October 26, 2014 from, http://www.mathematica-mpr.com

Crisp, S. (2005, February 16). How much sleep do children need? Retrieved October 17, 2005, from http://www.netdoctor.co.uk/health_advice/facts/childrensleep.htm

Cross, T. G. (1989). Teacher talk in preschool settings. *Early Childhood Development and Care, 52*, 133-146.

Cross, T. G., & Horsborougb, K. (1986). *Adult speech child language and their interaction in the preschoo1*. Paper presented at the Fourth Australian Language and Speech Conference, Melbourne, Australia.

de Kruif, R. E. L., McWilliam, R. A., Ridley, S. M., & Wakely, M. B. (2000). Classification of teachers' interaction behaviors in early childhood classrooms. *Early Childhood Research Quarterly, 15*(2), 247-268.

Dickinson, D. K., & Smith, M. W. (1991). Preschool talk: Patterns of teacher-child interaction in early childhood classrooms. *Journal of Research in Childhood Education, 6*(1), 20-29.

Dickinson, D. K. (2001). Book reading in preschool classrooms: Is recommended practice common? In D. K. Dickinson & P.O. Tabors (Eds.), *Beginning literacy with language: Young children learning at home and in school* (pp. 31-51). Baltimore, MD: Brookes.

Dickinson, D. K., & Porche, M. V. (2011). Relation between language experiences in preschool classrooms and children's kindergarten and fourth grade reading abilities. *Child Development, 82*(3), 870-886.

Dockrell, J. E., Stuart, M., & King, D. (2010). Supporting early oral language skills for English language learners in inner city preschool provision. *British Journal of Educational Psychology, 80*(4), 497-515.

Donahue, M., Cole, D., & Hartas, D. (1994). Links between language and emotional/behavioral disorders. *Education and Treatment of Children, 17*(3), 244-55.

Economic Opportunity Act of 1964, Public Law 88-452, 78 STAT 508 (1964).

Elementary and Secondary Education Act of 1965, Public Law 89-10, 79 STAT 27 (1965).

Espinosa, L. M. (2002). High-quality preschool: Why we need it and what it looks like. (Report No. PS031554). New Brunswick, NJ: National Institute for Early Education Research. (ERIC Document Reproduction Service No. ED480816).

Farkas, G., & Beron, K. (2004). The detailed age trajectory of oral vocabulary knowledge: Differences by class and race. *Social Science Research, 33,* 464-497.

Fujiki, M., Brinton, B., & Todd, C. (1996). Social skills of children with specific language impairment. *Language, Speech, and Hearing Services in Schools, 27,* 195-202.

Gee, J. P. (2004). Reading as situated language: A sociocognitive perspective. In R. B. Ruddell & N. J. Unrau (Eds.), *Theoretical models and processes of reading* (pp. 116-132). Newark, DE: International Reading Association.

Girolametto, L., & Weitzman, E. (2002). Responsiveness of child care providers in interactions with toddlers and preschoolers. *Language, Speech, and Hearing Services in Schools, 33,* 268-281.

Girolametto, L., Weitzman, E., Lieshout, R., & Duff, D. (2000). Directiveness in teachers' language input to toddlers and preschoolers in day care. *Journal of Speech, Language, and Hearing Research, 43*(5), 1101-1115.

Gove, P. B. (Eds.) (1993). Webster's third new international dictionary of the English language unabridged. Springfield, MA: Merriam-Webster, Inc.

Graves, M. F., & Slater, W. H. (1987). *The development of reading vocabularies in rural disadvantaged students, inner city disadvantaged students, and middle-class suburban students.* Paper presented at the meeting of the American Educational Research Association, Washington, D.C.

Hammill, D. D., & Newcomer, P. L. (2008). *Test of Language Development-Primary: Fourth Edition*. Austin, TX: Pro-ed, Inc.

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experiences of young American children.* Baltimore, MD: Paul H. Brookes Publishing Co., Inc.

Head Start Act Amendments of 1994, S.1855

Hoff, E. (2006). How social contexts support and shape language development. *Developmental Review, 26,* 55-88.

Hoff-Ginsberg, E. (1985). Some contributions of mothers' speech to their children's syntactic growth. *Journal of Child Language, 12*(2), 367-385.

Hoff-Ginsberg, E. (1991). Mother-child conversation in different social classes and communicative settings. *Child Development, 62,* 782–796.

Hubba, M. E., & Ramisetty-Mikler, S. (1995). The language skills and concepts of early and nonearly readers. *Journal of Genetic Psychology, 156*(3), 313-332.

Hughes, M., & Westgate, D. (1998). Possible enabling strategies in teacher-led talk with young pupils. *Language and Education, 12*(3), 174-191.

Hunt, J. M. (1964). Introduction. In *The Montessori method* (pp. xi-xxxix). New York, NY: Schocken Books.

Huttenlocher, J., & Smiley, P. (1987). Early word meanings: The case of object names. *Cognitive Psychology, 19*(1), 63-89.

Huttenlocher, J., Vasilyeva, M., Cymerman, E., & Levine, S. (2002). Language input and child syntax. *Cognitive Psychology, 45*, 337-374.

Karweit, N., & Wasik, B. A. (1996). The effects of story reading programs on literacy and language development of disadvantaged preschoolers. *Journal of Education for Students Placed at Risk, 1*(4), 319-348.

Kontos, S. (1999). Preschool teachers' talk, roles, and activity settings during free play. *Early Childhood Research Quarterly, 14*(3), 363-382.

Kontos, S., & Wilcox-Herzog, A. (1997). Teachers' interactions with children: Why are they so important? *Young Children, 52*(2), 4-12.

Lawton, J. T., & Fowell, N. (1989). A description of teacher child language in two preschool programs. *Early Childhood Research Quarterly, 4*, 407-432.

Lindsay, J. (2010). *Children's access to print material and education-related outcomes: Findings from a meta-analytic review*. Naperville, IL: Learning Point Associates.

Locke, A., Ginsborg, J., & Peers, I. (2002). Development and disadvantage: Implications for the early years and beyond. *International Journal of Language and Communication Disorders, 37*(1), 3-15.

Massey, S. L. (2004). Teacher-child conversation in the preschool classroom. *Early Childhood Education Journal, 31*(4), 227-231.

McCartney, K. (1984). Effect of quality of daycare environment on children's language development. *Developmental Psychology, 20*(2), 244-260.

McCathren, R. B., Yoder, P. J., & Warren, S. T. (1995). The role of directives in early language development. *Journal of Early Intervention, 19*(2), 91-101.

Melhuish, E. C., Lloyd, E., Martin, S., & Mooney, A. (1990). Type of childcare at 18 months – II. Relations with cognitive and language development. *Journal of Child Psychology and Psychiatry, 31*(6), 861-870.

Melhuish, E. C., Mooney, A., Martin, S., & Lloyd, E. (1990). Type of childcare at 18 months – I. Differences in interactional experience. *Journal of Child Psychology and Psychiatry, 31*(6), 849-859.

Menyuk, P. (1995). Language development and education. *Journal of Education, 177*(1), 39-63.

Mirenda, P. L., & Donnellan, A. M. (1986). Effects of adult interaction style on conversational behavior in students with severe communication problems. *Language, Speech, and Hearing Services in Schools, 17*, 126-141.

Montessori, M. (1964). *The Montessori method*. New York, NY: Schocken Books.

Muñoz-Hernandez, S. (1986). Towards a cultural understanding of teacher talk: The teacher disapproval category reexamined. *NABE: The Journal for the National Association for Bilingual Education, 10*(3), 183-197.

National Center for Education, National Assessment of Educational Progress (NAEP). (2013). The Nation's Report Card for 2013. Retrieved June 28, 2014, from http://nationsreportcard.gov/reading_math_2013/#/.

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core State Standards*, National Governors Association Center for Best Practices, Council of Chief State School Officers, Washington D.C.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidenced-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. (NIH Publication No.00-4769). Washington, DC: U.S. Government Printing Office.

Neuman, S. B., & Wright, T. S. (2014). The magic of words: Teaching vocabulary in the early childhood classroom. *American Educator, Summer,* 4-13.

New America Foundation. (2014). Federal education budget process: Background and analysis. Retrieved October 26, 2014 from, http://febp.newamerica.net/background-analysis/no-child-left-behind-overview

No Child Left Behind Act of 2001, 20 U.S.C. § 6301 et seq. (2002).

O'Brien, M., & Bi, X. (1995). Language learning in context: Teacher and toddler speech in three classroom play areas. *Topics in Early Childhood Special Education, 15*(2), 148-164.

Ogilvy, C. M., Boath, E. H., Cheyne, W. M., Jahoda, G., & Schaffer, H. R. (1992). Staff-child interaction styles in multi-ethnic nursery schools. *British Journal of Developmental Psychology, 10,* 85-97.

Ohio State University, Center for Human Resource Research. (n.d.). *Children of the NLSY79: An overview*. Retrieved October 16, 2005, from http://www.chrr.ohio-state.edu/nls-info/nlscya/overview.html

Olofsson, A., & Niedersoe, J. (1999). Early language development and kindergarten phonological awareness as predictors of reading problems: From 3 to 11 years of age. *Journal of Learning Disabilities, 32*(5), 464-477.

Olson, S. L., Bates, J. E., Bayles, K. (1984). Mother–infant interaction and the development of individual differences in children's cognitive competence. *Developmental Psychology, 20*(1), 166-179.

Pellegrino, M. L., & Scopesi, A. (1990). Structure and function of baby talk in a day-care centre. *Journal of Child Language, 17*, 101-114.

Perry, F., Colman, M., & Cross, T. G. (1986). Conversations with children in kindergarten. In T. G. & L. M. Riach (Eds.). *Aspects of Child Development*. Melbourne: AE Press.

Phillips, D. A., Voran, M., Kisker, E., Howes, C., & Whitebrook, M. (1994), Child care for children in poverty: Opportunity or inequity? *Child Development, 65*, 472-492.

Polyzoi, E. (1997). Quality of young children's talk with adult caregivers and peers during play interactions in the day care setting. *The Canadian Journal of Research in Early Childhood Education, 6*(1), 21-30.

Quay, L. C., & Jarrett, O. S. (1986). Teachers' interactions with middle- and lower SES preschool boys and girls. *Journal of Educational Psychology, 78*(6), 495-498.

RFP Evaluation Centers. (2009). The Dale-Chall list of 3,000 simple words. Retrieved February 2, 2014, from http://rfptemplates.technologyevaluation.com/dale-chall-list-of-3000-simple-words.html#.U676OUDZeSq

Roskos, K. A., Christie, J. F., & Richgels, D. J. (2003). The essentials of early literacy instruction. *Young Children, 58*(2), 52-60.

Roth, F. P., Speece, D. L., & Cooper, D. H. (2002). A longitudinal analysis of the connection between oral language and early reading. *Journal of Educational Research, 95*(5).

Rowe, D. W. (1998). Examining teacher talk: Revealing hidden boundaries for curricular change. *Language Arts, 75*(2), 103-107.

Rowe, M. L. (2008). Child-directed speech: Relation to socioeconomic status, knowledge of child development and child vocabulary skill. *Journal of Child Language, 35*, 185–205.

Rowe, M. L. (2012). A longitudinal investigation of the role of quantity and quality of child-directed speech in vocabulary development. *Child Development, 83*(5), 1762-1774.

Scarborough, H. S., McClure, S., & Gillis, M. B. (2005). Culture shock for kindergarteners: Complexity of classroom language. *Society for the Scientific Study of Reading*. Retrieved from http://sfx.umd.edu/cp?ctx_enc=info%3Aofi%2Fenc%3AUTF-8;ctx_id=10_1;ctx_tim=2008-11-16T19%3A24%3A10EST;ctx_ver=Z39.88-2004;rfr_id=info%3Asid%2Fresearch_port%3Aspecific_article_search;rft.atitle=CULTURE%20SHOCK;rft.genre=article;rft.jtitle=SOCIETY%20FOR%20THE%20SCIENTIFIC%20STUDY%20OF%20READING;rft_val_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Aarticle;url_ctx_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Actx;url_ver=Z39.88-2004

Scarr, S., Eisenberg, M., & Deata-Deckard, K. (1994). Measurements in quality childcare centers. *Early Childhood Research Quarterly, 9*, 131-151.

Schweinhart, L. J. (2003, January*). Benefits, costs, and explanation of the High/Scope Perry Preschool program.* Paper presented at the meeting of the Society for Research in Child Development, Tampa, Florida. (ERIC Documentation Reproduction Service No. ED475597)

Silverman, R. D. (2007). Vocabulary development of English language and English-only learners in kindergarten. *The Elementary School Journal, 107*(4), 365–383.

Silverman, R. D., Proctor, C. P., Harring, J. R., Doyle, B., Mitchell, M. A., & Meyer, A. G. (2014). Teachers' instruction and students' vocabulary and comprehension: An exploratory study with English monolingual and Spanish–English bilingual students in Grades 3–5. *Reading Research Quarterly, 49*, 31-60.

Smith, L. R., & Land, M. L. (1981). Low-inference verbal behaviors related to teacher clarity. *Journal of Classroom Interaction, 17(*1), 37-42.

Smith, M. W., & Dickinson, D. K. (1994). Describing oral language opportunities and environments in head start and other preschool classrooms. *Early Childhood Research Quarterly, 9*, 345-366.

Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children.* Washington DC: National Academy Press.

Stern, D. N. (1977). *The First Relationship: Infant and Mother*. Harvard University Press.

Stevens, G., & Cho, J. H. (1985). Socioeconomic indexes and the 1980 census occupational classification scheme. *Social Science Research, 14*, 142-168.

Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: evidence from a longitudinal structural model. *Developmental Psychology, 38*(6), 934-47.

Stormont, M., Espinosa, L., Knipping, N., & McCathern, R. (2003). Supporting vulnerable learners in primary grades: Strategies to prevent early school failure. *Early Childhood Research and Practice, 5*(2). Retrieved November 16, 2008, from http://sfx.umd.edu/cp?ctx_enc=info%3Aofi%2Fenc%3AUTF-8;ctx_id=10_1;ctx_tim=2008-11-16T20%3A27%3A45EST;ctx_ver=Z39.882004;rfr_id=info%3Asid%2Fsfxit.

com%3Acitation;rft.atitle=supporting%20vulnerable;rft.date=2003;rft.genre=article;rft.jtitle=early%20childhood%20research%20and%20practice;rft_val_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Aarticle;url_ctx_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Actx;url_ver=Z39.88-2004

Swartz, J. I. (1975). Teacher talk and pupil talk. *Language Arts, 52*(6), 886-888.

Thordardottir, E. T. (2005). Early lexical and syntactic development in Quebec French and English: Implications for cross-linguistic and bilingual assessment, *International Journal of Language & Communication Disorders*, *40*(3), 243–278.

Throndsen, J. (2013). Amazing achievement: Resources and tools for teachers. Retrieved February 2, 2014 from http://amazingachievement.weebly.com.

Turnbull, K. P., Anthony, A. B., Justice, L., & Bowles, R. (2009). Preschoolers' exposure to language stimulation in classrooms serving at-risk children: The contribution of group size and activity context. *Early Education & Development*, *20*(1), 53-79.

United States Department of Health and Human Services (August 19, 2008). Statutory degree and credentialing requirements for head start teaching staff. Retrieved April 28, 2011, from http://eclkc.ohs.acf.hhs.gov/hslc/Head%20Start%20Program/Program%20Design%20and%20Management/Head%20Start%20Requirements/IMs/2008/resour_ime_012_0081908.html

United States Department of Labor, Bureau of Labor Statistics, National Longitudinal Surveys (June 25, 2003). *NLSY79.* Retrieved October 17, 2005, from http://www.bls.gov/nls/y79summary.htm

United States Department of Labor, Bureau of Labor Statistics, National Longitudinal Surveys (September 8, 2005). *NLSY79 Children and young adults.* Retrieved October 17, 2005, from http://www.bls.gov/nls/nlsy79ch.htm

Vogel, C. A., Boller, K., Xue, Y., Blair, R., Aikens, N., Burwick, A., Shrago, Y., Carlton, B. L., Kalb, L., Mendenko, L., Cannon, J., Harrington, S., & Stein, J. (2011). Learning as we go: A first snapshot of Early Head Start programs, staff, families, and children. *OPRE Report #2011-7*. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Vygotsky, L. (1986). The development in scientific concepts in childhood: The design of a working hypothesis. In A. Kozulin (Ed.), *Thought and language* (pp. 146-209). Cambridge, MA: The MIT Press.

Vygotsky, L. (1994). The problem of environment. In R. Van Der Veer & J. Valsiner (Eds.), *The Vygotsky reader* (pp. 338-354). Cambridge, MA: Blackwell Publishers.

Wasik, B., Bond, M., & Hindman, A. (2006). The effects of a language and literacy intervention on Head Start children and teachers. *Journal of Educational Psychology, 98*(1), 63-74.

Wayne, A. J., Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational Research, 73*(1), 89-122.

Weizman, Z. O., & Snow, C. E. (2001). Lexical input as related to children's vocabulary acquisition: Effects of sophisticated exposure and support for meaning. *Developmental Psychology, 37*, 265-279.

Wells, G. (1983). Talking with children: The complementary roles of parents and teachers. In M. Donaldson, R. Grieve, & C. Pratt (Eds.). *Early childhood development in education: Readings in psychology.* New York, NY: Guilford Press.

Werker, J. F., & Lalonde, C. E. (1988). Cross-language speech perception: Initial capabilities and developmental change. *Developmental Psychology, 24,* 672-683.

White, T. G., Graves, M. F., & Slater, W. H. (1990). Growth of reading vocabulary in diverse elementary schools; Decoding and word meaning. *Journal of Educational Psychology, 82*(2), 281-290.

Wilcox-Hertzog, A., & Kontos, S. (1998). The nature of teacher talk in early childhood classrooms and its relationship to children's play with objects and peers. *The Journal of Genetic Psychology, 159*(1), 30-44.

Wittmer, D. S., & Honig, A. S. (1988). Teacher re-creation of negative interactions with toddlers. *Early Child Development and Care, 33,* 77-88.

Wood, H., & Wood, D. (1983). Questioning the pre-school child. *Educational Review, 35*(2), 149-162.

Yoder, P. J., & Davies, B. (1994). Effect of adult continuing wh-questions on conversational participation in children with developmental disabilities. *Journal of Speech & Hearing Research, 37*(1), 193-205.

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2002). *Preschool Language Scale, Fourth Edition*. San Antonio, TX: Harcourt Assessment, Inc.