

2009

## The influence of high-quality early childhood education programs on at-risk children's literacy and language development

Gwendolyn M. Kellen  
*University of Northern Iowa*

*Let us know how access to this document benefits you*

Copyright ©2009 Gwendolyn M. Kellen

Follow this and additional works at: <https://scholarworks.uni.edu/grp>

 Part of the [Curriculum and Instruction Commons](#), [Early Childhood Education Commons](#), and the [Language and Literacy Education Commons](#)

---

### Recommended Citation

Kellen, Gwendolyn M., "The influence of high-quality early childhood education programs on at-risk children's literacy and language development" (2009). *Graduate Research Papers*. 978.  
<https://scholarworks.uni.edu/grp/978>

This Open Access Graduate Research Paper is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Graduate Research Papers by an authorized administrator of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

---

## The influence of high-quality early childhood education programs on at-risk children's literacy and language development

### Abstract

This literature review addressed the impact that high-quality early childhood education programs have on at-risk children's literacy and language development. The purpose of this review was to focus on the impact and benefits that high quality early childhood education programs have on the literacy and language development of at-risk young children, and the influence that the early childhood teachers, the early childhood classroom environment, and the early childhood classroom activities have on the literacy and language development of young children who may be at-risk of developing reading difficulties when they begin formal education.

The research concluded that at-risk children who attended a high-quality early childhood education program were better prepared to enter school than those children who don't have that opportunity and are also less likely to need remedial services. Research for this review was obtained through professional articles and books about the impact and benefits of high-quality early childhood education programs.

THE INFLUENCE OF HIGH-QUALITY EARLY CHILDHOOD EDUCATION  
PROGRAMS ON AT-RISK CHILDREN'S LITERACY AND LANGUAGE  
DEVELOPMENT

A Graduate Literature Review  
Submitted to the  
Division of Literacy Education  
Department of Curriculum & Instruction  
In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts in Education  
UNIVERSITY OF NORTHERN IOWA

By

Gwendolyn M. Kellen

May 2009

This Literature Review by Gwendolyn M. Kellen

Titled: The Influence of High-Quality Early Childhood Education Programs on At-risk Children's Literacy and Language Development

has been approved as meeting the research requirements for the Degree of Master of Arts in Education

5/15/09  
Date Approved

---

~~Dr. Timothy Weih~~, Faculty Advisor/First Reader

5/20/09  
Date Approved

---

Dr. Rebecca Edmiaston, Second Reader

5-27-09  
Date Approved

**Jill M. Uhlenberg**  

---

Head, Department of Curriculum and Instruction

## Abstract

This literature review addressed the impact that high-quality early childhood education programs have on at-risk children's literacy and language development. The purpose of this review was to focus on the impact and benefits that high-quality early childhood education programs have on the literacy and language development of at-risk young children, and the influence that the early childhood teachers, the early childhood classroom environment, and the early childhood classroom activities have on the literacy and language development of young children who may be at-risk of developing reading difficulties when they begin formal education. The research concluded that at-risk children who attended a high-quality early childhood education program were better prepared to enter school than those children who don't have that opportunity and are also less likely to need remedial services. Research for this review was obtained through professional articles and books about the impact and benefits of high-quality early childhood education programs.

## TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION.....	5
Rationale for choosing topic.....	6
Purpose of study.....	7
Importance of topic.....	7
Terminology.....	8
Research Questions.....	9
CHAPTER 2: METHODOLOGY.....	10
Research Design.....	11
Methods for locating sources.....	12
Methods for selecting sources.....	13
Procedures for analyzing sources.....	14
CHAPTER 3: RESULTS.....	15
Influence of High-Quality Early Childhood Programs.....	16
Influence of Early Childhood Education Teachers.....	22
Influence of Early Childhood Classroom Environment.....	25
Influence of Early Childhood Classroom Activities.....	27
CHAPTER 4: CONCLUSIONS.....	31
Themes and Trends.....	31
Limitations.....	34
Recommendations.....	34
CHAPTER 5: REFERENCES.....	36

## Introduction

This chapter addresses why I chose to research the impact and benefits of high-quality preschool programs on the early literacy and language development of at-risk preschool children. High-quality preschool programs provide children with the background needed for academic achievement (Hadaway, 2005). Preschools provide an important source of development in skills associated with later reading (Lonigan, Burgess, & Anthony, 2000). These programs offer at-risk preschool children the opportunity to be exposed to a print-rich and language-rich environment. These programs also assist in developing early literacy skills in at-risk preschool children and prepare them to enter school ready to learn. For example, the United States Department of Education's Early Reading First (Justice, Mashburn, Hamre, & Pianta, 2008) "provides funds to preschool programs to support their achievement of excellence in programming, particularly the provision of high-quality instruction in literacy and language through improved classroom print richness, professional development for staff, and implementation of scientifically based curricula". (p.51) The goal of this initiative is to ensure that more children will begin school with the skills and competencies needed to succeed in not only early reading instruction but later instruction as well (Justice et al.). However, many at-risk preschool children do not have access to high-quality preschool programs for various reasons. The National Research Council Committee on the Prevention of Reading Difficulties in Young Children (Snow, 1998) recommended that, "all children, especially those at-risk for reading difficulties, should have access to early childhood environments that promote language and literacy growth and that address a variety of skills that have been identified as predictors of later reading achievement" (p.

8). It is important that lawmakers, politicians, stakeholders, and community members understand the impact and return benefits that high-quality preschool programs have on the early literacy and language development of at-risk preschool children.

### *Rationale for Choosing Topic*

As an educator in the field of early childhood education, I have witnessed both the impact and benefits that high-quality preschool programs have on young children, especially those children who are considered at-risk for academic difficulties. The benefits encompass all areas of development: socio-emotional, cognitive, physical, gross motor, mathematical, language, and literacy. Although all these areas of development are beneficial and important for the development of young at-risk children, possibly the most essential is the development of language and literacy. If young children lag behind their peers in language and literacy development when they begin formal education, it may or most likely be more difficult for them to catch up to their peers and become successful readers and writers.

With the recent push of legislative bills such as No Child Left Behind (2001) and the expectation that all children enter school ready to learn, I believe it is imperative that lawmakers, politicians, stakeholders, and school districts take notice of the impact of early interventions such as high-quality preschool programs. These high-quality preschool programs must be available to all children, not just children who could normally attend. Meeting the needs of those children who are most at-risk for future academic difficulties should be of high importance. I believe that by offering high-quality preschool programs to all young children, including at-risk children, the achievement gap

in schools will likely decrease and these children will be less likely to need special education or remedial services in their formal education.

### *Purpose of Study*

The purpose of this study was to review the current research that has been conducted on the impact of high-quality preschool programs on the early language and literacy development of at-risk preschool children.

### *Importance of Topic*

The impact and benefits that high-quality preschool programs have on the language and literacy development of at-risk preschool children must be addressed. In a report by the United States Department of Education (2003), the number of children attending an early childhood program has risen over the years. Sixty-six percent of four year-olds were enrolled in a center or in a school-based preschool program in 2001, up 23 percentage points from 30 years ago (United States Department of Education). However, those children considered to be at-risk are less likely to attend early childhood education programs, leaving them significantly further behind their like peers in areas of development such as socio-emotional, cognitive, oral, language, and literacy. The academic skills that young children bring with them when they begin formal education will assist them in future academic success.

The recent push of the federally mandated No Child Left Behind Act (2001) and other state initiatives, including the Iowa State Voluntary Preschool Program for 4-Year-Olds (2007), has addressed the need for young children to enter school ready to learn. In order for this to happen, it is important that law makers, politicians, stake holders, and community members increase funding for early intervention, especially for all young

children to have access to high-quality preschool programs. This is especially important since many young children who may be at-risk for future academic difficulties don't have the means to obtain or experience a high-quality preschool program. By making high-quality preschool programs available for all preschool children, it is possible that less money would need to be spent on special education services or other remedial services when these children begin their formal education (Schweinhart, 2005).

### *Terminology*

In examining the current research regarding high-quality preschool programs and literacy development in at-risk preschool children, *preschool education programs* refers to a care and education program for children three to five years of age that contributes to their development (Schweinhart, 2005). *High-quality early childhood programs* meet the following standards: promote positive relationships, has a curriculum that fosters all areas of development, developmentally appropriate activities that encompass effective teaching approaches, ongoing assessments of child progress, a focus on the nutrition and health of young children, qualified teaching staff, collaborative relationships with families and the community, a safe and healthy physical environment, and strong program management policies (National Association for the Education of Young Children, 2006). Those children considered *at-risk* have secondary risk factors, as well as low socio-economic status, parents who may have low educational attainment and occupational status, and come from homes with fewer than three rooms (Schweinhart). Children's language and literacy development is often referred to as *emergent literacy*. *Emergent literacy* is the earliest signs of children's interests and abilities related to reading and writing (Halle, Calkins, Berry, & Johnson, 2003), as well as the idea that the acquisition of literacy is

best conceptualized as a developmental continuum, with its origins early in the life of a child, rather than an all-or-none phenomenon that begins when children start school (Whitehurst & Longian, 1998). Emergent literacy is made up of several components: (a) *phonemic awareness*, understanding that speech is composed of units, such as words, syllables, and sounds; (b) *alphabetic principle*, knowledge of letters of the alphabet and their corresponding sounds; (c) *print awareness*, understanding that print represents the meaning of a story, printed words correspond to spoken words, and print moves in particular direction (Halle et al., 2003); (d) *comprehension*, the process of deriving meaning from action, speech, and text by connection what one is learning to what one already knows; and (e) *phonological awareness*, recognizing the sounds that make up words (Hohmann & Tangorra, 2005).

### *Research Questions*

The results section of this paper focused around the primary question of “what is the influence of high-quality early childhood education programs on the language and literacy development of at-risk preschool children?” To assist in locating sources, the primary question was broken down into three secondary questions: (a) how does the early childhood education teacher affect the language and literacy development of at-risk children; (b) how does the early childhood education classroom environment affect the language and literacy development of at-risk children; and (c) how do the learning activities in the early childhood classroom affect the language and literacy development of at-risk children.

## Methodology

The focus of this chapter includes how I located, selected, and analyzed the information that was obtained through research-based articles, studies, and books to be included in the results section of this research paper. I began my research by reviewing the results of the High/Scope Perry Preschool Project, which I am familiar with as an early childhood educator. This landmark study, conducted in 1962 by David Weikart, has had lasting benefits on young children who were at-risk for academic failure. These benefits and results have spanned almost fifty years as has been indicated in *The High/Scope Perry Preschool Study through age 40: Summary, Conclusions, and Frequently Asked Questions* (Schweinhart, 2005). The High/Scope Perry Preschool Project provided the model for which the Pottawattamie County Preschool Initiative in Iowa was based (Jensen, 2008). As an early childhood consultant with the Area Education Agency 13 in Council Bluffs, Iowa I had the privilege to work with this initiative for two years. As a result of working with this preschool initiative, I obtained first-hand knowledge and experience in what high-quality early childhood education programs can do for the language and literacy development in young children, especially those at-risk for future academic difficulties. It was this knowledge and experience that assisted me in locating, selecting, and analyzing research-based articles, studies, and books to include in the results section of this paper.

The research-based articles, studies, and books used in this paper were primarily located through databases, as well as consulting with other early childhood educators and colleagues about possible resources. Since the focus of this paper was the impact of high-quality early childhood education programs on early literacy and language development

in at-risk young children, these were key areas that needed to be focused on within the literature that were previewed. I also limited the studies to the United States, since there is a federal push through the No Child Left Behind Act (2001) and other state initiatives for young children to enter school ready to learn.

### *Research Design*

This section addresses what influenced my research as I was locating literature to include in the results section of this research paper. The primary component that influenced my research has been my professional career in the field of early childhood for the past seven years as well as my interest in how young children develop language and literacy. I have also been influenced by the High/Scope Perry Preschool Project and the benefits of that project on at-risk children's language and literacy development that has spanned almost fifty years (Schweinhart, 2005). Previously I worked with the Pottawattamie County Preschool Initiative in Iowa and experienced some of the benefits from those high-quality early childhood programs on at-risk young children's language and literacy development (Bruner & Stover-Wright, 2007; Jensen, 2008). I also designed my research for the results section around whether other high-quality early childhood programs across the nation have had the same lasting benefits on at-risk children's language and literacy development that the High/Scope Perry Preschool Project and Pottawattamie County Preschool Initiative have had. I used the works of Steven Barnett (1995), Susan B. Neuman (2004), and Reynolds, Temple, Robertson, and Mann (2001) as a framework for my research.

### *Methods for Locating Sources*

This section addresses the methods that were used in locating the literature that was discussed in this research paper. I began my research by reading and analyzing the High/Scope Perry Preschool Project for key terms to use when locating sources. Also, as an early childhood educator for the past seven years, I had knowledge of what research terms I would use and began to keep a list of those key research terms. I began my research by using various combinations of the following key terms: *early childhood education programs, high-quality early childhood education programs, at-risk students, emergent literacy skills, language development, literacy development, literacy environments, preschool programs, early literacy activities, high-quality teachers, and early childhood teacher qualifications*. The primary databases that were used to search these key terms included EBSCO Host, ERIC, and Wilson Web. I also searched research-based journals such as *Young Children* and *The Reading Teacher*.

As I was locating sources for the topic of the influence of high-quality early childhood education programs on at-risk children's literacy and language development, two researchers in the field of early literacy and language development kept emerging—Susan B. Neuman and David Dickinson. I used these two researchers to locate literature, as well as the books, *The Handbook for Early Literacy Research* and *Starting Out Right*. As an early childhood educator, I am familiar with the works of the National Association for the Education of Young Children (NAEYC). I used their website, [www.naeyc.org](http://www.naeyc.org), to assist in locating the joint position statement from NAEYC and the International Reading Association regarding early literacy development in young children. I also used the research-based journal, *Early Childhood Research Quarterly*, to locate current research.

### *Methods for Selecting Sources*

As I was selecting sources to use in the results section of this research review, I determined that the literature needed to be research-based, focused on high-quality early childhood education programs and their influence on at-risk children's literacy and language development. It also needed to focus around the three secondary questions that were addressed earlier: (a) how does the early childhood education teacher effect the language and literacy development of at-risk children; (b) how does the early childhood education classroom environment effect the language and literacy development of at-risk children; and (c) how do the learning activities in the early childhood classroom effect the language and literacy development of at-risk children. As I read the research, I focused on those studies that occurred within the United States in the past forty to fifty years. Some studies that I read and used within this paper include the High/Scope Perry Preschool Project (Schweinhart, 2005), the Carolina Abecedarian Project (n.d.), the Chicago Child-Parent Center Program (Reynolds, Temple, Robertson, & Mann, 2001), the Pottawattamie County Preschool Initiative (Jensen, 2008), the Quality of Language and Literacy Instruction in Preschool Classrooms Serving At-risk Pupils (Justice, Mashburn, Hamre, & Pianta, 2008) and Long-term Effects of Early Childhood Programs on Cognitive and School Outcomes (Barnett, 1995). I chose to focus on those studies that occurred within the United States because I was interested in what we are doing as a nation to assist young children, especially those at-risk, in their early literacy and language development and how high-quality early childhood education programs can assist in this. The research studies consisted of addressing the impact that high-quality early childhood education programs have on both at-risk children as well as all other

children. These studies were peer reviewed to establish validity and credibility. Research studies conducted by Susan B. Neuman and David Dickinson, two key researchers in the early literacy and language development of young children, were also reviewed. Their book, *The Handbook of Early Literacy Research* (2001), was used as a resource that contained information used within the results section.

### *Procedures for Analyzing Sources*

When I began analyzing the resources that I had located for this research paper, I began by reading the articles and highlighting any important and pertinent information related to the topic of the influence of high-quality early childhood programs on the early literacy and language development of at-risk children. After I finished reading the article, I listed the article name and the important information from the article on a note card, along with the author's name and journal name that the article was retrieved from. If the resource was a book, I photocopied the information or chapter that was important and highlighted as I read. I also wrote on a note card the important information from the chapter as I had when reading journal articles (Shaffer, 2007). This technique helped me to stay organized. It also helped me to see some of the recurring themes that were being addressed in the articles that would be discussed in the conclusions section of this research paper. I was also able to see easily which articles I felt didn't fit into the research questions or recurring themes and decide whether or not that information could be used in the research paper.

## Results

Literacy development occurs throughout a child's life; however, the early childhood years are the most critical for establishing a foundation for learning to read and write. Children who begin their school years with limited verbal skills, phonological awareness, letter knowledge, and familiarity with the purposes and mechanisms are most at-risk for later reading difficulties. To assist children in developing early language and literacy skills, it is essential that children be exposed to high-quality language and literacy environments, which can be found in their home, child care center, or preschool.

The purpose of this review of literature was to focus on the impact and benefits that high-quality preschool programs have on the literacy and language development of young children who are most at-risk for developing reading difficulties when they begin formal education. Marilyn J. Adams, a professor of education at Harvard University and a member of the National Research Council states, "Preschool is the time to begin serious language and vocabulary development" (as cited in Manzo, 1998, p. 14). Those children who benefit the most from these high-quality preschool programs are of low socio-economic status, may have been exposed to drugs in the womb, have parents whose educational attainment was low, or have other secondary risk factors. The effects of the High/Scope Perry Preschool Project (Schweinhart, 2005), the Chicago Child-Parent Center Program (Reynolds, Temple, Robertson, & Mann, 2001), the Carolina Abecedarian Project (n.d.), as well as the Pottawattamie County Preschool Initiative (Jensen, 2008) are some studies that address the effects of high-quality preschool programs on at-risk preschool children.

The role of the early childhood education teacher also contributes to the language and literacy development of at-risk preschool children. The education and preparation of the early childhood education teacher is essential to developing these skills in preschool-age children (Jones, 1999). However, what should this education and preparation entail? Is it essential that early childhood education teachers understand the continuum for reading and writing?

To be effective in developing language and literacy development in young children, it is important that early childhood education teachers understand the many areas of development in young children such as social, emotional, intellectual, cognitive, and cultural. The early childhood education teacher also contributes to the language and literacy development of at-risk preschool children through the types of activities that are planned, through verbal feedback and modeling of language. What early language and literacy activities are best to engage at-risk preschool children in to better prepare them for reading success when they enter formal education?

Lastly, the review of literature will address the importance of the early childhood classroom environment and the literacy skills that at-risk preschool children need to develop to be successful at learning to read. The elements and materials have a substantial effect on how children begin to develop early language and literacy skills. Therefore, what elements are essential to include in the environment in order to increase those early language and literacy skills? Is it important to include a print-rich environment, a variety of books, have props available, and writing materials easily accessible for young children?

### *Influence of High-Quality Preschool Programs*

Young children today spend the majority of their earliest and most formative years of development in care outside of the home (Magnuson, Ruhm, & Waldfogel, 2007; Neuman, 2004; Dickinson & Sprague, 2001). This care occurs before children enter first grade. Many children, age's three to five, spend their time in a preschool setting. However, children who may be the most at-risk for school failure may not have the opportunity to attend a high-quality preschool program. If these at-risk children were able to attend a high-quality preschool program, what would the influence be on their language and literacy development, as well as across other areas of development?

In a landmark study, the High/Scope Perry Preschool Project identified short and long-term effects of a high-quality preschool program for children living in poverty (Schweinhart, 2005). The project was operated from 1962 to 1967 in Ypsilanti, Michigan. One hundred and twenty-three low-income African-American children were identified to be at high-risk for school failure. Fifty-eight of these children were randomly selected to attend the high-quality preschool program at ages 3 and 4, while the other 65 children received no preschool program. Data was collected annually on both groups from ages 3 to 11 and again at ages 14, 15, 19, 27, and 40 (Schweinhart). What makes this study unique is that the research has spanned over 40 years.

In analyzing the data, Schweinhart (2005) found that 67% of the children in the program group were ready for school at age 5 verses 28% from the no-program group. The program group also significantly out performed the no-program group on various intellectual and language tests from the preschool years up to age 7; on school achievement tests at ages 9, 10, and 14; and on literacy tests at ages 19 and 27

(Schweinhart, 2005; Barnett, 2001). R. Clay Shouse, director of educational programs at High/Scope Educational Research Foundation, stated that every dollar spent on the original Perry Preschoolers has saved \$7.00 in special programs and services later in life (as cited in Jones, 1999).

The Chicago Longitudinal Study (Reynolds, Temple, Robertson, & Mann, 2001), which analyzed the long-term effects of the Chicago Child-Parent Center program, also had similar results in the long-term benefits of early childhood education programs on at-risk children. The program began in 1967 and is located in 24 centers in high-poverty neighborhoods. After Head Start, it is the second oldest federal preschool program and the oldest extended early intervention program. The study collected data on 1,539 low-income minority children that were born in 1980 and attended an early childhood program in one of the 25 sites in 1985-1986. Ninety-three percent of the children were African-American, with 7% being Hispanic. Of the original sample, 989 children had completed preschool and kindergarten in all of the Child-Parent Center programs, while the comparison group of 550 children participated in alternative early childhood programs (Reynolds et al., 2001)

In their research, Reynolds et al. (2001) found that 49.7% children that had participated in preschool had a higher rate of high school completion at age 20 verse 38.5% of the control group. The preschool participants also had a lower drop out rate and completed more years of education than the control group (46.7% verse 55.0% and 10.6 years verse 10.2 years, respectfully). The research also showed that males benefited more than females. Males were less likely to drop out of school than females. This is significant in that African-American males are at highest risk for school failure than are

females. Males were also favored in the rate that they completed high school more than females. Forty-two percent of the male preschool participants completed high school compared to 56.5% of the female preschool participants. When addressing school remedial services, preschool participants had significantly lower rates of grade retention (23.0% versus 38.4%) than those in the comparison group and they spent less time in special education-0.7 years compared to 1.4 years for the comparison group.

Another comprehensive early childhood education program, the Carolina Abecedarian Project (n.d.), addressed the needs of young at-risk children with possible developmental delays and school failure. The program occurred in North Carolina from 1972 to 1985. The main goal of the program was to create an “educational, stimulating, and structured environment to promote growth and learning and to enhance school readiness” (Carolina Abecedarian Project). The Carolina Abecedarian Project was different from other studies in that it began in early infancy and children had five years of exposure to high-quality early childhood education programs compared to other studies that began when the child was two years of age or older and had a shorter exposure period. The participants in the Abecedarian Project were from low-income families, with 98% being African-American. Eighty-three percent of the families were headed by a single female parent with the average age of 20 years, average IQ of 85, and a low level of education (Carolina Abecedarian Project).

The project conducted follow-up studies at ages 8, 12, 15, and 21. At age 8, achievement results in reading showed improved growth as the length of time in the program increased. The control group with no interventions had the lowest scores-75% of the group was in the bottom quartile for reading scores. Only 44% of the children that

experienced the program were in the bottom quartile for reading. The follow-up study at age 15 showed that those children who participated in the program earned higher scores in both reading and mathematics than the control group. Also, 31.2% of the participant group was retained in a grade during the first ten years of school compared with 54.5% of the control group. Researchers concluded “that the long-term benefits of the program, including future earnings and maternal earnings as well as health benefits from decrease in smoking, outweighed costs by a factor of four dollars for every one dollar spent” (Carolina Abecedarian Project, n.d.).

In another study modeled after the High/Scope Perry Preschool Project, the Pottawattamie County Preschool Initiative has also had some of the same results pertaining to the effectiveness of high-quality preschool programs on at-risk children. Beginning in the 2003-2004 academic years, the Pottawattamie County Preschool Initiative set out to expand preschool for more than 250 unserved children. Most of these children came from homes that were at or below 185% of poverty, have secondary risk factors, or are considered both low income and have secondary risk factors (Bruner & Stover-Wright, 2007).

In analyzing the data, Bruner and Stover-Wright (2007) found that children who had participated in one of the district preschool programs in Pottawattamie County had higher scores on Marie Clay’s letter identification, sound identification, and concepts about print in kindergarten than those children participating in other preschool programs. The only area the children experiencing a district preschool performed below other preschool programs was on the Peabody Picture Vocabulary Test. Overall, the children

experiencing a high-quality preschool program scored above the average for all Council Bluffs students (Bruner & Stover-Wright).

Children in the Pottawattamie County Preschool Initiative were also assessed in the fall and spring using the scientifically research based Get Ready to Read! Early Literacy Screening Tool (Whitehurst & Lonigan, 2003), which assesses children's individual print knowledge, emergent writing, and linguistic awareness. According to the Get Ready to Read! authors, students who score 11 or higher at the end of their preschool experience are generally considered to be "well-prepared" to take on the challenges of learning to read and write (Jensen, 2008). The past four years data results are as follows: 2003-2004, 46% of preschool children scored 11 or higher in the fall versus 87% in the spring; for 2004-2005, 52.29% scored 11 or higher in the fall versus 88.17 % in the spring; in 2005-2006, 47.67% in the fall versus 85.66% in the spring and in 2006-2007, 50.35% scored 11 or higher in the fall versus 88.15% in the spring (Jensen). The above results provide credibility to the benefits that high-quality preschool programs have on at-risk preschool children's language and literacy development.

The analysis of the research establishes that high-quality preschool programs do make a difference in the lives of at-risk preschool children. Magnuson, Ruhm, and Waldfogel (2007) found that "the greatest potential return to public investments in early education may be obtained by increasing disadvantaged children's enrollment in pre-kindergarten and by expanding programs located in public schools" (p. 49). The effects are both large and small for intelligence quotient, achievement, grade retention, special education, high school graduation, and socialization; however, for many at-risk children

it may be the difference between failing and succeeding when they enter school (Barnett, 1995).

### *Influence of Early Childhood Education Teachers on Language and Literacy*

#### *Development*

The role of the early childhood education teacher is a contributing factor in developing the language and literacy skills needed for at-risk preschool children to become successful readers and writers. The educational preparation and the foundational knowledge of these early childhood education teachers are essential, as well as their belief system in language and literacy development in the preschool classroom.

According to the International Reading Association (2003), this foundational knowledge includes the psychological, sociological, and linguistic foundations of the reading and writing processes, as well as language development, and acquisition and the variations in cultural and linguistic diversity and the major components of early reading. In their position statement, *Literacy Development in the Preschool Years* (2005), the International Reading Association recommends that early childhood education teachers understand the continuum of reading and writing development and how it integrates into the preschool curriculum. These teachers should also be familiar with children's individual needs, and their social, cultural, emotional, physical, cognitive, and language abilities.

In preparing early childhood education teachers, a degree in elementary education is not enough. In a statement from Barbara Willer of the National Association for the Education of Young Children, "Four year olds are not miniature 8-year olds. Simply assigning your staff who may have been trained in other elements of elementary

education is not appropriate. You've got to make sure people really understand early childhood education" (as cited in Jones, 1999, p. 8). Early childhood education is "focused on active, developmentally appropriate, hands-on learning, and balances reasonable expectations with a child's need to play" (Jones, p. 8). One of the biggest issues is not hiring qualified teachers with the experience in early childhood education. What also needs to be addressed are the qualifications of the assistant teachers. They too need to have training in early childhood education. The assistant teacher is another instructional staff member, not just someone to assist children with toileting and do menial jobs (Jones).

Early childhood education teachers and assistant teachers need to receive experiences in a high-quality preschool classroom to assist them in developing appropriate activities for young at-risk children. This experience must be supervised, relevant, and provide on-going assistance and feedback. As a result of the classroom experience, the early childhood education teacher has the ability to integrate and apply the knowledge that was learned. Another important factor in preparing early childhood education teachers is the need for strong instruction in literacy development and continual professional development (Burns, Griffin, & Snow, 1999; International Reading Association, 2005).

The belief system of the early childhood education teacher is another contributing factor influencing at-risk preschool children's language and literacy development. According to Hindman and Wasik (2008), "teachers play a pivotal role in providing children with optimal environments for early language and literacy learning". Teachers belief systems about literacy "can thus be understood as including what they assume,

think, and know about how young children develop literacy skills; what they perceive a teacher's role in this process to be; and how they feel they should implement these practices in a classroom" (Hindman & Wasik).

In a study conducted by Hindman and Wasik (2008), twenty-eight Head Start teachers were recruited as part of Early Reading First professional development intervention. All of the participants were African-American, with only one being male. Education levels of the participants varied. One Head Start teacher held a high school degree, three had associate's degrees, twenty-one had bachelor's degrees, and three had graduate or advanced level degrees.

Using the Preschool Teacher Literacy Beliefs Questionnaire (TBQ) (Hindman & Wasik, 2008), the Head Start teachers were surveyed on their literacy beliefs and practices. The TBQ consisted of thirty items, grouped into four subscales: code-related skills, oral language/vocabulary, book reading, and writing. These items looked at early childhood teachers' beliefs about "what language and literacy skills children should be developing, the trajectories along which children develop these skills, and the specific instructional practices that might be implemented in a preschool classroom to promote these skills" (Hindman & Wasik).

Hindman and Wasik (2008) found that in analyzing the data, teachers varied in their beliefs on all the subscales. The Head Start teachers agreed with "best practices regarding classroom procedures and less agreement with research concerning development trends in literacy acquisition for code-related and oral language skills". It was revealed that those with more educational experience "strongly endorsed evidence-based ideas about oral language development and instruction" verse those who had less

educational experience. In general, the Head Start teachers agreed with best practices for supporting code-related and oral language learning and providing opportunities to engage in book reading and writing. In terms of language-related beliefs, it was discovered that teachers had more procedural than conceptual knowledge about some of the topics. While it is important to have procedural knowledge and know what to do in the classroom, it may be more important to have an understanding of the conceptual knowledge behind these procedures, which allows the teacher to be more flexible and intentional in their teaching. When it came to preschool children and writing, the TBQ showed that “many teachers disagreed with recent research findings both about how writing supports literacy development and how teachers can successfully provide writing opportunities in the classroom” (Hindman & Wasik).

The results of the TBQ and the research conducted by Hindman and Wasik make it evident that early childhood teachers need to be provided with current research and professional development that is more specific and precise in its delivery rather than focusing on broad ideas of appropriate versus inappropriate beliefs and practices.

#### *Influence of the Early Childhood Classroom Environment on Language and Literacy Development*

The environment of the early childhood classroom plays an important role in developing language and literacy in preschool-age children. Changes to the environment can have an impact on children’s emergent literacy skills (Whitehurst & Lonigan, 1998). In a study by Neuman and Roskos (1990), the enrichment of the early childhood classroom with props, writing materials, symbols, and having materials labeled increased

the literacy play of preschool-age children. It was found that literacy play became more purposeful, more situated, more connected, more interactive, and more role-defined.

There are other ways to support preschool-age children in developing language and literacy through the early childhood classroom environment. Children should have opportunities to use and play with language in a variety of ways that support their phonological awareness (Burns, Griffin, & Snow, 1999). Early childhood teachers should have informal conversations, asking open-ended questions using why, how, and what if, with each child throughout the day (Burns et al.). Through these conversations preschool-age children learn new vocabulary and language structures that will later assist them with learning to read. Meaningful uses of literacy need to be incorporated into the everyday activities of the classroom. Burns et al. found that “those children who have a wide body of background knowledge and life experiences are more likely to succeed in reading” (p. 44).

Teachers can create print-rich environments by providing writing tables, writing materials so young children can engage in writing experiences, labeling of materials throughout the classroom, and the use of symbols. Activities that allow children to write encourage and support young children in learning the letters of the alphabet and their sounds (Aram, 2005; Whitehurst & Lonigan, 2001). These writing activities are embedded throughout the social interactions that children have throughout their day and reflect how they communicate. Some classroom materials that support young children’s writing include paper, writing implements, and the presence of an alphabet and word cards (Diamond, Gerde, and Powell, 2008). A library corner, with soft materials and high-quality children’s books, that allow young children to engage in early reading

experiences, is another way to support early literacy development. The Early Childhood Environment Ratings Scale-Revised Edition (Harms, Clifford, & Cryer, 2005), a tool used to assist in evaluating early childhood programs, suggests that at least 5 to 7 high-quality children's books be accessible and available for every child in the classroom. Literacy-related play areas, such as the house and block areas need to provide props for young children to incorporate print in a natural way. Small group activities, as well as interactive circle and meal times, provide opportunities for rich language experiences. All of these experiences provide opportunities for preschool-age children to enhance their emergent literacy skills (Neuman, 2004; Snow, Burns, & Griffin, 1998; Iowa Department of Education & Iowa Department of Human Services, 2006; Hohmann & Tangorra, 2005)

#### *Influence of the Early Childhood Classroom Learning Activities on Literacy and Language Development*

One of the most viable mechanisms for improving at-risk preschool children's transition to reading instruction and reducing their vulnerability for later reading difficulties is the participation in preschool programs providing high-quality language and literacy instruction (Snow, Burns, & Griffin, 1998). In a study by Diamond, Gerde, and Powell (2008), a sample of children from four different Head Start programs were used to explore literacy practices within the classroom. Children were diverse in their ethnicity with 42% African American, 35% Caucasian, and 23% Latino. The study began with 288 children in the fall and ended with 236 children in the spring. Children were assessed on their writing, alphabet knowledge, initial sounds, and print concepts.

By the end of the school year, more than one-third of the participants could write their first names accurately and almost all of the participants used some letters when they were writing their names. In the fall, participants knew the names of 8 letters of the alphabet, but by the end of the school year this had increased to 14 letters. Even though there were gains made, only 21% of the participants in the study could correctly identify all the capital letters in the spring before they entered kindergarten (Diamond, Gerde, and Powell, 2008).

Reading aloud to children, providing opportunities for children to interact with books and writing materials, assisting students in recognizing letters and engaging students in writing experiences are all activities that early childhood education teachers promote in their classrooms to assist at-risk children in developing language and literacy skills. One of the most important literacy activities an early childhood education teacher can do to promote literacy skills in preschool-age children is to read aloud in an interactive manner (Green, Peterson, & Lewis, 2006; Halle, Culkins, Berry, & Johnson, 2003). The way teachers involve young children in talk about books has long-term significance in these children's literacy development (McGill-Franzen, Lanford, & Adams, 2002). In a study by Diamond, Gerde, and Powell (2008), children had become more aware and sensitive to print in books by the end of the school year as a result of the early childhood education teacher sharing books with them. At the end of the school year, children were able to "understand that print, rather than the picture, conveyed the meaning in a book and knew that reading occurred from the top to the bottom of the page and from left to right" (Diamond et al., p. 475). By sharing books with a teacher, preschool-age children can learn many components of literacy such as book and print

awareness, concepts about print, and development of listening comprehension (Burns, Griffin, & Snow, 1999). Book reading may occur in both large and small groups; however, studies support reading to children in small groups (Dickinson & Sprague, 2001; Halle et al.). Reading to children in small groups has been shown to improve children's vocabulary, print awareness, writing, and other emergent literacy skills (Dickinson & Sprague; Halle et al.). Even though reading to children in small groups is beneficial to their emergent literacy development, many early childhood education teachers are not reading aloud to their students. Dickinson and Sprague (2001) conducted a longitudinal study of 85 children from low-income families in 1987. They found that when children were 3 years of age, about 15% of the early childhood education teachers reported reading aloud to children two or fewer times per week and 38% reported reading aloud four or more times per week. For children who were in a program for four year olds, 20% of the teachers reported reading two or fewer times a week, while 16% reported reading four or more times a week to children. Children spent more time in transitions than they did in book reading. In 1999, Dickinson and Sprague (2001) extended their research to 42 Head Start classrooms, where they observed the classrooms for two days. They found that in 26% of the classrooms no book reading was observed for either day.

Phonological and phonemic awareness activities are other activities that preschool-age children should engage in the early childhood classroom. These activities involve an appreciation of the sounds and meanings of spoken words, as well as understanding that speech can be broken down into smaller units. Writing helps children develop phonological awareness and letter knowledge as they learn about the letters and

their sounds (Aram, 2005; Whitehurst & Lonigan, 2001). Children who have knowledge of phonological awareness when they enter school are better equipped to learn to read (Burns, Griffin, & Snow, 1999). Diamond, Gerde, and Powell (2008) found in their study that “children whose writing was more sophisticated at the end of the school year were more likely to be sensitive to initial sound in words at the end of the year”. This is an important early literacy skill that young children are beginning to develop in preschool. Print-related skills such as knowledge of letters, name writing, and concepts about print are the best predictors of later reading in young children (Snow, Burns, & Griffin, 1998). Phonological awareness activities can consist of working with rhyming songs, syllable clapping, and grouping/sorting objects according to the beginning sounds. To promote phonemic awareness in preschool-age children, activities that isolate the first segment of the word, blending phonemes to make a word, breaking one-syllable words into their phonemes, and discovering what is left when a particular segment is removed from a word are excellent opportunities to encourage that development in preschool-age children (Burns et al.).

In the house area, preschool-age children use new language as they “plan, negotiate, compose, and carry-out the ‘script’ of their own play” (Burns, Griffin, & Snow, 1999, p. 49). As preschool-age children engage in conversations, they begin to practice their verbal and narrative skills that are important for their development in reading comprehension (Burns et al.). Preschool-age children should also be introduced to the letters of the alphabet and early childhood teachers should help preschool-age children recognize at least some of the letters. Preschool-age children should have easy access to the alphabet at their height, alphabet books, letter cards, word cards, and games.

Children should also have access to writing materials in order to practice writing letters and words. Preschool-age children begin to learn the essentials of writing such as print awareness and concepts about print, as well as phonological awareness. It is believed that preschool-age children who can recognize and print some letters of the alphabet have an advantage when they enter formal education (Burns et al.)

## Conclusions

The purpose of this literature review was to learn more about the effects and benefits of high-quality early childhood education programs on the literacy and language development of young at-risk children. I also wanted to understand more about how the early childhood education teacher, the early childhood classroom environment, and how the early childhood classroom learning activities can impact the literacy and language development of at-risk young children. As an early childhood educator, I wanted to reassure myself that what I plan and do in my early childhood classroom is having a positive impact on my student's literacy and language development, as well as preparing them to become successful readers and writers when they enter a more formal school setting. I completed a second phase of data analysis whereby I looked for recurring themes across all of the literature reviewed. After doing this, the following themes were found: the need for high-quality early childhood education programs, the need for early childhood education teachers to know and understand the continuum of reading and writing development, the need for language and print-rich environments, and the need for reading-aloud in an interactive manner. This chapter is organized with subheadings for each theme and provides further discussion for each one. Limitations of this literature review as well as recommendations for teaching practice are also discussed.

### *The Need for High-Quality Early Childhood Education Programs*

As I was conducting my review of the literature, some recurring themes and trends began to emerge about the effects of high-quality early childhood education programs on the literacy and language development of young at-risk children. One theme was the importance of young children, especially those at-risk for future academic

struggles, experiencing a high-quality early childhood education program. Results from the High/Scope Perry Preschool Project (Schweinhart, 2005), the Carolina Abecedarian Project, the Chicago Longitudinal Study (Reynolds, Temple, Robertson, & Mann, 2001) and the Pottawattamie County Preschool Initiative (Bruner & Stover-Wright, 2007; Jensen, 2008) have emphasized these effects on young at-risk children's literacy and language development. The High/Scope Perry Preschool Project indicates that every dollar spent on the original Perry Preschoolers has saved \$7.00 in special programs and services for those children later in life (Jones, 1999). Other studies conducted by Barnett (2001) and Magnuson, Ruhm, and Waldfogel (2007) have also indicated the importance of high-quality early childhood education programs on young at-risk children's literacy and language development.

*The Need for Early Childhood Education Teachers to Know and Understand the Continuum of Reading and Writing Development*

A second recurring theme in the literature was the influence that early childhood education teachers have on the literacy and language development of at-risk young children. The International Reading Association was a major contributor to this research as they developed a position statement, *Literacy Development in the Preschool Years* (2005), which addressed the need for early childhood education teachers to know and understand the continuum of reading and writing development and how it can be integrated into the daily preschool curriculum. Burns, Griffin, and Snow (1999) supported the International Reading Association in recommending that early childhood teachers also receive instruction in literacy development and that this professional

development needs to be ongoing in order to positively impact the literacy and language development of young at-risk children.

#### *The Need for a Language and Print-rich Environment*

Another theme found in the literature was the impact that the early childhood classroom environment has on the literacy and language development of young at-risk children. Studies have supported the need for a language and print-rich environment for young children to explore their emergent literacy skills (Whitehurst & Lonigan, 1998; Neuman & Roskos, 1990; Burns, Griffin, & Snow, 1999; Neuman, 2004; Snow, Burns, & Griffin, 1998; Hohmann & Tangorra, 2005). These studies suggested including props and writing materials throughout the early childhood classroom, as well as labeling materials with both picture symbols and words to increase young children's literacy and language development. Young children should also be exposed to informal conversations, with open-ended questioning to encourage young children to develop language.

#### *The Need to Read-aloud in an Interactive Manner*

The last theme that was indicated in the literature was the influence of the learning activities in the early childhood classroom. Research by Green, Peterson, and Lewis (2006), Halle, Culkins, Berry, and Johnson (2003), and McGill-Franzen, Lanford, and Adams (2002) stated that the most important literacy activity on the language and literacy development of young children is to read-aloud in an interactive manner. Research suggests that reading to children in small groups has the greatest benefit because it improves their vocabulary, print awareness, writing, and other emergent literacy skills (Dickinson & Sprague, 2001; Halle et al.). Research by Burns, Griffin, and Snow (1999) encourages that children learn how to play with sounds in words and

understand the meanings of spoken words in order to increase their phonological and phonemic awareness.

### *Limitations*

The types of literature that were reviewed limited this review of the literature. During my research, I only reviewed literature that was conducted within the United States. I should have possibly considered reviewing literature and studies that were conducted outside of the United States to compare what other countries do in regards to access to high-quality early childhood education programs for young at-risk children and the impact it has on their language and literacy development.

### *Recommendations*

As a result of my research, one recommendation that I would make is the need to follow young children over time who have experienced a high-quality early childhood program to determine the long-term benefits on these children's academic futures. With the recent federal push to make sure that all children enter school ready to learn, more needs to be done to track those young at-risk children who experience a high-quality early childhood education program to see what the impact is on their future academic career. Schools that are beginning to address the need for high-quality early childhood programs within their districts need to make sure they have an evaluation system in place to see the growth of these young children over a period of time. Ideally, this evaluation system would follow the children throughout their academic career.

A second recommendation that I would make is the need for early childhood education teachers to understand the continuum of reading and writing development of young children. By understanding this continuum, the early childhood education teacher

can better assist the young children who are in their early childhood programs in their language and literacy development, as well as planning appropriate instructional activities that encourage this development within the classroom. As young children increase their language and literacy development, it will only lead to their later success in reading and writing when they enter a more formal education system.

Another recommendation would be for early childhood education teachers to understand the relationship between young children's oral language development and literacy development. It is possible that without this understanding, early childhood education teachers may be disconnected in their instruction. A final recommendation would be for improved assessment or evaluation instruments that allow early childhood education teachers to examine their classroom environments, especially in the area of early literacy. One such instrument would be the Early Language and Literacy Classroom Observation (ELLCO) (Smith & Dickinson, 2002), which looks at the literacy environment and activities within the early childhood classroom. These instruments provide valuable information for early childhood education teachers and administrators in how to improve the classroom environment and encourage and support the literacy and language development of young children.

## References

- Aram, D. (2005). Continuity in children's literacy achievements: A longitudinal perspective from kindergarten to school. *First Language, 25*, 259-289.
- Barnett, S.W. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children, 5*, 25-50.
- Barnett, S.W. (2001). Preschool education for economically disadvantaged children: Effects on reading achievement and related outcomes. In S.B. Neuman and D.K. Dickinson (Eds.), *The Handbook of Early Literacy Research* (pp. 421-443). New York, NY: The Guilford Press.
- Bruner, C. & Stover-Wright, M. (2007, January). [Getting ready for kindergarten: An assessment of Pottawattamie county's investments in preschool]. Unpublished raw data.
- Burns, S.M., Griffin, P., & Snow, C.E. (1999). *Starting out right: A guide to promoting children's reading successes*. Washington, D.C.: National Academy Press.
- Carolina Abecedarian Project. (n.d.). Retrieved April 3, 2009, from <http://www.promisingpractices.net/program.asp?programid=132>.
- Diamond, K.E., Gerde, H.K. & Powell, D.R. (2008). Development in early literacy skills during the pre-kindergarten year in Head Start: Relations between growth in children's writing and understanding of letters. *Early Childhood Research Quarterly, 23*, 467-478.
- Dickinson, D.K. & Sprague, K.E. (2001). The nature and impact of early childhood care

- environments on the language and literacy development of children from low-income families. In S.B. Neuman and D.K. Dickinson (Eds.). *The Handbook of Early Literacy Research*. (pp. 263-280). New York, NY: The Guilford Press.
- Green, S.D., Peterson, R., & Lewis, J.R. (2006). Language and literacy promotion in early childhood settings: A survey of center-based practices. *Early Childhood Research and Practice*, 8(1).
- Hadaway, N.L. (2005). The press for achievement and promise of preschool literacy experiences. *The New England Reading Association Journal*, 41(2), 11-17.
- Halle, T., Calkins, J., Berry, D., & Johnson, R. (2003, September). Promoting language and literacy in early childhood care and education settings. *Child Care and Early Education Research Connections*, 2-17.
- Harms, T., Clifford, R.M., and Cryer, D. (2005). *Early childhood environment rating scale-revised edition*. New York: Teachers College Press.
- Hindman, A.H. and Wasik, B.A. (2008). Head Start teachers' beliefs about language and literacy instruction. *Early Childhood Research Quarterly*, 23, 479-492.
- Hohmann, M. and Tangorra, J. (2005). *Let's talk literacy: Practical readings for preschool teachers*. Ypsilanti, MI: High/Scope Press.
- International Reading Association (2003). *Standards for reading professionals*. Newark: DE.: International Reading Association.
- Iowa Department of Education and Iowa Department of Human Services (2006). *Iowa Early Learning Standards*.
- Iowa State Voluntary Preschool Program for Four-Year-Olds (2007). Retrieved April 18,

2009 from Iowa Department of Education.

[http://www.iowa.gov/educate/index.php?option=com\\_content&task=view&id=940&Itemid=1279](http://www.iowa.gov/educate/index.php?option=com_content&task=view&id=940&Itemid=1279).

Jensen, V. (2008, January). [Pottawattamie County Preschool Initiative, Harkin/Iowa West Preschool Project]. Unpublished raw data.

Jones, R. (1999). Early childhood education just keeps mattering more. *The Education Digest*, 64(8), 8-14.

Justice, L.M.; Mashburn, A.J.; Hamre, B.K.; & Pianta, R.C. (2008). Quality of language and literacy instruction in preschool classrooms serving at-risk pupils. *Early Childhood Research Quarterly*, 23, 51-68.

International Reading Association. (2005). *Literacy development in the preschool years: A position statement of the International Reading Association*. [Brochure]. Newark, DE: International Reading Association.

Lonigan, C.J.; Burgess, S.R.; & Anthony, J.L. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. *Developmental Psychology*, 36(5), 596-613.

Magnuson, K.A.; Ruhm, C.; & Waldfogel, J. (2007). Does prekindergarten improve School preparation and performance? *Economics of Education Review*, 26, 33-51.

Manzo, K.K. (1998). Experts urge bigger role for preschool in literacy development. *Education Week*, 17(32), 14.

McGill-Franzen, A., Lanford, C., & Adams, M. E. (2002). Learning to be literate: A comparison of five urban early childhood programs. *Journal of Educational Psychology*, 94(3), 443-464.

- National Association for the Education of Young Children (2006). *NAEYC develops 10 standards of high-quality early childhood education*. Washington, DC: National Association for the Education of Young Children.
- Neuman, S.B. & Roskos, K. (1990). Play, print, and purpose: Enriching play environments for literacy development. *The Reading Teacher*, 4, 214-221.
- Neuman, S.B. (2004). The effect of print-rich classroom environments on early literacy growth. *The Reading Teacher*, 58, 89-91.
- No Child Left Behind Act of 2001*. (2001). Retrieved on April 18, 2009 from United States Department of Education.  
<http://www.ed.gov/policy/elsec/leg/esea02/index.html>
- Reynolds, A.J., Temple, J.A., Robertson, D.L., & Mann, E.A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285(18), 2339-2346.
- Schweinhart, L.J. (2005). *The High-Scope Perry Preschool Study through age 40: Summary, conclusions, and frequently asked questions*. Ypsilanti, MI: High/Scope Press.
- Shaffer, J.L. (2007). *Reader's workshop: Giving students time, choice, and flexibility in the classroom*. Retrieved October 18, 2008 from University of Northern Iowa, Rod Library-Digital Collections web site: <http://cdm.lib.uni.edu/>
- Smith, M.W. & Dickinson, D.K. (2002). *Early language and literacy classroom observation (ELLCO) toolkit, research edition*. Baltimore, MD: Paul H. Brookes.

Snow, C.E., Burns, S.M., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, D.C.: National Research Council.

United States Department of Education. (2003). *The condition of education*.

Washington, DC: National Center for Education Statistics. NCES.

Whitehurst, G.J. and Lonigan, C.J. (1998). Child development and emergent literacy.

*Child Development*, 69(3), 848-872.

Whitehurst, G.J. and Lonigan, C.J. (2001). Emergent literacy; Development from

prereaders to readers. In S.B. Neuman & D.K. Dickinson (Eds.). *Handbook of early literacy research* (pp. 11-29). NY: The Guilford Press.

Whitehurst, G.J. and Lonigan, C. (2003). Get ready to read! An early literacy manual:

Screening tool, activities, and resources. NY: Pearson Early Learning.