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## The role of the home literacy environment in the development of early literacy skills and school readiness in kindergarten children from low socioeconomic and minority families

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The Role of the Home Literacy Environment in the Development of Early Literacy Skills  
and School Readiness in Kindergarten Children from Low Socioeconomic and Minority  
Families

by

Nicole R. Martin

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Education Specialist  
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The Role of Home Literacy Environment in the Development of Early Literacy Skills and School Readiness in Kindergarten Children From Low Socioeconomic and Minority Families

Nicole R. Martin

ABSTRACT

The present study investigated the relationship between two predictor variables and children's Dynamic Indicators of Basic Literacy Initial Sound Fluency (ISF) and Letter Naming Fluency (LNF) scores, as well as Early Screening Inventory-Kindergarten (ESI-K) scores. The two predictor variables were 1) parents' perception of their home literacy environment, and 2) parental beliefs about the importance of literacy (race had to be dropped out of the study due to the limited amount of participants per race variable). The participants were 68 kindergarten students and their parents from two schools in a school district in West Central Florida. Results showed that the home environment is a relatively good predictor of student's early literacy skills, when ISF is used to assess early literacy, with that variable accounting for 16% of the variance in the ISF scores. No other significant relationships were found, with parental belief not predicting any of the early literacy scores. Implications for educating low-income families to prepare their children for school are discussed.

## Chapter I

### Introduction

#### *Statement of the Problem*

Literacy can be defined as “using printed and written information to function in society, to achieve one’s goals, and to develop one’s knowledge and potential” (Kirsch, Junbeblut, Jenkins, & Kolstead, 1993, p.2). According to the National Institute for Literacy (1998) the adult illiteracy rate in United States is thirty eight percent. In 1992 the illiteracy crisis in the U.S. was recognized by then president, George Bush who signed the National Literacy Act through which the National Adult Literacy Survey (NALS) was conducted (Yussen, & Smith, 1998). The NALS assessed literacy proficiency on three scales: prose, document, and quantitative literacy (Yussen, & Smith, 1998). The scales tap into adults’ skills in performing everyday functional literacy tasks such as, filling out an application, understanding a newspaper article, or understanding quantitative information from a graph. Five levels of literacy proficiency were identified representing the ability to understand and to accurately complete literacy tasks across the three literacy scales. According to findings from the NALS, about one-half of American adults performed at the two lowest levels of literacy proficiency. Further, educational attainment was highly associated with literacy proficiency. Finally, African Americans, Native Americans, Hispanics, and Asians were more likely than Caucasians to perform in the two lowest literacy levels.



Literacy difficulties amongst children are prevalent as well. Data from the 2003 National Assessment of Educational Progress (NAEP) show that 37 percent of fourth graders read below the basic level. Further in twelfth grade, 26 percent read below the basic level. Among African Americans, Hispanic, and American Indian students, the picture is even more dismal: 46 percent of Black, 44 percent of Hispanic, and 43 percent of American Indian eighth graders and 43 percent of African Americans read below the basic level (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress; (NAEP, 2003).

Further, almost 3 million children in the U.S. have some form of a learning disability and receive special education support in school. Among these students, approximately 85 percent have reading difficulties. These numbers do not include children in private and religious schools or home-schooled children (National Dissemination Center for Children with Disabilities, 2004). Since, 1992 the percentage of students who spend 80 percent or more of their time in school in special education classes increased from 21 percent to 45 percent. Racial differences have also been observed. One percent of Caucasian children compared to 2.6 percent of non-Hispanic African American children received learning disabled related special education services in 2001(OSEP 23<sup>rd</sup> Annual Report to Congress, U.S. Department of Education, 2001). With such large portions of students having learning disabilities, lasting impacts have been found. The 23<sup>rd</sup> Annual Report to Congress (2001) reported that 27 percent of children with learning disabilities drop out of high school. Further, only 13 percent of students with learning disabilities, compared to 53 percent of students in general

education, have attended a 4-year post secondary school program within two years of leaving high school (National Longitudinal Transition Study, 1994).

Recently, congress took action to improve literacy targeting youths, with the reauthorization of the Elementary and Secondary Education Act (ESEA). On January 8, 2002 President Bush signed the No Child Left behind Act of 2001 (NCLB). This new law attempts to educate all students and to hold teachers and schools accountable for those who fail. This law was in part motivated by the rising achievement gaps between ethnic groups specifically in the areas of reading. According to NCLB, four major objectives are identified: accountability for results, emphasis on reading instruction which is scientifically based, more parental options, and more local control and flexibility. In addition, NCLB requires each state to measure every public school student's annual progress in reading and math in grades 3-8 and at least one time during grades 10-12. Those measurements must be aligned with state academic content and achievement standards (U.S. Department of Education, NCLB, 2004).

Two key reading initiatives have developed as a result of NCLB, *Reading First* and *Early Reading First*. Through the *Reading First* initiative states are given funds and tools to tackle reading deficits. *Reading First* initiatives will provide \$900 million to states and local districts and *Early Reading First* will provide \$75 million to enhance pre-reading skills for children in Head Start and other preschool programs. *Reading First's* main emphasis is to improve literacy and reading instruction in early elementary. Funds will be used to improve professional development and support teachers. Also, the program will provide states and districts to prepare classroom teachers to screen and identify reading problems and to help students overcome reading barriers. *Reading First*

is unique from previous national reading programs for several reasons. First, it is more focused on improving classroom teacher's ability to provide consistent reading instruction to all students. Second, all states are eligible to apply for funds where previous programs distributed funds competitively excluding some states. Finally, *Reading First* identifies clear specific expectations for what should happen in the classroom because instruction must be based upon scientific reading research. The *Early Reading First* grant promotes reading readiness in school-age children, particularly those from low-income families. Both the *Reading First* and *Early Reading First* programs are aligned so there is consistency in teaching children to read between preschool and kindergarten.

*Early Reading First* was developed because the ESEA recognized that many children enter school without pre-literacy skills that are needed to succeed in K-3 reading instruction. Children from low socioeconomic status and minorities are typically identified as being at high disadvantage for school readiness. Minority children and children from low-income households have been identified as groups who are at increased risk for academic failure because of deficits in preschool literacy experiences and exposure to language (Washington, 2001). According to the Department of Education (2003) the National Assessment of Educational Progress reading assessments indicated that 12 percent of African Americans children, 16 percent of Hispanic children and 17 percent of American Indian children scored at or above the proficiency level compared to 40 percent of Caucasian children. Poverty, instability in the home, inadequate nutrition and medical care are deficits that create environmental stressors possibly affecting young children's functioning (Fazio, Naremore, & Connel, 1996).

The first three years of life are the most crucial because this is when children are most susceptible to their interactions with adults and peers. Therefore, parenting style and family literacy activities are strong factors that impact a child's literacy skills. These factors are highly impacted by SES, race, and educational status of parents. For example, middle SES families were found to speak 141 more utterances per hour than a family on welfare (Hart & Risley, 1995). Hart & Risley have found compelling evidence that children become mirror images of their parents in regards to vocabulary, and in language and interaction styles. Families from lower SES backgrounds tend to engage in less conversation, use more short direct demands, and ask fewer questions. Consequently, a strong correlation was found between SES and vocabulary.

SES also impacts other factors in the home. Children in families living above the poverty line are much more likely to be engaged in literacy activities on a regular basis than children who live in poverty. Further studies have shown that 61 percent of children living above the poverty line were read to every day by a parent or other family member, compared to 46 percent of children living below the poverty level (U.S. Department of Education, National Center for Education Statistics, 1996)

Differences in literacy activities amongst racial and ethnic groups have also been documented. For example, research has found that Caucasian children are more likely to be read to every day (64 percent) than African American children (44 percent), or Hispanic children (53 percent). Also, 41 percent of Caucasian children visit a library once a month compared to 31 percent of African American children and 27 percent of Hispanic children. Further, African American and Hispanic children are less likely to be

told a story frequently (47 percent) than Caucasian children (59 percent). (U.S. Department of Education, National Center for Education Statistics, 1996)

### *Purpose of Study*

Literacy is a skill that is valued highly in society. Illiteracy has social and economic implications, which impact such things as class level, job placement, and daily functioning. Literacy development begins prior to the age of 5; therefore, research has been conducted examining factors that impact literacy development in pre-school aged children. Among the most important of factors identified is the home environment. The home environment is identified as a viable factor in the development of literacy skills because the home is typically the setting in which language and literacy is first encountered. The purpose of this study was to add to previous literature assessing the potential impact the home environment has on early literacy skills.

### *Research Questions*

1. What is the relation between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy Scores (Initial Sound Fluency) and their race (Caucasian, African American, and Hispanic), parents perceptions of their home literacy environment, and parental beliefs about the importance of literacy as measured by the modified Home Literacy Environment Survey?

*Hypothesis 1.* A significant relation exists between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy Scores (Initial Sound Fluency) and their race, parent's perceptions of their home literacy environment, and parental beliefs about the importance of literacy.

2. What is the relation between kindergarten students' early literacy scores as measured by the Dynamic Indicators of Basic Early Literacy Scores (Letter Name Fluency) and their race (Caucasian, African American, and Hispanic), parent perceptions of their home literacy environment, and parental beliefs about the importance of literacy as measured by the modified Home Literacy Survey?

*Hypothesis 2.* A significant relation exists between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy Scores (Letter Name Fluency) and their race, parent's perceptions of their home literacy environment, and parental beliefs about the importance of literacy.

3. What is the relation between kindergarten students' early literacy scores as measured by the Early Screening Inventory-Kindergarten and their race (Caucasian, African American, and Hispanic), parent perceptions of their home literacy environment, and parental beliefs about the importance of literacy as measured by the modified Home Literacy Survey?

*Hypothesis 3.* A significant relation exists between kindergarten students' early literacy scores as measured by the Early Screening Inventory-Kindergarten and their race, parent's perceptions of their home literacy environment, and parental beliefs about the importance of literacy.

#### *Significance of the Study*

Research has shown that socioeconomic and minority status has an effect on pre-literacy skills as well as literacy practices in the home. According to Washington (2001) Caucasian children are more likely to be read to every day than Hispanic or African American children, and less than half in poverty are read to every day compared to 61

percent of children above the poverty line (Washington, 2001). Also, the National Institute for Literacy (1998) reported that low literacy is strongly related to poverty. For example, 43% of those with the lowest literacy skills live in poverty.

This study provides further information on the differences in early literacy skills as well as differences in home environments among children from diverse backgrounds. This information may help to lead to multi-cultural parent based interventions that help to foster parent's ability to produce enriching literacy environment. Further, according to the National Institute for Literacy (1998) more than 4 in 10 preschoolers, 5 in 10 toddlers, and 6 in 10 babies are not read to regularly. The results from this study may serve as a resource for parents and educational personnel when considering what might promote literacy activities in the home.

#### *Definitions of Terms*

*Early literacy skills.* Early literacy skills include phonological awareness, alphabetic principle, and fluency with connected text (National Reading Panel, 2000).

*Home literacy environment.* The home literacy environment includes learning materials that are provided in the house as well as the activities that are presented in the home that promote language and learning stimulation and involve the parents.

*Socioeconomic status.* U.S. Department of Health and Human Services (2006) reports the following poverty guidelines; a family of four with a household yearly income of \$20,000, and for each additional family member add \$ 3,400 a year.

*Free & reduced lunch.* Free or reduced-price meals are served to students who are unable to pay the full price of meals and who qualify based on eligibility criteria approved by the school board. The income eligibility guidelines for free or reduced-price

meals are in accordance with scales provided by the Florida Department of Education as adopted by the State Board of Education based upon income guidelines prescribed by the United States Secretary of Agriculture

*Title I.* A program to improve the opportunities of educationally deprived children by helping them succeed in school. The administration of Title I is shared by the federal government, states, and local districts. Local educational agencies submit applications to state educational agencies for approval. Funds are distributed to local educational agencies and monitored by state educational agencies. Services vary by program. Available services may include education/child development, direct health services, health referrals, dental services, speech and hearing assessment (U.S. Department of Education, 1994).



## Chapter II

### Review of Literature

#### *Overview of the chapter*

This chapter reviews the literature that addresses the possible impacts that the home literacy environment has on the early literacy skills of children. Previous research has demonstrated that children who come from low socioeconomic backgrounds and whose mothers have low education are at the greatest risk of academic failure (Washington, 2001). This rationale is a very compelling one for examining the home literacy environments of low socioeconomic households as it relates to early literacy skills. In the remainder of this chapter the following areas of research will be examined: the impact of socioeconomic status on cognitive development, academic achievement, and early literacy, as well as the impact of the home literacy environment on children's literacy skills. This chapter concludes with a summary of the literature.

#### *Children and Low Socioeconomic Status*

According to the National Poverty Center in 2001 there are approximately 11.7 percent of people in the U.S. who live in poverty. Children represent a disproportionate share of the poor; they are 25.6 percent of the total population, but 35.7 percent of the poor. The poverty rate for children also varies by race. According to the National Poverty Center statistics 9.5% of Caucasian children are living in poverty, 30.2 % of African American children, and 28% of Hispanic children. Young children are also more likely to live below the poverty line than older children. Five million children under the age of 6

live below the federally mandated poverty line. (University of Michigan, National Poverty Center, 2003).

Growing up in an impoverished environment has numerous implications for the successful development of children. Children who lack stimulating environments have been found to demonstrate cognitive and academic deficits amongst other factors (Stipek & Ryan, 1992). A trend in the literature has found that a child's home environment and early child care is highly correlated with school readiness (Smith & Dixon, 1995; DeBaryshe, 1995). Impoverished homes are typically found to lack the resources to provide children with enriching experiences (Duncan, Brooks-Gunn, Klebenov, 1994). With the increasing rise in educational standards for children's performance in school, research has examined the differences in experiences between SES groups.

#### *Cognitive Development/Academic Achievement and Low Socioeconomic Status*

Stipek and Ryan (1992) examined cognitive and motivational differences between children from disadvantaged and more affluent backgrounds. The participants in the study were two hundred sixty-two children who attended preschool and kindergarten. Forty seven percent of the children were Hispanic, 27% were African American, 1 % was Asian, 24% were Caucasian, and 1% was identified as "other ethnicity." Four types of data were collected: information about students' SES was collected through school records and parent questionnaires, the children's cognitive skills and motivation were assessed at the beginning and end of the year, behavioral and emotional attitudes were observed in the students' classroom, and parents' education, income and teaching behaviors were self-reported.

The children's SES was determined by information parents reported about family income. There were three levels of income. The lower level was classified by a family's yearly income being less than \$ 25,000. In the lower level group there were 105 Hispanic, 30 African American, 3 Asian, and 1 child classified as "other ethnicity." The second level consisted of a family yearly income of \$ 25,000-\$ 45,000. The third level consisted of a family yearly income of greater than \$ 45,000.

The participants were administered the *Woodcock-Johnson Achievement Tests*, as well as items from the *Peabody Individual Achievement Test*. The participant's number, letter, and reading skills were assessed with both measures. Further, the short form of the McCarthy was used to gain information about other cognitive competencies. A subscale of the *Young Children's Feelings About School* was used to assess children's perception of their competencies, attitudes toward school, and emotions about school.

Classroom observations were conducted for two hundred and four of the participants. The observer randomly selected a participant to observe for four minute units. This observation was completed until each participant was observed a total of eight times. The total frequency of behaviors and expressions observed during the four minute units were recorded. Some variables that were observed were responding to a completed project (i.e., verbally calling attention, smiling), making social comparisons, refusals to comply, being reprimanded by the teacher.

A series of MANOVAs were conducted to obtain results. The first set of data analyses was conducted to examine differences between children when they entered kindergarten or preschool. In both conditions children from higher SES backgrounds scored higher on the cognitive competencies measures than their lower SES counterparts.

The gap was more salient amongst kindergartners than preschool children. This particular gap was more pronounced in the area of verbal fluency. A two by two MANOVA was computed separately for the African American and Hispanic groups because they had large numbers of participants who were both economically advantaged and disadvantaged. SES most impacted the African American participants in the areas of word knowledge, verbal fluency, conceptual grouping, and letter recognition. The disadvantaged Hispanic children were most affected in the areas of puzzle solving, number memory, numbers achievement, and letters achievement.

Analyses of motivation variables resulted in no differences between economically advantaged and disadvantaged participants except in the amount of time the participants reported they worried. Preschool disadvantaged participants were found to worry more at the end of the year, whereas advantaged participants worries declined toward the end of the year. In kindergarten a similar reversed pattern was found.

The analyses of the classroom observations found that economically advantaged participants seemed to be bored more than economically disadvantaged participants. Advantaged children were more likely to make comments about their competencies, make more negative social comparisons, and more likely to seek help from an adult. Disadvantaged participants were observed to draw attention from another child or adult when they had accomplished something more often than advantaged children. Further, disadvantaged children were found to smile more after completing a task.

Overall, the results of this study depict a clear picture of the differences in cognitive abilities amongst children from diverse economic backgrounds. The trend shows that more privileged children are at an academic advantaged on a variety of

educational measures. Intra-racial group differences also were found with regards to socioeconomic status.

In addition to differences in cognitive abilities, research has also shown that children living in poverty are usually less prepared for school and are more likely to experience academic failure (Washington, 2001). The achievement gap between middle and lower-class students is becoming wider today. Many researchers believe that the consequences of being raised in low socioeconomic environments may have long term effects on students' academic achievement (Krasner, 1992).

For example, Anderson (1992) examined the relationship between poverty and student achievement amongst eighth graders. The study used data from the National Education Longitudinal Study of 1988 (NELS: 88). The 1988 study included 24, 599 students who attended public schools. Anderson conducted several analyses of the data provided by the 1988 study. Student academic achievement was measured by standardized achievement tests administered in the NELS: 88 study. The student's socioeconomic status was determined by whether or not the students received free or reduced lunch. The study yielded various results indicating a strong relationship between academic achievement and socioeconomic status. On average, students from low SES families performed less well in school and were in more need of special educational services than their peers who were from high SES families. Further, the researchers found that low SES students performed less well than their classmates from more advantaged backgrounds regardless if they attended a school with a high poverty level.

In another study, Okpala, Okpala, & Smith, (2001) examined the influence of socioeconomic status on the mathematics achievement of fourth grade students in a low-

income county. Other variables examined in the study were parental involvement and instructional expenditures. There were a total of 42 elementary schools in the county that included fourth grade students. About 47 % of the student population was Caucasian, 44.6 % were African American, 4.5 % were Hispanic, 1.7 % were Asian American, and 1.6% were Native American.

Two measures were used to examine student achievement. The first measure was the scale score from the end of the year statewide assessment used in the school district. The second measure was the percentage of students in each school who performed at four different levels. Level 1 students did not perform at the basic level; Level 2 students performed at the basic level; Level 3 students performed at the proficient level; and Level 4 students performed at the advanced level. According to state requirements students had to perform at least at Level 3. Therefore, the percentage of students who achieved at Levels 3 and 4 were the students who mastered the subject area according to state policy.

Receiving free or reduced lunch was used as an indicator of SES. Parental volunteer hours were measured by dividing all parental volunteered hours in each school by 100. Expenditures per pupil were calculated by adding the total instructional supplies for each school in the study and dividing the amount by the number of students in each school.

Data in this study were classified into three different categories based on the income levels of parents in each school. The variable free or reduced lunch was used as an indicator of income level of each school. The free or reduced lunch score represented the percent of students who qualified for either category. The median free or reduced lunch score was between 45.1 and 65.0. Therefore, schools with free or reduce lunch

within the median category were considered middle-income schools, schools with free or reduce lunch scores below 45.1 were considered high income schools, and schools with free or reduce lunch scores above 65.0 were considered low income schools. Of the 42 schools examined in this study 13 were classified as high income, 17 as middle income, and 12 as low income.

The researchers found that the percentage of students overall who mastered mathematics increased from low income to high income schools. The low income schools percentage of students who mastered the subject area was 53.75, middle income schools percentage was 70.06, and high income was 78.85. A reverse pattern was noted in the racial composition of the schools. It was found that the percentage of African American students decreased from low income to high income schools, while the number of Caucasian students increased.

Pearson product moment correlations were conducted to determine the relationship between academic achievement and the selected variables. The correlation between parental volunteer hours and mathematic achievement was low (.004) as well as the correlation between instructional supplies expenditure and achievement (.124) The percentage of students in free and reduced lunch programs was negatively correlated with the mathematics scores (-.773), indicating that there is a strong relationship between academic achievement and socioeconomic status. Students whom were in free and reduced lunch programs had significantly lower math scores.

Similarly, in a study by Thompson (2002) environmental characteristics and neighborhood type was used as an indicator of SES to examine its impact on student achievement. The researcher conducted a quantitative study of selected elementary

schools (n = 61) from two midsize urban school districts. One district had a 39% minority population and the other district reported a 14% minority population. The school's level of SES was determined by several variables: the percent of minority student enrollment, school mobility, and the percent of students on free and reduce lunch. The environmental characteristics and neighborhood type was determined by a cluster analysis of selected census data: "percent of houses built before 1950," "percent of homes built after 1970," percent of homes that pay \$ 300.00 or less in rent," "percentage of households with children," "percent of neighborhoods that have children who live in poverty," "average population of homes per neighborhood," "percent of homes that are owner-occupied," and "the population density of various neighborhoods." Student achievement was measured by school-level data versus individual test scores. Results from the *California Achievement Test* were utilized to determine academic achievement. Reading, language, arts, and math achievement scores for fourth and sixth graders were used.

A series of analyses were conducted to examine the influence of the selected variables on academic achievement. Results indicated that neighborhood types significantly impacted the students in the study, especially the sixth graders. The regression model indicated a 3% increase in the prediction with an effect size of .35 for the sixth graders. The results from this study imply, particularly with the sixth graders, that socioeconomic status has an impact on academic achievement. Based on the variables used to define socioeconomic status the researchers were able to predict student's scores on the *California Achievement Test*.

A similar study by Crane (1996) examined to effects of students' home environment, SES and maternal tests scores on academic achievement. The data used in



this study were from a sample of the National Longitudinal Survey of Youth (NLSY). The NLSY is a random sample of 12,686 people who were born between 1957 and 1964. The participants have been interviewed every year since 1979.

The *Peabody Individual Achievement Tests* (PIAT) in mathematics was used as indicator of academic achievement. Eight variables of SES were used for analysis: income level of family, mother's educational status, father's educational status, mother's occupation, father's occupation, size of household, marital status, and the percent of students at the mother's high school who were poor. The percentage of student's who were considered poor at the mother's school was used an indicator of the quality and social context of the mother's education.

The Short-Form version *HOME (HOME-SF)* inventory was used to measure the overall quality of the children's home environment. The *HOME-SF* is a widely used instrument that attempts to measure the quality of the home environment by assessing the relationship between parent and child and examining the amount of stimulation provided in the home. The *HOME-SF* includes two subscales, one measuring cognitive stimulation and the other emotional support. The assessment given to mothers to measure their cognitive ability was the *Armed Forces Qualification Test (AFQT)*. The AFQT consists of sections on arithmetic reasoning, numerical operations, word knowledge, and paragraph comprehension.

Regression of the variables showed that home environment, SES, race and ethnicity had a negative impact on the PIAT scores. The mother's and father's education, and mother's and father's occupation were found to have no significant effect on academic achievement. Early intellectual stimulation, as indicated by the *HOME-SF*, was

found to have the largest impact on the PIAT scores. Four HOME indices contributed to the measurement of early intellectual stimulation. These indices were age of weaning, family income, household size, and the percentage of poor students at the mother's high school. The HOME inventory also assesses other aspects of the home environment such as, the number of toys and the quality of the physical environment.

The results of these studies support the notion that family SES backgrounds and academic achievement are highly correlated, with a pattern indicating that students from low SES backgrounds perform more poorly than their higher SES peers. The latter study indicated that the home environment of children also has a big impact in their educational performance. This trend has been found especially in the area of language and literacy development. Research has indicated that even as early as 48 months children from low income homes are at a disadvantage when compared with middle class children in understanding written language (Smith & Dixon, 1995).

#### *Early Literacy and Socioeconomic Status*

Research on preschool students, from different SES backgrounds, early literacy skills has been conducted. Smith & Dixon (1995) researched the differences in the literacy concepts of low and middle class preschool four-year old students. A total of 64 students participated in the study drawn from six different preschools. Three Head Start preschools were utilized to identify families with household incomes below the poverty line; and three preschools that required tuition were selected to target middle income families. Only half of the Head Start mothers had earned a high school diploma or equivalent and none had a college degree. In contrast, 67 % of the middle class mothers had attended college and completed at least a bachelor's degree.

Two constructs were assessed in this study: function of print, and the form of print. A variety of assessments were performed to examine these two constructs. During the first four weeks of preschool the researchers administered nine informal tasks to assess the two constructs. Four of the tasks were used to determine the students' understanding of the function of print: "recognizing environmental print," "identifying literacy artifacts," "describing the functions of literacy objects," and "recognizing readable print."

To assess the child's ability to recognize environment print the children were shown ten 4 X 5 color photographs of logos. The children were shown each photograph and were asked to tell the administrator what it said. The photographs consisted of such pictures as, McDonald's signs, stop signs, and Crayola boxes. One point was given for each correct response.

The children's knowledge of literacy objects were assessed by having students identify materials that were presented to them. Some objects that were used include a newspaper, telephone book, map, and calendar. To determine how the preschoolers perceived readable print the students were shown 5 X 8 cards with strings on the letters or scribbles. When the students were shown the card they were asked if it contained a word that older people say.

To measure the second construct, preschooler's explicit knowledge of the form and structure of print, five tasks were administered: letter identification; letter sound identification; writing words and phrases dictated; blending syllables into words; and blending phonemes into words.

To identify letter names, the students were presented with 3 X 5 cards with lowercase letters and asked by the administrator the name of the letter. To examine the students' ability to identify letter sounds, seven utterances were spoken to each child individually and they were asked to write on the paper something that would help them to remember the word.

The third task involved asking the preschoolers to write down dictated words and phrases. Scores were given for symbolic pictures and scribbles, as well as more advanced letter similar symbols. In the task measuring their ability to combine syllable segments into words the children were asked to identify words after hearing utterances consisting of two isolated syllables. A similar task was administered to students to measure their ability to combine phoneme segments into words. The preschoolers were asked to identify a word after hearing verbal utterances consisting of two isolated phonemes.

A questionnaire also was administered to the parents of the preschoolers. The questionnaire consisted of the *Parent Survey of Home Literacy* and other items that examined the frequency and quality of the literacy experiences that both the parents and child had together. The parents of children who were in Head Start preschools were read the questionnaire.

Multivariate analysis of variance was conducted to determine whether low and middle SES preschoolers differ on the two constructs that were measured. The total scores for the function of print construct ranged from 12 to 31, with the median being 22. Overall, 61 % of the lower income preschoolers had scores in the lower range. In contrast, 30 % of the high income preschoolers scored above the median. Fifty eight percent of the middle income preschoolers had scores that were above the median, and

29 % of the middle income preschoolers scores were in the lower half. An overall significant effect was found for the function of print construct,  $F(4, 59) = 4.85, p .01$ .

The scores for the form and structure of print construct ranged from 7 to 77, with the median being 23. The same pattern was found between the low income and middle income groups. Sixty one percent of the low income preschoolers fell below the median, whereas only 29 % of the middle income students' scores were in the lower half. A multivariate analysis was conducted showing an overall significant effect,  $F(5, 58) = 4.22, p < .01$ .

Analyses of the parent questionnaire depicted a strong difference in experiences between the two groups of parents. Seventy-four percent of the middle class parents reported reading to their children every day, while an equal amount of low income parents reported reading to the children only once a week. Overall, the data concluded that low income children were read to less than 10 minutes per week before they began preschool.

Even though books were found in 92 % of all preschooler's homes few of the low-income parents reported reading a newspaper or magazine. Furthermore, the books that low income parents reported reading consisted of adult content, such as the Bible which was regularly cited as a common book. Parents from low income homes also were reported less often that their children had areas where they could draw, color, or write. Further, there were differences found in the initiatives that the groups of parents took to promote literacy interactions with their children. Only 30% of low income parents were reported to ask their children questions and elicit responses from their children.

## *Literacy*

Literacy in the literature traditionally has been considered a visual and perceptual process that involves a series of hierarchical skills. Reading was seen as decoding, where the child had to be taught to respond to written symbols verbally while adding comprehension later (Hearn, 1992). Consequently, reading instruction in the past followed a rigid two-step process involving first teaching children the alphabet. For example, children were taught through key words and practiced reading simple syllables (e.g., C is for cat). Furthermore, children's literature did not exist making the Bible the most readily available text. Reading materials were not adapted for young children, which heavily impacted reading comprehension. By the 1940's reading instruction was focused more on whole word and reading comprehension. Words were introduced through their meaning first and were to be recognized solely by sight. If children failed to recognize a word they were encouraged to use context and pictures to determine a word. Phonics was used as a last means and was exercised sparingly (Adams, 1990). Further, it was believed that children were not able to read until they were five or six years old and had acquired the appropriate skills.

In the 1950's, researchers began to question the whole word approach to reading. The belief that written English is alphabetic and thus phonics instruction is the most beneficial, began to reemerge. Having the ability to identify letters and the sounds that each letter represents was valued. Consequently, it was believed that once children were equipped with these skills they have the ability to become lifelong readers (Adams, 1990). By the 1970's, the concept of "emerging literacy" began to formally develop. Marie Clay coined the term "emergent literacy" (Britto & Brooks, 2001). Clay observed and recorded how

children responded to literacy activities at school and at home up until they were five or six years old (Hearn, 1992). Clay found that most of the children started school with different ranges of early literacy concepts based on their pre-school experience from books and writing (Hearn, 1992). From this, it was derived that reading is not an exact process of seeing and saying words but rather a perceptual and cognitive process. Emergent literacy means that children obtain literacy skills not only from direct instruction, but also from a stimulating and responsive environment. Emergent literacy skills are made up of knowledge and attitudes that are developmental to conventional forms of reading and writing (Whitehurst & Lonigan, 1998).

Literacy has been identified as the key factor in student academic achievement. Typically if students do not master reading they are at risk for academic failure. Longitudinal studies have documented the long-term effects on children who have formally been taught reading versus children who have not had early literacy exposure. The Kindergarten Reading Follow-up (KRF) and the Reading Development Follow-up (RDF) both identified that children who engaged in early educational experiences were found to be academically successful in high school and obtained desirable adult literacy levels (Hanson & Siegel, 1998; 1991; Siegel, 1987). High school seniors who were identified as experiencing more reading, language, and other kinds of related educational experiences during preschool years had higher levels of reading competency than those who were provided with less. Further, compared to other high school seniors, those who received formal kindergarten reading instruction had better grades, attendance, attitudes toward reading, and needed less remediation. Most notably, these results were consistent across ethnic, gender, and social class groups.

In another study investigating early literacy and academic achievement Hart & Risley (1995) recruited 49 families and their preschool children under the age of 3 from different socioeconomic backgrounds, ranging from highly affluent families to more impoverished families with most families in the middle. Several aspects of the family literacy experiences were observed: language style, quantity and quality of language interactions, and parenting style. They found that the quality of the first 3 years of language learning influenced the student's literacy accomplishments at the age of 3. They followed up the study with 29 families to determine how students with high accomplishments at the age of 3 would perform in third grade. They found that for the 29 children observed at 1-2 years of age, rate of vocabulary growth at age 3 was strongly associated with scores on the *Peabody Picture Vocabulary Test-Revised* (PPVT-R) of receptive vocabulary ( $r = .58$ ) and the *Test of Language Development-2: Intermediate* (TOLD) ( $r = .74$ ). Vocabulary at age 3 was also found to be correlated with third grade reading comprehension scores on the Comprehension Test of Basic Skills ( $r = .56$ ). These findings as well as others highlight the importance of literacy and its potential impact on academic success. Further, the results identify the urgency and significance of early literacy exposure and its effect on reading competency.

### *Early Literacy*

In 1997, the National Reading Panel (NRP) was established by the Director of the National Institute of Child Health and Human Development and the Secretary of Education. The panel was put in charged in developing a report that summarized research literature pertinent to critical skills, environments, and early interactions that are key for beginning reading. The NRP identified five areas that entail skills needed for beginning



readers. These five areas are Phonemic Awareness, Alphabetic Principle, Fluency with connected Text, Vocabulary, and Comprehension.( Langenberg, D.N., Corroero, G., Ehri, L., Ferguson, G., Garza, N., Kamil, M.I., Marrett, C.B., Samuels, S.J., Shanahan, T., Shaywitz, S.E., Trabasso, T., Williams, J., Willows, D., & Yatvin, J., 2000).

Research has shown that phonemic awareness, which is the ability to reflect upon and manipulate the sound structure of spoken language, is important for later development and is a precursor to literacy (Dickinson & McCabe, 2001). Similarly, the NRP reported that phonemic awareness and letter recognition are the two best predictors of how well children will learn to read during the first two years of school. Interventions that target phonemic awareness enhancement have been found to be successful in improving children's reading abilities

Phonics has also been identified as an important skill for reading. Phonics entails understanding how letters are linked to phonemes to form letter-sound correspondences. Through meta-analysis the NRP derived that systematic phonics instruction positively impacts children's reading abilities, indicating that phonics is an essential skill for children to learn.

The NRP also identified fluency and comprehension as critical skills. Fluency is the ability to read with speed and accuracy. Fluency also has a strong impact on comprehension. The NRP also noted the importance of vocabulary and reading comprehension. Strong oral vocabulary skills, both expressive and receptive, have been identified as critical for both reading and general academic success (Washington, 2001). Vocabulary supports reading development, and as children get older, reading is an important source of vocabulary growth. Also, research is showing evidence that the size

of a child's vocabulary may have a positive effect on phonological awareness (Washington, 2001).

Hart & Risley (1995) compared language use of preschool children whose parents were professors and preschool children from disadvantaged backgrounds. From their research they discovered that both groups of preschool children talked about similar things, but with very different depth in vocabulary. The professors' children talked at least twice as much as the children from disadvantaged backgrounds. The professors' children were known to talk about different aspects of what they were doing and asked more questions about how and why things work. Slower vocabulary growth rates were established for the less advantaged preschool students. Further, the researchers found that the vocabulary growth rates were strongly associated with rates of cognitive growth.

In more recent years, it has been well established that the process of learning begins well before kindergarten. Therefore, research has been investigating the factors that have an effect on early literacy. If the negative and positive factors that impact early literacy can be accurately determined then appropriate intervention and prevention plans can be put in place.

#### *Home Literacy Environment*

In research on home environments, ideal cognitive outcomes have been associated with home environments that offer a child numerous opportunities to learn through interaction with adults and age-appropriate materials (Hart & Risley, 1992). Children from middle and upper class households, are more likely to be exposed to print through books, newspapers, and magazines while, children from lower socioeconomic households typically are exposed more to television than reading materials. Therefore, the quality of

the home environment may have direct implications in the development of literacy skills of young children.

The Family Literacy Commission defined family literacy as the ways parents, children, and extended family members use literacy at home and in their community (Britto et. al 2001). Sometimes family literacy occurs naturally in day-to-day activities and other times it is initiated purposely. Senechal, LeFevre, Hudson, & Lawson (2002) also identified two forms of home literacy activities; informal and formal literacy activities. Informal literacy activities are defined as those where the main goal is conveying the meaning of print. For example, a common informal literacy activity performed in the home is the reading of bedtime stories. The focus of the time spent reading is on the meaning of the story and illustrations. In contrast, formal literacy activities are those in which the parent and child focus on print. This may take place when a child reads a book to a parent while the parent assists with unfamiliar words or phrases. Research has identified several core characteristics and experiences in the home that are associated with positive reading outcomes. These experiences are not just limited to exposure to books and other printed materials but also link to the oral language environment in the home (Baker, Sonnenschein, Serpell, Fernandez-Fein, & Scher, 1994). A list of essential experiences in the home are as follows:

1. Books for children are easily accessible.
2. There are large amount of print material for adults in the house, including books, magazines, and newspapers.
3. Children are read to on a regular basis.
4. Children are exposed to adults reading regularly.

5. Children are provided with space for reading.
6. Parents provide guidance and encouragement for reading.

### *Family Literacy Practices*

Children's literacy and academic achievement outcomes have been found to be a product of their cumulative interactions between themselves and their learning experiences. For example, Britto and Brooks (2001) investigated the home literacy environment and emergent literacy skills of low-income preschoolers. The families in the study were observed three times. The first time was at baseline, where the mothers' reading ability was assessed. Then, a 24-month follow-up occurred where the mother's reading ability was further assessed. Finally, the third observation observed mother-child interaction. At the beginning of the study, the participants were 126 teenage African American mothers, none of whom had finished high school or received a GED, whose children ages were seven months or younger. At the follow-up observation, the average age of the children was 36 months, and only 20 percent of the mothers had finished high school. The average reading grade level of the mothers was eighth-grade level. The shared book-reading observation was done in the third year, when the mean age of the children was 48 months.

Three dimensions of the family literacy environment were examined: (a) language and verbal interactions, (b) the learning climate, (c) and the social and emotional climate. Language and verbal interactions were measured by coding maternal decontextualized and expressive language used in the home through videotaped interactions at book reading time. The learning climate was assessed from videotaped interactions of the mother and child solving puzzles, which was rated by the Home Observation for Measurement of the

Environment Inventory (HOME). The HOME inventory was also used to assess the encouragement and warmth in the home environment.

To assess children's emerging literacy, three constructs were examined: (a) receptive vocabulary, (b) expressive language, (c) and school readiness. Receptive vocabulary was assessed using the *Peabody Picture Vocabulary Test-Revised* (PPVT-R). The number of different words spoken by the child during the shared book-reading session assessed expressive language. Finally, the *Caldwell Preschool Inventory, Revised Version*, assessed children's school readiness.

Britto and Brooks (2001) found that children's expressive language was strongly related to maternal decontextual and expressive language used during book reading. The older the mother, the higher vocabulary the children had. However, the mothers' high school completion was negatively associated with children's expressive language during shared book reading. The mother's high school completion was also negatively associated with the children's expressive language use during shared book reading. The learning climate in the home accounted for 42 percent of the variance in the children's school readiness. Also, the social and emotional climate in the home accounted for 35 percent of the variance in preschool children's school readiness skills. Overall, the results suggest that the learning climate is highly associated with school readiness skills. As part of the learning environment quality of assistance provided by the mother versus academic stimulation in the home was most strongly associated with early literacy skills. Also, the social and emotional climate of the home effects early literacy skills.

Bennett, Weigel, and Martin (2002) also examined the relationship between the family environment and children's language and literacy skills. The participants were 143

families and their preschool-age children. Approximately 88 % of the participants were Caucasian, 3.5% were Hispanic. 2.1 % ethnic background was defined as other, 1.4% were African American, 1.4% were Asian American or Pacific Islander, 1.4% were multi-ethnic or multi-racial, .7% were Native Americans, Alaskan Native or Aleut, and 1.4% failed to report their ethnic backgrounds. Three theoretical models were used to explain the family's contribution to literacy: the Family as Educator, Resilient Family, and Parent-School Partnership. The Family as Educator model consisted of five variables: literacy environment of the home (e.g., number of books in home), direct teaching (e.g., parents helping with homework), creating opportunities to learn (e.g., exposing children to different people and activities), parental education, and parental expectations (e.g., how much schooling parents want their children to obtain).

The Resilient Family model hypothesized that the family can provide support and defense against external stressors while still providing the time and attention needed to aid the acquisition of language and literacy. Three variables comprise the model: family organization (e.g., daily schedule, family rules), family emotional climate (e.g., children's perception of their relationship with their parents), and family stress (e.g., economic stress, demands on parents).

The Parent-School Partnership model purports that parents who support schools' efforts to teach their children are more successful in promoting their children's language and literacy development. Five variables are identified in the Parent-School Partnership model: formal parent-school involvement, amount of contact with teachers, homework help by parents, parent-child interaction during homework help (e.g., stressed vs. encouraging), and school attendance and punctuality.

The participants were identified through licensed child care centers. Once the participants were determined, direct contact was made to parents to schedule appointments for interview times. Most of the interviews were conducted in the family's home. The interview began with an explanation of the goals and procedures of the study. The parents were also provided with a self-administered questionnaire which, was comprised of several standardized scales and measures developed by the authors of this study in attempt to assess the three theoretical models. While the parents completed the questionnaires the researchers assessed the children's language and literacy skills. Four literacy and language outcomes were measured: children's book knowledge, writing skills, receptive language skills, and expressive language skills. Children's book knowledge was assessed using the *Child's Emergent Literacy Task* (CELT; Abt Associates Inc., 1991). The participants were asked to perform such tasks as, pointing to the front of a book, identifying a letter or word, and indicating in which direction we read. Receptive and expressive language skills were measured using the subscales of the *Preschool Language Scale-3* (PLS-3; Zimmerman, Steiner, & Pond, 1992), auditory comprehension (AC), and expressive communication (EC). The AC subtest consists of items that ask children to identify pictures of caterpillars, groceries, a doctor, and circle. In addition, the children were asked to identify quantities by counting objects such as strawberries. The EC subtest consists of items that assess children's understanding of analogies such as, "An ant is little. A giraffe is...". Also, the subtest measures children's use of regular and irregular forms of past tense verbs.

Results from this study indicated that the Family as Educator model was significantly associated with preschool children's book-related knowledge and receptive

and expressive language skills. Their results indicated that children who are exposed to words and language when reading books with their parents display adequate language and literacy skills. Both the Resilient Family and Parent-School Partnership Models were not significantly related to preschool children's language and literacy skills. However, it is important to note that prior research indicates that protective factors such as, family resources, routines, and stressors are typically important in regards to language and literacy development, particularly with children from low-income families (e.g., Hart & Risley, 1992). Further, the parents in this study were mostly middle class. This study indicates that intervention programs focusing on teaching parents appropriate and effective ways to foster language and literacy skills in preschool children may be effective. This study supports the relationship between the home literacy environment and preschool-aged children's acquisition of emergent literacy skills.

Reading aloud has been found to be an intricate component of the home literacy environment. Reading aloud typically is a daily ritual that most middle and upper class families engage in (DeBaryshe, 1992). Reading aloud appears to be related to oral language and emergent literacy skills (DeBaryshe, 1995). Because reading aloud is significant for children's development, it is important to understand the determinants of families' book reading habits. Some characteristics that have been identified to be associated with home reading practices are social class, literacy skills, and parental belief symptoms.

DeBaryshe (1995) studied mothers' reading beliefs systems about reading aloud. The participants were 60 low-income mothers and their children. Seventy seven percent were African American, and 23% were Caucasian. Of the mothers, 23% had less than a



high school diploma, 70% had completed high school, and 7% had a college degree. Fifty five percent were single parents, and the same percentage was employed. Two surveys were administered to the mothers assessing past and current literacy practices, level of comfort and interest in reading, and maternal beliefs about reading aloud. Standardized tests such as the *Language Test Battery*, were used to assess the children's language skills and audiotaped samples of the parent and child book reading activities were obtained.

The results showed that mothers with higher education and economic resources and stronger literacy skills had more facilitative belief systems about reading aloud. Mothers with more facilitative beliefs provided their children with more stimulating and frequent reading experiences. Also, the degree of reading exposure was positively associated with children's reading interest as were maternal beliefs.

Another study by DeBaryshe (1992) compared characteristics of families who engage in high and low rates of reading aloud and to test the outcomes of reading aloud. Standardized tests such as, the *Peabody Picture Test-Revised* (Form L), the *Expressive One-Word Picture Vocabulary Test*, and the verbal expression subscale of the *Illinois Test of Psycholinguistic Abilities* were used to assess children's language skills, and audio taped samples were used for assessing reading aloud activities. The participants were 73 low-income mothers and their children. The children's ages ranged from 26 months to 60 months. Fifty-two percent were boys, and 48% were girls. Seventy-eight percent were African American, and 22% were Caucasian. Most families lived at or below the poverty line. Surveys were administered to the mothers to examine their belief system about reading in addition to the amount of education and level of comfort and interest possessed about reading. Standardized tests were used to assess the children's

language skills, and audiotaped samples were taken during parent-child book reading. The majority of the mothers provided regular joint reading experiences for their children. The families were separated into groups of high and low reading exposure based on parent-child reading frequency, number of books owned, and stories read per reading aloud experience. Mothers in the low-reading families had less education, younger children, and were more likely to be single parents. Further, these mothers were less likely to have been read to themselves as children and showed less interest, enjoyment and skill in reading. Their children were less engaged in independent reading or exploration of books, were less excited during reading aloud activities, and had lower vocabulary skills.

The 1992 DeBaryshe study was part of a larger study by DeBaryshe (1995). The participants were compared to middle class and professional families from DeBaryshe study in 1992. The low-income families read less often, owned fewer materials, and started reading to their children at a later age than the middle class and professional families. The mothers from the higher socioeconomic status families showed more levels of interest in reading, as did their children. The higher socioeconomic mothers asked more questions and gave more feedback to their children when reading aloud.

In a similar study conducted by Green, Lilly, and Barrett (2002) the way children's books were shared in daily family life and how young children responded to books were examined. The participants were 11 families and 12 children ranging in age from 14 months to 5 and half years old. Initially, all parents were interviewed about their memories of reading in their own childhood, the typical amount of time they read aloud with their children, and their children's favorite books. Through the interviews, the

researchers gathered background information about the parents' early reading experiences to provide an understanding about the role of literature in their lives. Parents were asked to stick to their usual storybook reading routines during the study. They were to record titles of the books they read aloud with their children, comments during the reading, and related activities. Also, the amount of books, magazines, and drawing and writing materials in the home was recorded. Green et. al found reading aloud to be a recurring family activity. In the families' daily lives, there were multiple opportunities for interaction with children's literature. Story reading occurred through various parts of the day, showing the degree of importance of book reading to the families. According to the journal entries and interviews, the majority of the books read to the children included new vocabulary, and action words that promoted language development. There were also many reports of parents engaging in conversations about the books after they had been read. Further, it was found that daily routines, conversations and events triggered connections to the different stories that were read.

All the studies reviewed thus far identify reading aloud as a key aspect of children's ability to develop literacy skills in the home. However, few of the studies examined the mother's ability to comment during joint book reading. Joint reading is very common in households; however, not many parents approach it in the same manner. Various factors such as, SES, may have an effect on the way joint book reading is perceived and conducted.

Hockenberger, Goldstein, and Hass (1999) investigated whether or not teaching mother's from low SES backgrounds to comment while reading with their children would improve the children's emerging literacy skills. The participants were nominated by Head

Start teachers who identified and chose potential participants based on whether or not the child was exhibiting any developmental delays. Seven mother-child pairs were chosen as participants. Three children exhibited mild to moderate developmental delays. The other four child participants demonstrated typical cognitive functioning. All families that were selected to participate were classified as low SES based on Head Start standards.

The children participants were between the ages of 53 and 65 months. The *McCarthy Scales of Children's Abilities* was administered to determine whether or not the children were developmentally delayed. To establish a more in depth depiction of the participant's developmental abilities several other assessments were administered: The *Battelle Developmental Inventory*, *Test of Early Language Development-2*, *Peabody Picture Vocabulary Test-Revised*, and the *Expressive One-Word Picture Vocabulary Test*.

Seventy-six developmentally appropriate books were available for the mother participants at the Head Start center. Each week the mothers would borrow at least four new books to read. Each of the mother participants was given a tape recorder and audiotape. The joint book reading sessions were conducted in the households of the participants. The books were read at the child's bedtime. Each night a different story was read.

The mother child pairs had to attend three one hour training sessions at the Head Start Center in one week. During the trainings the mothers were exposed to the concept of emerging literacy and the type of skills that their children would need to learn before they entered school. The importance of book reading and its effect on oral language and emerging literacy was also explained. The concept of commenting was defined and was illustrated through role plays.

The data were derived from analyses of the audiotapes of the joint book reading sessions. All of the conversation that was conducted between the mother and child was coded, excluding text read from the book. The utterances between mother and child were coded into two broad categories: assertive conversational acts which included specific comments, general comments, soliciting information or clarification, and responsive conversational acts which included responses to questions for information gathering, responses to request for action or attention, acknowledgements, imitation or paraphrases, and simple acknowledgements. Other utterances coded were, pauses for more than 3 seconds, and no responses.

A multiple baseline design was used across all the participants with a withdrawal to measure the effects of the mother's comments while engaging in joint book reading. The baseline condition consisted of each mother child pair participating in 6 to 20 reading sessions in which the mother and child read together for approximately 20 minutes. Each mother was told to read as they typically do. After the baseline was established two mothers at a time were trained to comment during book reading. Parents were taught to comment six times during the book reading session. If a mother fell below six comments in three consecutive days they had to repeat the third session of training.

After four weeks of intervention, a criterion of four consecutive reading sessions with improved rates of parent child interactions was applied to determine when to return the baseline phase. Once the criterion, was met commenting was withdrawn from the book reading sessions. As part of the withdrawal stage the parents were instructed to respond to the child's comments or questions but not initiate comments. This condition

occurred for 2 weeks. Afterwards the parents were asked to begin commenting during book reading sessions again for 4 more weeks.

At both the baseline and withdrawal conditions, the rates of the mother's comments during joint book reading were very low. All of the mothers increased their comments relative to baseline level once the commenting intervention was implemented. During the withdrawal condition, the specific commenting rates of all mothers returned to baseline level. Further, the majority of the mother's rate of commenting increased during the intervention session, with one mother having to repeat a training session due to lack of comments. The results of the study showed that two of three children who were considered developmentally delayed demonstrated an increase of one stanine in regards to emerging literacy and two of the four typically performing children also increased their score by one stanine. Other improvements included, individual participants learning where to start to read a book, learning in what direction a book is read, improvement in the concept of left to right, and all students improved in their knowledge and identification of letters. The results of this study suggest that the use of specific comments during joint book reading has a positive effect on children's emerging literacy skills.

### *Summary*

Reading is a very complex task that involves a series of skills and is a precursor to academic and personal success. Kaminski and Good (1998) described reading as culturally imperative in today's society; however, children especially low SES minority students are not proficient readers. Four point five million black children in the fourth grade read below grade level as well as 3.3 million Hispanic children (Silliman, Bahr,

Wilkinson, & Turner, 1999). Further, the National Institute of Literacy has reported that one in six young children experience reading difficulties in grades one through three. Reading disabilities persist over time (National Institute of Literacy, 1997). Research has indicated that as much as 74 percent of children with early reading disabilities have reading deficits at follow-up several years later (National Institute of Literacy, 1997). Thus, we know that that the long-term implications of low literacy levels among students are serious. There is a clear need for both basic and intervention research on the development of early literacy. Research is needed to empower the most influential individuals in children lives, parents and/or caregivers.

President Bush has recognized the reading crisis of America and has intervened signing the No Child Left Behind Act. Reading Initiatives focusing on intervening early have been developed in an effort to improve achievement gaps between whites and minorities. It has been recognized that children who are exposed to a richer and linguistic environment earlier in life demonstrate better literacy skills.

Parents need to be made aware of the potential impact of home literacy experiences to their child's reading development. More advantaged children are entering school more equipped with the skills needed to become proficient readers (Smith & Dixon, 1995). Consequently, these students have more successful school experiences resulting in better career choices (Hanson & Siegel, 1998). Parents must be empowered to accept full responsibility for their children's literacy development and to use skills and knowledge of teachers and others to make their responsibility concrete (Slaughter & Defoe, 2002). By enriching parents' beliefs about literacy and literacy interactions with

their children, early literacy skills may be enhanced increasing children's chances of academic success in school.

This literature review has investigated a number of studies that have targeted parents as key interventionist in regards to exposing their children to literacy experiences (DeBaryshe, 1992; DeBaryshe, 1995; Bennet et.al., 2002). Through the family literacy environment parents have the opportunities to use literature to entertain, explain events, and extend enjoyment of stories as part of the daily routine. Several activities and experiences make up the home literacy environment (e.g., having books that are easily accessible, having a space designated for reading). Reading aloud has been identified as one of the most common forms of literacy exposure in the home (DeBaryshe, 1995). Hockenberger et.al. (1999) found that parents from lower SES backgrounds comment less during book reading and elicit less feedback from their children. However, the researchers did not ensure that parents followed all the procedures, which may have had an effect on the validity of results of the study. More studies are needed to replicate similar findings.

#### *Purpose of This Study*

Further research regarding the effects of children's early literacy experiences on their literacy development is needed. Past research has shown that when the home environment and SES are controlled, academic and cognitive score differences between Blacks, Hispanics and Whites disappear. Past research also examined a broad definition of the home environment or one specific component (i.e., joint book reading). Further, it has been established that lower SES families engage in fewer family literacy practices. This study will attempt to build on past research, but also provide data to potentially aid



in the development of interventions that may be carried out through home-school collaboration. Most studies have not utilized reading assessments that are correlated with the most current research on literacy. This study was more directly linked to the research of the 5 Big Ideas of reading and incorporated assessments that are aligned with these 5 Big Ideas. This study specifically addressed the literacy activities that are provided in the home and parental and caregiver's beliefs about literacy. Importantly, these assessments are currently used in the school system to make educational decisions.

Finally, this research provided insight into parental belief patterns regarding literacy and the literacy experiences provided in the home. This information may aid in educating parents about the importance of providing literacy exposure in the home and in which specific activities to engage. This research also could help to further distinguish if literacy experiences in the home vary across SES and race.

## Chapter III

### Methodology

#### *Overview of Chapter*

This chapter describes the methods employed in this study. First the participants are described. Next, the methods of collecting data regarding the home literacy environment and early literacy skills of the participants are described. Additionally, the assessment tools used to examine the home literacy environment and early literacy skills are discussed, followed by an explanation of the analyses used to examine the data.

#### *Participants*

The participants in this study were 68 kindergarteners who attend two Title I elementary schools in a west Central Florida school district, who participated in the Dynamic Indicators of Basic Early Literacy (DIBELS) testing sessions during the 2005-2006 school year and their parents. Information from the school district's ethnic report indicated that school size, racial composition, and socioeconomic status were comparable across schools. The racial composition of kindergarteners for School One was 34% Caucasian, 24% African American, 33% Hispanic, and 9% are Asian or Multi-racial. School 2 had a racial composition of 5% Caucasian, 22% African American, and 72% Hispanic. According to the Florida School Indicators Report (2004), 82% of students at School One participated in the Free and Reduced Lunch (FRL) program while 97% of students at School Two participated in the FRL program. Per pupil expenditures at both schools during the 2004-2005 school year was \$3,246. Further, at School One the

percentage of students in grades K-5 absent 21 days or more was 9.4% during the 2001-2002 school year, and 6.3% at School 2. Demographics for the kindergarten students at both School One and School Two are reported in Table 1.

Table 1

*Kindergarten Demographics for School One & School Two*

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Percentages							
School	Males	Females	Caucasian	African American	Hispanic	Other	Free & Reduced Lunch
1	58%	43%	34%	24%	33%	9%	82%
2	47%	53%	5%	22%	72%	1%	97%

---

Demographic information for participants in this study is reported in Tables 1 & 2. The sample consisted of mostly Hispanic students whose primary language was English, 34% of the surveys were returned in Spanish. In regards to socioeconomic status, the majority of the participants received free and reduced lunch.

Table 2

*Student demographics for total sample*

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Child Variables N = 68	Percentages
<b>Gender</b>	
Males	52.9%
Females	47.1%
<b>Ethnicity</b>	
Caucasian	18%
African Americans	16%
Hispanic	60.3%
Other	5.9%
<b>Language</b>	
English	69.1%
Spanish	26.5%
French	2.9%
Other	1.5%
<b>Language of Survey</b>	
English	66.2%
Spanish	34%

---

*Presentation of Ethical Considerations*

Permission from the Institutional Review Board at the University of South Florida was secured before the study was conducted. Permission to obtain the early literacy

scores was obtained from the County District Office, the principals of both schools, as well as the parents of the participants. Each student participant and parent dyad was assigned a code number and data were reported in such a way that identifying information was not revealed.

### *Instruments*

Instruments for this study included the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), Early Screening Inventory-Kindergarten (ESI-K), and the Home Literacy Environment Survey.

*Measurement of early literacy skills.* The early literacy skills of the students were assessed using DIBELS. The DIBELS are a set of standardized, individually administered measures of early literacy development. The measures are designed to be short (e.g., one minute) fluency measures used to regularly monitor the development of pre-reading and early reading skills. The DIBELS are designed to be administered to students in kindergarten through third grade. The DIBELS measures were specifically designed to assess Big Ideas of early literacy: Phonemic Awareness, Alphabetic Principle, Accuracy and Fluency, Vocabulary, and Comprehension. The DIBELS measures used in this study focus on Phonemic Awareness. In addition, the letter naming measure provides an indicator of risk. The DIBELS measures consist of the following subtests: Initial Sound Fluency (ISF), Nonsense Word Fluency (NWF), Letter Naming Fluency (LNF), Phoneme Segmentation Fluency (PSF), and Oral Reading Fluency. Kindergarten students are typically administered the ISF, NWF, LNF, and PSF subtests. Scores obtained on the DIBELS are compared to benchmarks indicating if a child is “at

risk”, “some risk”, or “low risk” (Good, Wallin, Simmons, Kame’enui, & Kaminksi, 2002).

Initial Sound Fluency is a standardized, individually administered measure of phonemic awareness. The measure focuses on the ability to recognize and produce the initial sound of words. The examiner presents four pictures to the child. Then the child is asked to identify, orally or by pointing, the picture that begins with the sound produced orally by the examiner. The child is also asked to orally produce the beginning sound of a word presented orally that matches one of the pictures given. The score is determined by calculating the amount of time taken to identify or produce the correct sound and converting the score into the number of correct initial sounds identified in a minute. The alternate-form reliability of the ISF measure is .72 in January of kindergarten. The concurrent criterion-related validity of ISF with PSF is .48 in January of kindergarten and .36 with the Woodcock-Johnson Psycho-Educational Battery (WJPB) readiness cluster score. The predictive validity of ISF when compared to the spring of first grade reading on Curriculum Based Measure Oral Reading Fluency (ORF) is .45 and when compared WJPB total reading cluster it is .36 (Good, et.al., 2002). Although the reliability is low, repeating the measure has strong impacts. By repeating the assessment four times, the resulting average has a reliability of .91 (Nunnally, 1978).

Letter Naming Fluency (LNF) is a standardized, individually administered test that provides an index of risk. Students are presented with both upper and lower-case letters in random order. The students are allowed one minute to identify letter names. One month alternate-form reliability of LNF is .88 in kindergarten. Median criterion-related validity of LNF with the Woodcock-Johnson Psycho-Educational Battery-Revised

readiness cluster standard score is .70 in kindergarten. Predictive validity of kindergarten LNF with first-grade Woodcock-Johnson Psycho-Educational Battery-Revised reading cluster standard score was .65. Predictive validity of kindergarten LNF with first grade ORF was .71 (Good et.al., 2002).

Hintze, Ryan, & Stoner (2002) conducted a field study to examine the concurrent validity of the DIBELS with another standardized measure of pre-reading skills, the Comprehensive Test of Phonological Processing (CTOPP). The CTOPP is norm-referenced test with established reliability and validity as a measure of phonological processing. The participants were 86 kindergarteners students who were administered the DIBELS and the CTOPP in the winter of their Kindergarten year. The students were administered LNF, ISF, and PSF. The results of the study indicated that these subtests of the DIBELS correlated with subtests and composite scores of the CTOPP. The LNF task had correlations ranging from .38-.59. ISF demonstrated correlations ranging from .21-.52 and PSF correlations ranged from .08-.14. The ISF and PSF measures correlated with subtests and composite scores on the CTOPP that were designed to measure phonological awareness and memory, but were less correlated with tasks that required students to rapidly name activities. Also, LNF correlated with subtests and composite scores on the CTOPP that represented phonological awareness and memory as well as rapid naming abilities.

Good et.al., 2002 examined the decision rules for benchmark instructional recommendations in kindergarten through third grade. The decisions rules and cutoffs were established through the longitudinal predictive information from participants in the DIBELS Data System. Low risk indicates that 80% or more of students are more likely to

achieve subsequent or grade levels goals. At risk indicates that 20% or fewer of students are not likely to achieve subsequent goals. Some risk is the cutoff for approximately 50% of students where there is no clear prediction of performance. The benchmarks for DIBELS measures in the fall of kindergarten are reported in Table 3 below. In Table 4, the percent of students with each DIBELS pattern who achieve subsequent scores are reported. For example, of the students who were low risk in ISF and at risk in LNF 26% meet subsequent goals in the middle of kindergarten in ISF. Further, in Table 4 the pattern percentile rank of each pattern is provided, the incidence column indicates that all patterns of performance are common in the beginning of kindergarten, and the instructional support recommendation column indicates the level of need for intervention (Good et.al., 2002).

Table 3

<i>Kindergarten DIBELS Benchmarks</i>	
Measures	Beginning of the year
Initial Sounds Fluency	ISF < 4 High Risk
	ISF ≤ 4-8 Moderate Risk
	ISF ≥ 8 Low Risk
Letter Naming Fluency	LNF < 2 High Risk
	LNF ≤ 2-8 Moderate Risk
	ISF ≥ 9 Low Risk



Table 4

*Percentage of Students in each Individual Pattern of Performance on Beginning of Kindergarten DIBELS Benchmark Assessment*

Initial Sound Fluency	Letter Naming Fluency	Percentile	<u>Percent Meeting Later Goals</u>				Incidence	Instructional Support Recommendations
			Mid K ISF	End K PSF	Mid 1 NWF	End 1 ORF		
At Risk	At Risk	3	9	44	24	34	Common	Intensive
Some Risk	At Risk	9	13	48	27	31	Common	Intensive
At Risk	Some Risk	13	13	53	32	44	Common	Intensive
Some Risk	Some Risk	19	18	58	33	45	Common	Strategic
Low Risk	At Risk	25	26	57	30	43	Common	Strategic
Low Risk	Some Risk	33	35	68	43	56	Common	Strategic
At Risk	Low Risk	42	23	59	50	74	Common	Strategic
Some Risk	Low Risk	50	30	71	51	75	Common	Strategic
Low Risk	Low Risk	76	62	83	69	87	Common	Benchmark

*School Readiness Uniform Screening System.* The School Readiness Uniform Screening System is a screening instrument given in the first 45 days of kindergarten to assess student's readiness. All kindergarten students are assessed for school readiness with two instruments: The Early Screening Inventory-Kindergarten (ESI-K) and the DIBELS. The ESI-K is a brief developmental screening instrument that is designed to screen children 4 years through 6 years. The ESI-K measures student development in three areas: Visual-Motor/Adaptive; Language and Cognition; and Gross Motor. The Visual-Motor/Adaptive section uses block building, drawing tasks, and visual memory games to assess fine motor skills, eye-hand coordination, short-term memory skills, and the ability to reproduce two- and three-dimensional forms and structures. The Language & Cognition items focus on language comprehensions and verbal expressions, the ability to

reason and count, and the ability to remember auditory sequences. Four tasks comprise this section: Number Concept, Verbal Expression, Verbal Reasoning, and Auditory Sequential Memory. The Gross Motor section is designed to assess the child’s developmental level in gross motor skills. These tasks include assessing the student’s ability to balance him or herself and to hop and skip. The ESI-K takes approximately 15 to 20 minutes to administer (Florida Department of Education, 2004). Scores on the ESI-K identify students are either “Ready”, “Getting Ready” or “Not Ready” for kindergarten. The benchmarks for the ESI-K are reported in Table 5 below.

Inter-rater reliability for the ESI-K was obtained from 586 tester-observer pairs. The correlations were all above .97. Test-retest reliability was conducted with 174 test-retest pairs. The Cronbach reliability coefficients for the test-retest were .87. These data demonstrate that the ESI-K is a highly stable and consistent screening tool. To obtain predictive validity, students who were administered the ESI-K were also given the McCarthy Scales of Children’s Abilities (MCSA). A correlation coefficient of .73 ( $p < .001$ ) was obtained by comparing the ESI-K total score with the General Cognitive Index of the MCSA (Meisels, Marsen, Wiske, & Henderson, 1997).

Table 5

*Benchmarks for the ESI-K*

Age Range	Benchmarks		
	Not Ready	Getting Ready	Ready
4.5-4.11	9 or less	10-13	14 or more
5.0-5.5	13 or less	14-17	18 or more
5.6-5.11	15 or less	16-20	21 or more

*Home Literacy Environment Survey.* Two previously existing surveys were modified and combined to be used in this study. The first of these surveys was the Stony Brook Reading Family Survey (Storch & Whitehurst, 2001). This survey consists of 52 multiple-choice questions that measure family variables on a four or five point scale. Eleven of the questions focus on the literacy environment in the home. This portion of the survey was used in this study for data collection. The literacy environment portion of the survey consists of six variables that assess three key areas: shared reading, availability of print materials, and the child's motivation to read. Storch and Whitehurst (2001) used the literacy environment portion of the Stony Brook Reading Survey to examine the role of the family and home in the development of literacy in children from low-income backgrounds. The Bentler comparative fit index (CFI) was used to determine if there was an adequate fit of their model to the data from the sample of low-income children. The CFI is a measure of fit that ranges from 0 to 1. Values around .9 are typically viewed as an acceptable fit between a model and data. A CFI of .928 was obtained in their study indicating an adequate fit of the author's model to the data of low-income children. Prior administration of the survey showed that many of the individual items correlated highly with language measures (Payne, Whitehurst, & Angell, 1994). High correlations were found between the following items and children's literacy skills: frequency of reading with child, age when reading with child began, number of picture books in the house, frequency of the child asking to be read to, and frequency of trips to the library.

The second survey modified and combined with items from the Stony Brook Reading Family Survey was the Parent Survey of Home Literacy (Bennett, Weigel, & Martin, 2002). This survey is a questionnaire consisting of 65 questions investigating the

frequency and quality of the literacy experiences in which parents are likely to interact with their preschoolers. No technical adequacy data were available for the Parent Survey of Home Literacy.

Both surveys were combined and modified to measure parent's perceptions of their home literacy environment and parent's beliefs about the importance of literacy (Appendix B). Repetitive and unrelated questions were deleted from the final survey and items were reworded for clarity and tone. Finally, items were grouped according to the following categories: demographics (items 1-4), home literacy environment (items 5-11), and parental beliefs about literacy (items 12-14). Further, the survey was translated into Spanish, to be administered to participants who primary language was Spanish. See Appendixes A and B for copies of the English and Spanish versions of the survey.

### *Procedures*

Prior beginning data collection the researcher obtained approval to conduct the study from the University of South Florida's Institutional Review Board. Permission to collect data from the participating schools permission was obtained from the school district. School One and School Two were chosen because their demographics were most closely matched with the intended population for this study.

The kindergarten teachers in the participating schools were instructed to send home with all kindergarten students a packet containing consent letters as well as the Home Literacy Survey. The teachers informed the researcher prior to sending the consent letters, which students needed the Spanish consent form and survey. The consent letters briefly described the purpose of the study and how to grant the researcher permission to access their child's early literacy scores from the school's reading coach. The packet also

contained details on incentives for parents if they chose to participate in the study (see Appendix A for copy of consent letter). The teachers also informed students that a reward would be given to the students who return the forms, regardless of whether consent for participation was given. All students who returned consent forms, whether consent was granted or not, were allowed to select a reward. The reward consisted of a bag that contained a variety of candy. A deadline to turn in completed consent letters and surveys was set two weeks after the distribution of the forms. At the end of two-week deadline a follow up consent letter and survey was sent in the student's daily binders as well as a reminder postcard to all parents who had not returned signed or unsigned consent forms. The teachers were given a bin in which to place completed forms. At the end of the four weeks the examiner collected the bins. Further, two parents from each school, whom completed the permission form and survey were randomly selected and sent a twenty-five dollar Wal-Mart gift certificate.

Once the forms were collected, the DIBELS scores and home surveys were matched. Finally, the scores from the participating schools fall administration of the ESI-K and DIBELS were obtained. DIBELS have been adopted by the Florida Department of Education and are used in *Reading First* schools and the schools participating in this study. DIBELS are administered to all students in kindergarten through third grade to identify at-risk students early and to evaluate the effectiveness of instruction. All students are assessed with DIBELS in the fall (September), twice in the winter (November and February), and once in the spring (April). The fall DIBELS data point was chosen for this study because it was most indicative of early literacy skills prior to kindergarten instruction.

A total of 197 consent letters and surveys were sent home to parents. Sixty-eight were returned indicating consent for participation, and overall return rate of 35%. School One had a return rate of 22.76%, while School Two had a return rate of 54.03%.

### *Data Analysis*

The three research questions explored in this study were:

1) What is the relation between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy scores (Initial Sound Fluency) and their race (Caucasian, African-American, and Hispanic), parent perceptions of their home literacy environment and parental beliefs about the importance of literacy as measured by the Home Literacy Environment Survey?

(2) What is the relation between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy scores (Letter Name Fluency) and their race (Caucasian, African-American, and Hispanic), parent perceptions of their home literacy environment, and parental beliefs about the importance of literacy as measured by the Home Literacy Environment Survey?

(3) What is the relation between kindergarten students' early literacy scores as measured by the ESI-K and their race (Caucasian, African-American, and Hispanic), parent perceptions of their home literacy environment, and parental beliefs about the importance of literacy as measured by the Home Literacy Environment Survey?

This was a correlational study that utilized a random sampling technique. The independent variables in this study were race, parents' perceptions of the home environment, and parent's beliefs about the importance of literacy. The dependent variables included the LNF and ISF DIBELS scores of students and the ESI-K portion of

the SRUSS scores. Measures of central tendency, variability, distributions, and reliability are reported using the mean, median, standard deviation, skewness, kurtosis and internal consistency reliability indices for each independent and dependent measure. A multiple regression analysis was conducted using each independent variable as predictors of the dependent variables. Further, an evaluation of the assumptions associated with regression analyses was conducted.

## Chapter IV

### *Results*

This chapter provides a description of the results of statistical analyses used to address the three research questions in this study. First, a power analysis and the internal consistency of measures are reported. Next, a summary of the descriptive statistics is reported including the mean, standard deviation, range, skewness, and kurtosis for the Home Literacy Environment Survey, and the ESI-K and DIBELS. Further, a correlation matrix that shows the relationship between each of the independent and dependent variables is reported. Finally the results of the multiple regression analysis and an evaluation of the assumptions associated with regression analysis are reported.

#### *Preliminary Analyses*

*Power analysis.* A statistical power analysis was conducted to determine the number of participants required for statistical power in the study using NCSS Power and Analysis Sample Size 2002 software. Results of the power analysis indicate that the sample size required for statistical power of .05 is 52. The sample size for the current study is 68, indicating that the power is considered adequate for the study.

*Internal consistency of the measures.* To gain a measure of internal consistency for each instrument, Cronbach's alpha was calculated for the Home Literacy and Parental belief portion of the Home Literacy Environment Survey. Relatively strong internal consistency exists within the Home Literacy portion (.80) while the Parental Beliefs about Reading portion was slightly lower (.73). Nunnally (1978) suggested that a



reliability coefficient should be .70 or above; therefore, both indices observed represent acceptable internal consistency. There was moderate variability in both the parent measures. The possible range for the Home Literacy Environment was 20-80; the observed range was 38-67. The possible range for the Parental Beliefs about Literacy was 14-28; the observed range was 16-28. These data indicate that parent participants did not rate either one of the measures particularly high or low.

### *Descriptive Statistics*

The information obtained to address the three research questions was provided by obtaining early literacy scores and home literacy environment surveys from kindergarten students at two elementary schools in a west Florida School District. A total of 68 surveys were collected and utilized for this study. The descriptive statistics including the mean, standard deviation, range, skewness, and kurtosis for the Home Literacy Environment Survey are reported in Table 6. Both indexes had negative skewness, which indicates that scores on these measures were closer to the higher end of the scale. Therefore, most parents in this sample reported high home literacy environments and high beliefs about reading. A negative kurtosis indicates a flat distribution. Both indexes had flat distributions, which violates the assumption of normality.

The descriptive statistics including the mean, standard deviation, range, skewness, and kurtosis for the measures of early literacy (ESI-K, LNF, & ISF) are reported in Table 7. Both the ESI-K and the ISF had negative skewness indicating the scores on these measures fell closer to the higher end. LNF's skewness was positive therefore, the scores on this measure fell at the lower end, indicating the participants had the most difficulty

with this measure. All of the early literacy measures' kurtosis was negative, indicating a flat distribution and violating the assumption of normality.

Table 6

*Descriptive Statistics for the Home Literacy Environment Survey*

N= 68	M	SD	Range	Skewness	Kurtosis
Home Literacy	55.66	6.63	29	-.351	-.497
Parental Beliefs about Reading	22.96	3.01	12.00	-.352	-.574

*Note.* The scores for the Home Literacy portion of the Home Literacy Environment ranged from 38-67.

Scores on the Parental Beliefs about Literacy ranged from 17-28. Low scores on both portions represented a low home literacy environment and low parental beliefs about literacy, while high scores represented a high home literacy environment and high beliefs parental beliefs about literacy.

Table 7

*Descriptive Statistics for the Early Literacy Measures*

N= 68	M	SD	Range	Skewness	Kurtosis
ESI-K Classification	2.75	.437	1.00	-1.18	-6.25
Letter Naming Fluency	2.15	.815	2.00	.280	-1.14
Initial Sound Fluency	2.16	.803	2.00	-.305	-1.38

*Note.* Scores less than 13 on the ESI-K are “not ready”, 14-17 “getting ready”, 18 or higher “ready”.

Scores less than 2 on LNF are “high risk”, 2-8 “moderate risk”, and 9 or higher is “low risk”. Scores less than 4 on ISF are “high risk”, 4-8 “moderate risk”, and 8 or higher “low risk”.

Scores on the ESI-K identify students are either “Ready”, “Getting Ready” or “Not Ready” for kindergarten. Table 8 reports the percentages of children in each classification of the ESI-K by child variables. Scores on the DIBELS (LNF & ISF) identify students as either “Low Risk”, “Moderate Risk”, or “High Risk”. Table 9 shows the percentages of children in each classification of the DIBELS by child variables. In

comparing these categories, not ready on the ESI-K might be considered to be comparable to high risk on the DIBELS.

Table 8

*Percentages of Children in each ESI-K Category by Child Variables*

	<i>Not Ready</i>	<i>Getting Ready</i>	<i>Ready</i>
Total Sample N = 68	0	25	75
<b>Gender</b>			
Male (n=36)	0	30.6	69.4
Females(n=32)	0	81.3	18.8
<b>Race</b>			
A. American (n=11)	0	9.1	90.9
Caucasian (n=14)	0	25.0	75.0
Hispanic (n=41)	0	26.8	73.2
Other (n=2)	0	50.0	50.0

Table 9

*Percentages of Children in each DIBELS Category by Child Variables*

	High Risk	Moderate Risk	Low Risk
<b>Letter Naming Fluency</b>			
Total Sample N = 68	26.5	32.4	41.2
<b>Gender</b>			
Male (n=36)	33.3	27.8	38.9
Females(n=32)	18.8	37.5	43.8
<b>Race</b>			
A. American (n=11)	9.1	36.4	54.5
Caucasian (n=14)	16.7	33.3	50.0
Hispanic (n=41)	34.1	29.3	36.6
Other (n=2)	25.0	50.0	25.0
	High Risk	Moderate Risk	Low Risk
<b>Initial Sound Fluency</b>			
Total Sample N = 68	26.5	32.4	41.2
<b>Gender</b>			
Males (n=36)	33.3	27.8	38.9
Females (n=32)	18.8	37.5	43.8
<b>Race</b>			
A. American (n=11)	9.1	36.4	54.5
Caucasians (n=14)	16.7	90.0	00.0
Hispanics (n=42)	00.0	99.0	90.0
Other (n=2)	00.0	00.0	00.0

*Children’s Classification on the Early Literacy Measures*

The percentages of students per classifications on the early literacy measures in School 1 and 2 of the sample, school district, and the state of Florida are reported in Table 10. In regards to the ESI-K, 66% of students in School 1 of the sample were considered ready for kindergarten, 70% of School 2 of the sample, compared to 82% of the students in the district and 75% of students in the state of Florida. The DIBELS measures indicated an even stronger discrepancy of early literacy skills. Thirty-seven percent of students in School 1 and School 2 of the sample were considered high risk, compared to 18% of the district, and 25.5% of students in the state of Florida.

Table 10

*Percentages of Students per Classifications on the Early Literacy Measures*

	ESI-K	DIBELS LNF	DIBELS ISF
School 1-total	Ready-66%	Low Risk-35%	Low Risk-57%
population	Getting Ready-25%	Mod. Risk-37%	Mod. Risk-17%
	Not Ready-9%	High Risk-37%	High Risk-26%
School 2-total	Ready-70%	Low Risk 33%	Low Risk-32%
population	Getting Ready-25%	Mod. Risk-30%	Mod. Risk-37%
	Not Ready- 5%	High Risk- 37%	High Risk-30%
District total	Ready-82%	Low Risk-63%	Low Risk-61%
population/state of	Getting Ready-13%	Mod. Risk-20%	Mod. Risk-20%
	Not Ready-5%	High Risk-18%	High Risk-20%
Florida	Ready-75%	Low Risk-41.2%	Low Risk-28%
Sample	Getting Ready-25%	Mod. Risk-32.4%	Mod. Risk-23%
	Not Ready-0%	High Risk-25.5%	High Risk-25%

### *Multiple Regression Analysis*

Multiple regression analyses are based on several assumptions. The data were screened and an assessment of each assumption was made. The first assumption is that there is a large enough sample size. Stevens (1999) recommends that for social science research, approximately fifteen participants per predictor variable be used. In this study there were three predictor variables (race, home literacy environment, and parental beliefs). The variable race included Caucasians, African Americans, Hispanics and Mixed/Other. Within the sample for this study the total of African Americans (N = 11), Caucasians (N = 14), and Mixed/Other (N= 2) were less than fifteen per category; therefore, violating this assumption. As a result, the variable race was dropped from the regression analyses in order to have an adequate sample size. Next, multicollinearity and singularity were assessed. Multicollinearity occurs when the independent variables are highly correlated at .9 or above (Pallant, 2001). To assess for multicollinearity, intercorrelations were examined between the predictor variables. These correlations are reported in Tables 11, 12, and 13. No correlations of above .9 were observed; therefore, this assumption did not appear to be violated. Singularity is present when one independent variable is a combination of any other independent variable (Pallant, 2001). None of the independent variables in this study were a combination of each other; therefore, this assumption did not appear to be violated.

Scatterplots depicted a linear relationship between variables and nothing in the design of the study was believed to question the independence of the residuals. To examine the homoscedasticity assumptions, the residuals were plotted with the predicted

values. This assumption did not appear to be violated and residuals were found to be approximately normally distributed.

Outliers were examined using standardized residuals. Outliers are cases that have standardized residuals of more than 3.3 or less than -3.3 (Tabachnick & Fidell, 1996). None of the standardized residuals were more than 3.3 or less than -3.3. Thus, it is believed that none of the cases had an undue influence on the regression analysis. Internal consistency measures for parents' perception of home literacy was .80 and parental beliefs about literacy was .73, indicating that measurement error was small. Further, the predictors are not fixed, but regression is robust to violations. Overall, based on the screening of the data it appeared appropriate to proceed with the regression analysis and examine its results as valid.

Table 11

*Intercorrelations for Initial Sound Fluency and Predictor Variables (N= 68)*

Variables	1	2
Initial Sound Fluency	.344**	-.096
Predictor Variables		
1. Parents' Perceptions about their Home Literacy	--	.301**
2. Parental Beliefs about Importance of Literacy	--	--

\*p < .05 \*\*p < .01

Table 12

*Intercorrelations for Letter Naming Fluency and Predictor Variables (N= 68)*

Variables	1	2
Letter Naming Fluency	.183	-.057
Predictor Variables		
1. Parents' Perceptions about their Home Literacy	--	.301**
2. Parental Beliefs about Importance of Literacy	--	--

\*p < .05 \*\*p < .01

Table 13

*Intercorrelations for ESI-K and Predictor Variables*

Variables	1	2
ESI-K	-.004	.149
Predictor Variables		
1. Parents' Perceptions about their Home Literacy	--	.301**
2. Parental Beliefs about Importance of Literacy	--	--

\*p < .05 \*\*p < .01

The research questions were developed to examine the relationship between the independent variables, parents' perceptions about the home literacy environment and parental beliefs about literacy with the dependent variables ISF, LNF, and ESI-K early literacy scores. To analyze this relationship, intercorrelations were examined and a multiple regression was conducted, using SPSS. Multiple regressions predict the amount of variance accounted for in one variable by a set of predictors (Stevens, 1999). Correlation procedures were used prior to conducting the multiple regression analysis to determine how and to what degree the predictor variables were related.



The results of the multiple regression analysis that addressed the first research question are reported in Table 14: What is the relation between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy scores (Initial Sound Fluency), parent perceptions of their home literacy environment and parental beliefs about the importance of literacy as measured by the modified Home Literacy Environment Survey? In this table the first column lists the independent predictor variables. The next columns report the unstandardized coefficients (B), the standard error of B, the betas, and the significance levels. The regression coefficient for parents' perceptions of their home literacy environment is significant in predicting ISF scores ( $t(68) = 3.445, p < .001$ ). However, the regression coefficient for parental beliefs about reading was not significant in predicting ISF scores ( $t(68) = -1.8415, p = .070$ ). The obtained  $R^2$  value for ISF was .162, suggesting about 16% of the variance in early literacy skills as measured by ISF was accounted by the set of predictors. Using Cohen's (1992) rough guidelines for effect sizes (.02 small, .14 medium, .35 large), .162 appears to be a moderate effect size.

Table 14

*Multiple Regression Summary for Variables Predicting Initial Sound Fluency*

Variables	B	SEB	$\beta$
1. Parents' Perceptions of their Home Literacy	.050	.014	.410**
2. Parental Beliefs about Importance of Literacy	-.058	.032	-.219

*Note.*  $R^2 = .162$  ( $N = 68, p < .001$ ).

\* $p < .05$ . \*\* $p < .01$ .

The results of the multiple regression analysis that addressed the second research question are reported in Table 15: What is the relation between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy scores (Letter Naming Fluency), parent perceptions of their home literacy environment and parental beliefs about the importance of literacy as measured by the modified Home Literacy Environment Survey? In this table, the first column lists the independent predictor variables. The next columns report the unstandardized coefficients (B), the standard error of B, the betas, and the significance levels. The regression coefficient for both parents' perception of their home literacy environment and parental beliefs about reading were not significant in predicting LNF scores ( $t(68) = 1.429$ ,  $p = .158$ ,  $t(68) = .019$ ,  $p = .985$ , respectively). The obtained  $R^2$  value for LNF was .034, suggesting about only 3.4% of the variance in early literacy skills as measured by LNF was accounted for by the set of predictors, with .034 indicating a small effect size.

Table 15

*Multiple Regression Summary for Variables Predicting Letter Naming Fluency*

Variables	B	SEB	$\beta$
1. Parents' Perceptions of their Home Literacy	.022	.016	.183
2. Parental Beliefs about Importance of Literacy	.001	.035	.002

*Note.*  $R^2 = .034$  ( $N = 68$ ,  $p < .001$ ).

\* $p < .05$ . \*\* $p < .01$ .

The results of the multiple regression analysis that addressed the third research question are reported in Table 16: What is the relation between kindergarten students' early literacy scores as measured by Early Screening Inventory-Kindergarten (ESI-K),

parent perceptions of their home literacy environment and parental beliefs about the importance of literacy as measured by the modified Home Literacy Environment Survey? In this table, the first column lists the independent predictor variables. The next columns report the unstandardized coefficients (B), the standard error of B, the betas, and the significance levels. The regression coefficient for both parents' perception of their home literacy environment and parental beliefs about reading were not significant in predicting ESI-K scores ( $t(68) = -.361, p = .719, t(68) = 1.101, p = .275$ , respectively). The obtained  $R^2$  value for ESI-K was .018, suggesting about only 2% of the variance in early literacy skills as measured by the ESI-K was accounted for by the set of predictors, with .018 indicating a small effect size.

Table 16

*Multiple Regression Summary for Variables Predicting ESI-K*

Variables	B	SEB	$\beta$
1. Parents' Perceptions of their Home Literacy	-.003	.008	-.047
2. Parental Beliefs about Importance of Literacy	.001	.035	.002

*Note.*  $R^2 = .018$  ( $N = 68, p < .001$ ).

\* $p < .05$  \*\* $p < .01$

The results of the multiple regression analyses indicate that parents' perception of their home literacy environment is the strongest predictor of early literacy skills as measured by ISF. Betas with a positive sign in front of them describe a positive prediction and those with a negative sign describe a negative prediction. A positive prediction means that if one score goes up the other score will go up, or as one score goes down the other will go down. Parents perceptions of their home literacy environment had

a positive beta ( $\beta = .410, p < .001$ ) which means the higher parents perceptions of their home literacy environment the higher their children scored on the ISF. The variable parental beliefs about literacy was a weak predictor of early literacy on all measures. This variable did not significantly predict the level of early literacy that the participants obtained on DIBELS or the ESI-K.

## Chapter V

### Discussion

This study was conducted to examine the relationship between parents' perceptions about their home literacy environment, parents' beliefs about literacy, and their children's early literacy scores as measured by DIBELS (LNF & ISF), and Early Screening Inventory-Kindergarten (ESI-K). The research sample consisted of 68 kindergarten students who were assessed by both the DIBELS and ESI-K in the first 45 days kindergarten, and their parents. This chapter discusses the results of this study and how they connect to previous research, implications for practice, limitations and directions for future research.

#### *Regression Findings*

Research question one examined the relationship among kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy scores (Initial Sound Fluency), parents' perceptions of their home literacy environment, and parental beliefs about the importance of literacy. It is important to note that race was dropped as independent variable due to lack of variability across races. The Home Literacy Environment index was a significant predictor of children's early literacy scores as measured by DIBELS-ISF and accounted for 16% of the total variance. Additionally, the Home Literacy Environment had a significant positive relationship with ISF early

literacy. These results suggest that the more parents perceived their home environment to be conducive to promoting literacy, the higher their student's early literacy scores were on the ISF. These results are consistent with past research in which strong home literacy environments have been found to be significantly related to various other measures of early literacy (Bennet et. al., 2002; Britto & Gunn, 2001; Hockenbecker et. al., 1999). For example, Bennet et.al. (2002) found that preschool children whose families had a strong literacy environment (i.e., large number of books in the home, learning opportunities) had stronger book-related knowledge and receptive and expressive language skills. Similarly, Britto & Gunn (2001) found that the home literacy environment accounted for a large percent of the variance in children's school readiness. Since the results of this study are consistent with past research, a more reliable relationship can be supported between early literacy and the home environment.

Research question two examined the relationship between kindergarten students' early literacy scores as measured by Dynamic Indicators of Basic Early Literacy scores (Letter Name Fluency), parent perceptions of their home literacy environment, and parental beliefs about the importance of literacy. None of the independent variables were significant predictors of children's early literacy scores as measured by DIBELS-LNF. These results were inconsistent with the past research, which found that the home literacy environment and parents beliefs about literacy were strong predictors of early literacy (Bennet, et. al., 2002; Britto & Gunn, 2001; DeBaryshe, 1992; DeBaryshe, 1995). For example, DeBaryshe (1995) found that children that were provided with frequent and more stimulating reading experiences had better language skills. Further, these results were inconsistent with the results of research question one in this study, where a

significant relationship was found between the home literacy environment and DIBELS ISF scores. Inconsistencies in the research may be due to the different measures of early literacy used in this study and past research. DIBELS ISF is measure of phonemic awareness, while DIBELS LNF is measure of identification of letters. While both are components of early literacy, children may have different skill levels in each area. Further, these results may indicate parents may provide students with exposure to the alphabet letters, but not the sounds. Moreover, DIBELS LNF is a better predictor of early literacy than DIBELS ISF. The results of this study indicated that LNF was a more difficult task for the participants than ISF. These could be explained by the differences in the task. LNF is more of a visual task where students must identify letters of the alphabet. ISF is an auditory task where students identify initial sound of words given orally to them by the examiner. Lastly, the shapes of the distributions of both LNF and ISF were not comparable to a normal distribution which may have impacted the results. These findings indicate that more research is needed in this area, specifically in regards to measures of early literacy (Good et.al., 2002).

Research question three examined the relation between kindergarten students' early literacy scores as measured by the ESI-K, parent perceptions of their home literacy environment, and parental beliefs about the importance of literacy. None of the independent variables were significant predictors of early literacy as measured by the ESI-K. As stated earlier, these findings are not consistent with past research as well as the present study, which indicate that the home literacy environment is a predictor of school readiness (Bennet et. al., 2002; Britto & Gunn, 2001; Hockenbecker et. al., 1999). While past research shows a trend of the home environment impacting early readiness skills,

early literacy is assessed by different measures and variables. For example, Bennet et.al. (2002) assessed early literacy skills using four literacy and language outcomes: children's book knowledge, writing skills, receptive language skills, and expressive language skills. Also, Britto & Gunn (2001) only assessed children's expressive language. In the present study, the ESI-K was used. The ESI-K is a measure of school readiness which assesses visual motor skills, language and cognition, as well as gross motor skills. The DIBELS measures were specifically designed to assess the Big Ideas of early literacy. While each of the studies assesses a component of early literacy or readiness skills, differences in measures or definitions of early literacy may cause differing results. For example, students may have more developed gross motor skills (ESI-K) versus phonemic awareness. The findings of this study suggest that more research regarding specific components of early literacy that are impacted by home literacy environment is needed.

#### *Home Literacy Environment*

As a single variable, parents' perceptions about their home literacy environment explained 16% of the variance in their children's early literacy scores as measured by the DIBELS ISF scores. This finding was most consistent with past research and indicates that interventions geared to the home environment prior to kindergarten could improve student's literacy skills prior to formal instruction in kindergarten. Parents should be educated about the impact of literacy practices prior to school and the role these practices play in equipping children with the prerequisite skills to be successful readers. For example, pre-schools and other community agencies could offer trainings for parents. These findings also indicate that interventions that show parents how to teach specific phonemic awareness skills would be beneficial.



With the home literacy environment accounting for only 16% of the variance in ISF scores in this study, several other factors may account for the remaining variance. Evidence indicates that individual children, whether or not faced with adverse conditions may be at risk for reading difficulties. For example, children who have parents with histories of reading difficulty are at a higher risk for reading problems. Also children who have been diagnosed with an early language impairment, hearing impairment, and/or medical diagnosis may lack age-appropriate skills in literacy-related processes. Further, the exposure of knowledge and skills pertaining to literacy in preschool may impact reading skills (Snow, Burns, & Griffin, 1998).

Additionally, reading aloud to children has a strong impact on early literacy skills (DeBaryshe, 1992). Research indicates that 46% of children from low SES backgrounds are read to daily compared to 61% of children from middle to high SES backgrounds (Washington, 2001). Similarly, the present study indicated that only half of the parents (52%) from the low SES sample reported that they read to their children often. These data indicate the importance of interventions geared toward educating and motivating parents about the positive effects of reading with their children.

Research also indicates that commenting during reading aloud with children has positive effects (DeBaryshe, 1995). Further, Hockenberger et.al. (1999) investigated the effects of teaching low SES mothers to comment during reading aloud. Their results showed an increase in children's literacy scores. These data demonstrate that interventions teaching parents how to implement "commenting" effectively in the home might be helpful. In the current study, however, only 30 % of the parents indicated that

when reading with their kindergarten child they stop reading and point out pictures that tell about the story.

### *Parental Beliefs about Literacy*

Although in this study parental beliefs about literacy was not a significant predictor of early literacy across all measures, past research has shown that parents from low SES populations who have more facilitative beliefs about literacy provide their children with more stimulating and frequent reading experiences (DeBaryshe, 1992). In this study only 21% of the parents indicated they love to read. Further, only 41% of the parents indicated that they read between sixteen to thirty minutes a day. These data indicate that research on programs to help motivate parents about reading may aid in improving the home literacy environment.

### *Race*

Although the predictor variable race was dropped from the study the racial make-up of the sample in this study may have had an impact on the results. Approximately 60% of the total sample was Hispanic. Also, 34% of the sample returned surveys in Spanish, indicating that Spanish was the dominant language spoken in the home. Research has shown that lack of oral English proficiency has an impact on students' academic abilities. For example, Reese, Garnier, Gallimore, and Goldenberg (2000), found among students entering kindergarten speaking Spanish, those with greater emergent Spanish literacy development and oral English proficiency were better able to transition more quickly to English reading, and attain a higher level of English reading proficiency in middle school.

Further, the Hispanic population in this study consisted of a large portion of migrant students. Migrant students, who transfer from school district to school district, within or between states due to parent's seasonal employment, are the most "at risk" group for academic difficulties. With research indicating that early literacy experiences support literacy development and English reading acquisition, regardless of language; students who have lack of exposure to enriching environments, inconsistent schooling, and limited English proficiency are at a greater disadvantage for reading difficulties (Reese, Garnier, Gallimore, and Goldenberg, 2000).

### *Limitations*

Several limitations may have had a possible impact on the results of this study. A possible threat to the internal validity of this study was the use of self-report to assess parents' perceptions of their home literacy environment as well as their beliefs about literacy. Respondents may have responded to the home literacy environment survey in a socially desirable manner, which may have lead the parents to respond in such a way that the data represent an inflated view of their home literacy practices. An additional possible threat to the internal validity of this study was the sole use of the modified Home Literacy Environment Survey to measure both the variables home literacy environment, and parental beliefs about literacy. As seen within the review of the literature, there are several measures of the home literacy environment which include observational and qualitative measures. Observational measures of the home literacy environment may yield more valid results versus self-report. Finally, the slightly low internal consistency of the Parent's Beliefs about Reading measure may also be considered a limitation. The scale used in this study was a brief modified version of several different surveys used to

measures parent's beliefs about reading. Results showed that the responses had considerable restriction of range, which may account for the slightly low internal consistency.

A threat to external validity of this study is the ability to generalize the findings to other public schools. The sample was only taken from one county in the state of Florida; therefore, the sample is likely not representative of all public schools. The ability to replicate the location and the racial composition of both schools in this study may pose a threat to ecological validity. Another threat to the external validity is sample bias. Even though the schools were chosen to be ethnically diverse and representative of low SES minorities, only the students who return a consent form were selected as participants. Thus, the sample may be unequally represented and not reflect the intended design of the study.

Another potential limitation of the study is sample size. A larger sample likely would have produced more variability in the measures and increased the statistical power of the study. Also, with a larger sample size the race variable may have had more variability and would not have been dropped from the study.

Finally, the non-normality of the early literacy measures could have impacted the results, particularly the ESI-K. Skewness is the shape of a distribution. Negative skewness indicates scores falling closer to the higher end and positive skewness indicates scores falling closer to the lower end. Skewness should be within the +2 to -2 range when the data are normally distributed. The ESI-K skewness of -1.18 indicates non-normality in the distribution. With a large sample size violations of normality will not affect the significance tests. However, due to the low sample size in this study and the skewness of

the early literacy measures, results may have been impacted. Further, kurtosis is the peakedness of a distribution. A negative kurtosis indicates a flat distribution, while a positive kurtosis indicates a tall distribution. Kurtosis also should be within the +2 to -2 range when the data are normally distributed. The kurtosis levels for ISF and LNF were -1.38 and -1.14, respectively which was in the +2 to -2 range. However, the kurtosis level for the ESI-K was -6.25, indicating the data was not normally distributed, which also may have impacted the significance of the results (Hutcheson, Graeme, & Nick Sofroniou, 1999).

#### *Delimitations*

There were several delimitations of this study. The study was restricted to two schools in one school district. The sample was selected because it was representative of the intended population (i.e. low SES, minorities). Further, the study was restricted to only the first SRUSS administration in the 2005-2006 school year.

#### *Directions for Future Research*

Due to the limitations of this study, several recommendations are suggested for future research. As stated earlier, in regards to the limitations involved in using a self-report measure, future studies should use qualitative as well as quantitative methods to gain comprehensive ratings of the home literacy environment of families. Observations and interviews may measure the home literacy environment and parent's beliefs about reading more directly.

Another recommendation for future research would be to use a larger, more representative sample of students. The sample used for this study can only be generalized to the participating counties. Additionally, the sample was restricted to only those

students who returned a consent form within the amount of time allotted. Different methods of obtaining consent forms may be effective in a high return rate. For example, asking for consent at kindergarten registration versus sending the forms home. Further, if the sample size were expanded to include students from low, middle, high SES, urban, suburban, and rural counties comparisons can be made and the results would be a better indicator of differences amongst SES, demographic areas, as well as race.

Further research regarding the different constructs of early literacy is suggested. Previous studies have found a strong relationship among low SES families' literacy environment and children's early literacy and school readiness skills. This study utilized the most current measures of early literacy, which are used in the school system to assist with educational planning. The results of this study indicated that home literacy environment was a predictor of early literacy skills measured by DIBELS-ISF but not with DIBELS-LNF. Replication of the findings of this study may lead to interventions targeting the specific type of pre literacy skills that parents can implement.

Finally, future research regarding different measures of parents' beliefs about reading and its impact on student's early literacy skills is recommended. The results of this study indicated that parents' beliefs about reading as measured by the Home Literacy Environment Survey were not a predictor of any of the measures of early literacy. This finding is not consistent with past research, which indicated that parents' beliefs about reading were one of the strongest predictor of reading (DeBaryshe, 1992). The results found in this study could be due to the use of self-report as a measure of parental beliefs about literacy on the inconsistency in measures of early literacy.

### *Conclusions*

This study was conducted to examine the relationship between variables the home literacy environment, parents' beliefs about reading, race, and kindergarten student's early literacy skills, as measured by the DIBELS (ISF, LNF), and ESI-K. The findings indicated that the home literacy environment was the only predictor of early literacy skills as measured by DIBELS-LNF. Due to the increasing emphasis the government and school districts are placing on early literacy, these results are important for the future of education. Government programs that promote early literacy should target the home environment when designing research-based interventions. Further, the results indicate the need for more collaboration between pediatricians, preschools, and other agencies that have contact with parents in communicating to parents the importance of their role in developing and nurturing their children's school readiness skills.

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## Appendices

## Appendix A

### Parental Informed Consent

Social and Behavioral Sciences  
University of South Florida

#### Information for Parents

#### Who are being asked to allow their child to take part in a research study

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Researchers at the University of South Florida (USF) study many topics. We want to learn more about children's early literacy experiences. To do this, we need the help of people who agree to take part in a research study.

Research study: **The Role of Home Literacy Environment in the Development of Early Literacy Skills in Kindergarten Children From Low Socioeconomic and Minority Families**

**Person in charge of study:** Nicole R. Martin, M.A.

**Study staff who can act on behalf of the person in charge:** Your child's teacher, \_\_\_\_\_ (RBES-352-524-5200; PES-352-524-5100) Kelly Powell-Smith, Ph.D 813-974-9698

**Where the study will be done:** R.B. Cox Elementary & Pasco Elementary  
Should your child take part in this study?

This form tells you about this research study. You can decide if you want you and your child to take part in it. You do not have to take part. Reading this form can help you decide.

#### Before you decide:

- Read this form.
- Talk about this study with the person in charge of the study or the person explaining the study.
- You can have someone with you when you talk about the study. Find out what the study is about.

#### You can ask questions:

- You may have questions this form does not answer. If you do, ask the person in charge of the study or study staff as you go along.

- You don't have to guess at things you don't understand. Ask the people doing the study to explain things in a way you can understand.

**After you read this form, you can:**

- Take your time to think about it.
- Have a friend or family member read it.
- Talk it over with someone you trust.

It's up to you. If you choose to participate in the study, then you can sign the form. If you do not want your child to take part in this study, do not sign the form.

Why is this research being done?

The purpose of this study is to find out the experiences of kindergarten children prior to kindergarten that promote early literacy.

Why are you and your child being asked to take part?

We are asking you and your child to take part in this study because your child is just beginning kindergarten and within the first 45 days of kindergarten student's are administered the School Readiness Uniform Screening System (SRUSS). All kindergarten students are assessed for school readiness with two instruments: The Early Screening Inventory-Kindergarten (ESI-K) and the Dynamic Indicators of Basic Early Literacy (DIBELS).

How long will you and your child be asked to stay in the study?

Your child will be asked to spend about 2 months in this study. The School Readiness Uniform Screening System is completed in September. The data collection process will begin in August with the Home Literacy Survey and will end at the beginning of October when all of the SRUSS data is collected.

The researcher will not be testing your child, but obtaining SRUSS and DIBELS scores from the school. Parents are asked to complete the Home Literacy Survey which takes about 10-15 minutes to complete. Once the survey is complete it should be returned to your child's classroom teacher.

What other choices do you have if you decide not let your child to take part?

If you decide not to let your child take part in this study, that is okay.

How do you get started?

If you decide to take part in this study, you will need to sign this consent form, complete the Home Literacy Survey that is attached, and give permission for the researcher to obtain your child's SRUSS scores.

What will happen during this study?

Once you completed the consent form and Home Literacy Survey send them back to your kindergarten child's teacher in his/her work binder. Once the students complete the SRUSS the Survey scores will be matched with the SRUSS scores. Here is what you and your child will need to do during this study

Your child will not need to do anything in this study that is not already a school requirement. You will be required to complete the consent letter and the Home Literacy survey and return them to your child's teacher.

Will you or your child be paid for taking part in this study?

We will not pay you for the time you volunteer in this study; however, the following compensations will be provided.

- Once students return their consent letters, whether permission is given or not, they will be allowed to choose an award (e.g., candy, stickers, books).
- Two twenty-five dollar gift certificates to Walmart will be raffled off to participating families at each school who return in completed consent letters and surveys.

What will it cost you to or your child if you take part in this study?

It will not cost you or your child anything to take part in the study.

What are the potential benefits to your child if you let him/her take part in this study?

We don't know if your child could get any benefits by taking part in this study. However we may obtain information that will be helpful to children and families in the future. For example the information may aid in educating parents about the importance of providing literacy exposure in the home and in which specific activities to engage.

**What are the risks if your child takes part in this study?**

There are no known risks to those who take part in this study.

What will we do to keep your child's study records from being seen by others?

Your privacy and research records will be kept confidential to the extent of the law. Confidentiality of all identifying information (i.e., names, student numbers, etc.) will be strictly maintained. You and your child's name will not appear in any of the written products from this research product. Consent forms will be kept for three years after the completion of the study at which time they will be placed into a paper shredder and destroyed.

Federal law requires us to keep your child's study records private.

However, certain people may need to see you and/or your child's study records. By law, anyone who looks at you or your child's records must keep them confidential. The only people who will be allowed to see these records are:

- The study staff.



- People who make sure that we are doing the study in the right way. They also make sure that we protect your rights and safety:
  - The USF Institutional Review Board (IRB) and its staff and any other individuals acting on behalf of USF.
  - The United States Department of Health and Human Services (DHHS)
- We may publish what we find out from this study. If we do, we will not use you or your child's name or anything else that would let people know who your child is.

What happens if you decide not to take part in this study?

You should only let take part in this study if both you and your child want to take part. If you decide not to take part:

- You and your child won't be in trouble or lose any rights either of you normally have.
- You and your child will still get the same services you would normally have, and participating or not participating will not affect your child's school/student status.

What if you and your child join the study and then later decide you want to stop?

If you decide you want to stop taking part in the study, tell the study staff as soon as you can.

Are there reasons we might take your child out of the study later on?

**Even if you want you and your child to stay in the study, there may be reasons we will need to take you out of it. You may be taken out of this study if DIBELS or ESI-K data are not available for your child.**

You can get the answers to your questions.

If you have any questions about this study, call Nicole Martin at 813-980-3815, Kelly Powell-Smith University Supervisor 813-974-9698

If you have questions about your rights as a person who is taking part in a study, call USF Research Compliance at (813) 974-5638.

Consent for Child to Take Part in this Research Study

It's up to you. You can decide if you want to your child take part in this study.

**I freely give my consent to let my child take part in this study. I understand that this is research. I have received a copy of this consent form.**

\_\_\_\_\_  
Signature of Parent  
of child taking part in study

\_\_\_\_\_  
Printed Name of Parent

\_\_\_\_\_  
Date

## Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect.  
The person who is giving consent to take part in this study

- Understands the language that is used.
- Reads well enough to understand this form. Or is able to hear and understand when the form is read to him or her.
- Does not have any problems that could make it hard to understand what it means to take part in this study.
- Is not taking drugs that make it hard to understand what is being explained.

To the best of my knowledge, when this person signs this form, he or she understands:

- What the study is about.
- What needs to be done.
- What the potential benefits might be.
- What the known risks might be.
- That taking part in the study is voluntary.

\_\_\_\_\_  
Signature of Investigator  
Or authorized research  
investigator designated by  
the Principal Investigator

\_\_\_\_\_  
Printed Name of Investigator

\_\_\_\_\_  
Date

## CONSENTIMIENTO DEL PADRE/MADRE DESPUÉS DE SER INFORMADO

Ciencias Sociales y de la Conducta  
Universidad del Sur de Florida

### **Información para los padres a quienes se les ha pedido que permitan a su niño(a) participar en este estudio de investigación**

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Los investigadores en la Universidad del Sur de Florida (USF) estudian muchos temas. Queremos aprender más sobre las experiencias de los niños en la alfabetización temprana.

**Estudio de investigación:** El papel de la alfabetización en el ambiente hogareño en el desarrollo de destrezas tempranas en niños de kindergarten provenientes de familias de minorías y de bajo nivel socio-económico.

**Persona a cargo del estudio:** Nicole R. Martin, M.A.

**Personal del estudio que puede actuar a nombre de la persona a cargo:** El maestro(a) de su niño(a), \_\_\_\_\_, (RBES-352-524-5200; PES-352-524-5100) Kelly Powell-Smith, Ph.D. (813) 974-9698.

**¿Dónde se hará el estudio?:** En las escuelas elementales *R.B. Cox* y *Pasco*.

### **¿Debe su niño(a) participar en este estudio?**

Este formulario le informa sobre este estudio de investigación. Puede decidir si quiere que usted y su niño(a) tomen parte en él. Usted no tiene necesariamente que participar. La lectura de este formulario le ayudará a decidir.

### **Antes de que decida:**

- Lea este formulario.
- Hable sobre este estudio con la persona a cargo del mismo o con la persona que explica el estudio.
- Usted puede hacerse acompañar por alguien cuando vaya a hablar sobre el estudio. Averigüe de qué trata el estudio.

### **Usted puede hacer preguntas:**

- Usted puede hacer cualquier pregunta que este formulario no responda. Si desea hacerlo, pregunte a la persona a cargo del estudio durante la conversación.
- Usted no tiene que adivinar sobre las cosas que no entienda. Pida a las personas haciendo el estudio que le explique las cosas en una forma que usted pueda entenderlo.

### **Después de leer este formulario, usted puede:**

- Tomar un tiempo para pensar sobre ello.
- Pedirle a algún amigo o familiar que lo lea.
- Hablar sobre él con alguna persona en quien usted confíe.

Usted decide. Si decide participar en el estudio, entonces firme el formulario. Si no quiere que su niño(a) participe en este estudio, no firme el formulario.

**¿Por qué se está haciendo esta investigación?**

El propósito de este estudio es conocer experiencias de niños en kindergarten, antes de entrar a kindergarten, que promuevan la alfabetización temprana.

**¿Por qué se les está pidiendo a usted y a su niño(a) que participen?**

Les estamos pidiendo a usted y a su niño(a) que participen porque su niño(a) está precisamente comenzando kindergarten, y dentro del término de 45 días se administrará a los estudiantes el Sistema de Uniforme de Evaluación de Preparación para la Escuela (SRUSS). Todos los estudiantes

de kindergarten son evaluados sobre la preparación para la escuela con dos instrumentos: El Inventario de Evaluación Temprana-Kindergarten (ESI-K) y los Indicadores Dinámicos de Alfabetización Básica Temprana (DIBELS).

**¿Cuánto tiempo se les pedirá a usted y a su niño(a) que estén en el estudio?**

A su niño(a) se le pedirá que esté cerca de dos meses en este estudio. El Sistema Uniforme de Evaluación de Preparación para la Escuela se terminará en septiembre. El proceso de recolección de información comenzará en agosto con la Encuesta sobre Alfabetización en el Hogar, y terminará a comienzos de octubre cuando la información de todos los SRUSS se haya recolectado.

El investigador no evaluará a su niño(a), pero obtendrá de la escuela los resultados del SRUSS y el DIBELS. Se pedirá a los padres que completen la Encuesta de Alfabetización en el Hogar, que toma cerca de 10-15 minutos. Una vez que la encuesta es terminada, debe devolverse al maestro(a) del aula de su niño(a).

**¿Que otras opciones tiene usted si decide que su niño(a) no participe?**

Si usted decide que su niño(a) no participe en este estudio, está bien.

**¿Cómo comienza usted?**

Si usted decide participar en este estudio, necesitará firmar este formulario de consentimiento, completar la Encuesta sobre Alfabetización en el Hogar que se adjunta, y dar el permiso para que el investigador obtenga los resultados del SRUSS de su niño(a).

**¿Qué sucederá durante este estudio?**

Una vez que usted complete el formulario de consentimiento y la Encuesta sobre Alfabetización en el Hogar, envíelos al maestro(a) de kindergarten de su niño(a) dentro de su carpeta de trabajos. Una vez que los estudiantes completen el SRUSS, los resultados de la encuesta se compararán con los resultados del SRUSS.

**A continuación, lo que usted y su niño(a) deberán hacer durante este estudio**

Su niño(a) no necesitará hacer nada en este estudio que no sea un requisito escolar ya existente. A usted se le pedirá que complete la carta de consentimiento y la Encuesta sobre Alfabetización en el Hogar, y que los devuelva al maestro(a) de su niño(a).

**¿Se le pagará a su niño(a) por participar en este estudio?**

Nosotros no pagaremos por el tiempo que usted participe como voluntario en este estudio; sin embargo, se proveerán las siguientes compensaciones:

- Una vez que los estudiantes devuelva sus cartas de consentimiento, se dé o no el permiso, se les permitirá que tomen una recompensa (p.ej. caramelos, calcomanías, libros)
- Dos certificados de regalo de *WalMart* de \$25.00 serán rifados entre las familias participantes en cada escuela que devuelvan las cartas de consentimiento y las encuestas completadas.

**¿Qué les costará a usted o a su niño(a) participar en este estudio?**

No les costará nada ni a usted ni a su niño(a) participar en este estudio.

**¿Cuáles son los beneficios potenciales para su niño(a) si usted lo deja participar en este estudio?**

No sabemos si su niño(a) obtendrá algún beneficio por participar en este estudio. Sin embargo, podríamos obtener información que sería útil para niños y familias en el futuro. Por ejemplo la información podría alludar a educar a los padres con respecto a la importancia de proveer material educativo en las casas y actividades en las cuales deben involucrarse.

**¿Cuáles son los riesgos de su niño al participaren este estudio?**

No se conoce de ningún riesgo por participar en este estudio.

**¿Qué haremos nosotros para preservar que los datos de su niño(a) se mantengan confidenciales?**

Su privacidad y los datos de la investigación se mantendrán confidenciales en la medida que establecen las leyes. Nosotros mantendremos estrictamente la confidencialidad de toda información que pueda identificarles (p.ej. nombre, número del estudiante, etc.). El nombre suyo y el de su niño(a) no aparecerán en ninguno de los productos escritos de esta investigación. Los formularios de consentimiento se mantendrán durante tres años después de la terminación del estudio, en cuyo momento serán destruidos en una trituradora de papel.

Las leyes federales requieren que nosotros mantengamos privados los datos de su niño(a) en el estudio.

Sin embargo, ciertas personas pudiera necesitar ver la información sobre usted y su niño(a). De acuerdo a ley, cualquiera que vea los datos de usted o de su niño(a) debe mantenerlos confidencial. Las únicas personas que serán autorizadas a ver esos datos serán:

- El personal que realiza el estudio.
- Personas que se aseguran de que estemos haciendo el estudio correctamente. Ellos también se aseguran de que nosotros protejamos sus derechos y su seguridad:
  - La Junta de Revisión Institucional de USF (IRB) y su personal y/o cualquier otra persona representandola.
  - El Departamento de Salud y Servicios Humanos de los Estados Unidos (DHHS)
- Nosotros pudiéramos publicar los resultados de este estudio. Si lo hacemos así, no utilizaremos el nombre suyo ni el de su niño(a), ni nada que pueda permitir a otros conocer quién es su niño(a).

**¿Qué sucede si usted decide no participar en este estudio?**

Ustedes solamente participarán en este estudio si usted y su niño(a) quieren participar.  
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**Si usted decide no participar:**

- Usted y su niño(a) no tendrán problemas ni perderán los privilegios que normalmente reciben.
- Usted y su niño(a) recibirán los mismos servicios que normalmente reciben y el participar o no participar no afectara a su niño en la escuela y/o como estudiante.

**¿Qué pasa si usted y su niño(a) se unen al estudio y luego deciden no querer continuar?**

Si usted decide no continuar en el estudio, comuníquese al personal del estudio lo más pronto que pueda.

**¿Existen razones por las cuales su niño(a) podría ser retirado del estudio más adelante?**

Aunque usted y su niño(a) quisieran continuar en el estudio, podrían surgir razones por las cuales tengamos la necesidad de retirar a su niño(a) del programa. Usted podría ser retirado del estudio si la información de DIBELS o ESI-K no está disponible.

**Usted puede obtener respuestas a sus preguntas.**

Si tiene preguntas sobre este estudio, llame a Nicole Martin al 813-980-3815, o a Kelly Powell-Smith supervisora de la Universidad del Sur de Florida al (813) 974-9698.

Si tiene preguntas sobre los derechos como una persona que participa en el estudio, llame a la oficina del Cumplimiento de Investigación de la Universidad del Sur de Florida al (813) 974-5638

**Consentimiento para que un niño(a) participe en este estudio.**

Es decisión suya. Usted puede decidir si quiere que su niño(a) participe en este estudio.

**Doy mi consentimiento libremente para permitir que mi niño(a) participe en este estudio. Comprendo que es una investigación. He recibido una copia del formulario de consentimiento.**

\_\_\_\_\_  
Firma del padre/madre del niño(a)  
que participará en el estudio

\_\_\_\_\_  
Nombre del padre/madre

\_\_\_\_\_  
Fecha

**Declaración de la persona que obtuvo el consentimiento del padre/madre después de ser informado**

Le he explicado cuidadosamente a la persona que participa en este estudio lo que el/ella puede esperar.

La persona que está dando el consentimiento para participar en este estudio

- Entiende el idioma utilizado
- Lee suficientemente bien para entender este formulario. O es capaz de oír y entender cuando se le lee el formulario.
- No tiene ningún problema que le impida entender lo que significa participar en este estudio
- No está utilizando drogas que le impidan entender lo que se le está explicando.

A mi leal saber y entender, cuando esta persona firma este formulario entiende:

- De qué trata este estudio.
- Qué se necesita hacer.
- Cuáles podrían ser los beneficios potenciales.
- Cuáles podrían ser los riesgos conocidos.
- Que participar en este estudio es voluntario.

\_\_\_\_\_  
Firma del investigador, o del investigador  
del estudio autorizado por el investigador principal

\_\_\_\_\_  
Nombre impreso del investigador

\_\_\_\_\_  
Fecha

## Appendix B

### Home Literacy Environment

Please check one answer to each of the questions.

1. What is your relationship to the kindergarten child?

mother       father       Other (List: \_\_\_\_\_)

2. What is your racial/ethnic group?

Black       White       Hispanic       Other (List: \_\_\_\_\_)

3. What language is spoken most in your home (check all that apply)?

English       Spanish       French       Other  
(Describe \_\_\_\_\_)

4. Does your kindergarten child get free or reduced price lunch at school?

Yes       No

5. At what age did your kindergarten child:	<b>7-12 mo.</b>	<b>13-18 mo.</b>	<b>19-24 mo.</b>	<b>25+</b>
▪ Say his or her first word other than “mama” or “dada”?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Start writing letters or letter-like symbols?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. How many picture books do you have in the home for your child	<b>0-1</b>	<b>2-5</b>	<b>6-10</b>	<b>11+</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. How <b>much</b> does your kindergarten child do these activities alone?	<b>Hardly</b>	<b>At times</b>	<b>Often</b>	
▪ Look through books or magazines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Watch educational television (e.g. Sesame Street).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Write letters or symbols.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. How <b>much</b> does your kindergarten child like being read to?	<b>Hardly</b>	<b>At times</b>	<b>Often</b>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. How <b>much</b> do you or another adult at home do the following activities with your child?	<b>Hardly</b>	<b>At times</b>	<b>Often</b>	
▪ Read a book.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Read an entire story without many disruptions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Stop reading and point out letters in the book.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Stop reading and point out pictures that show what was told in the story.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Stop reading and ask what will happen next.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Continue on the back of page



10. How <b>much</b> do you provide your kindergarten child with:	<b>Hardly</b>	<b>At times</b>	<b>Often</b>	
▪ Books or magazines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Help in learning the ABC's.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. How <b>much</b> does your child see you doing the following activities each week?	<b>Hardly</b>	<b>At times</b>	<b>Often</b>	
▪ Writing out notes, letters, papers, or checks to pay bills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Using a computer to type letters or papers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Reading a book/newspaper/magazine or work related materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. How much do you enjoy reading?	<b>Not at all</b>	<b>A little</b>	<b>Pretty much</b>	<b>Love it</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. How much time in a week do you spend reading alone?	<b>1-15 mins.</b>	<b>16-30 mins.</b>	<b>31-45 mins.</b>	<b>46+ mins</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. How much do you agree with these ideas?	<b>I don't agree</b>	<b>I agree</b>	<b>I strongly agree</b>	
▪ It is the school's job to teach reading.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Parents should read to their children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Parents also should teach their children to read.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Reading to children helps them to learn to read	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Children should have a special reading place in the home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Thank you for your help!**



10. ¿Con qué frecuencia le provee a su niño(a) kindergarten?:	<b>casi nunca</b>	<b>a veces</b>	<b>a menudo</b>	
▪ Libros y revistas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Ayudándolo a aprender el ABC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. ¿Con qué frecuencia su niño(a) de kindergarten lo ve a usted hacer las siguientes actividades cada semana?	<b>casi nunca</b>	<b>a veces</b>	<b>a menudo</b>	
▪ Escribir notas, cartas, o cheques para pagar los recibos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Utilizar la computadora para escribir cartas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Leer un libro/periódico/revista o trabajar con documentos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. ¿Qué tanto le gusta leer?	<b>Nada</b>	<b>Un poco</b>	<b>Bastante</b>	<b>Me encanta</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. ¿Cuántos minutos a la semana usted lee solo?	<b>1-15 minutos</b>	<b>16-30 minutos</b>	<b>31-45 minutos</b>	<b>46+ minutos</b>
14. ¿Qué tanto está de acuerdo con estas ideas?	<b>No estoy de acuerdo</b>	<b>Estoy de acuerdo</b>	<b>Estoy totalmente de acuerdo</b>	
▪ El trabajo de la escuela es enseñar a leer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Los padres deben leerles a sus niños	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Los padres deben enseñarles a leer a sus niños	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Leerles a los niños les enseña a aprender a leer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Los niños deberían tener un lugar especial en su casa para leer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**¡Gracias por su ayuda!**