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The Relationship Between Joint Book Reading During the Pre-School Years and Later Academic Achievement Along with Age at Reading Independently in Children

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Abstract

This study focused on the relationship between joint book reading of parents with their pre-school children and children's later academic achievement along with age at reading independently. Despite conflicting theories of reading acquisition, it is widely known that children learn to read early in elementary school, a skill that is vital to school success. School readiness, including the ability to acquire reading skills, depends in part on the quality and frequency of parent-child literacy activities prior to kindergarten. The numerous benefits of parent-child storybook reading interactions (also called *joint book reading*) have been consistently documented. The purpose of the study was to further examine the efficacy of joint book reading as an effective pre-school intervention strategy for the promotion of children's literacy development and later school performance.

The study included children in Grades 1-5 (N=37) at a private Christian day school in the Eastern United States. There was a significant relationship between child's age at reading an entire book independently and child's age at which parents started reading aloud and frequency of pre-school joint book reading. Report card grades were predicted by the number of letters that the child could recognize and say at school entry and whether or not the child liked to play school. Stanford Achievement Test scores were predicted by the child's age at reading an entire book independently as well as the number of children's books available in the home. The child's age at reading independently was predicted by age at learning to print name, number of library visits per month, and whether or not child had a library card of his/her own.

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Current Literacy Problems

High illiteracy rates in the U.S. continue to pose a threat to the well-being of our society. The White House Conference on Library and Information Services reported that, in 1991, the United States ranked 49th out of 148 member nations of the United Nations in literacy (Powell-Smith, Stoner, Shinn, & Good, 2000). Estimates vary according to different sources, but there are roughly 35 million Americans who are semiliterate and functioning at an 8th grade school level (Ponnuru, 1999) and the White House Conference on Library and Information Services has found that up to 40 million adults are considered to be illiterate (Powell-Smith et al., 2000). With the population of illiterate adults hovering between 35 and 40 million in the U.S., it is evident that there is much to be desired with the current system of education.

The National Institute for Child Health and Human Development found that at least 75% of Americans who have learning disabilities (LD) are primarily disabled in reading (Blachman, 1996). Reading difficulties are the primary reason for referrals to the special education program, which has seen a sharp and steady increase in the number of students requiring services (Ponnuru, 1999; Powell-Smith et al., 2000). Out of children that are identified as being learning disabled, fully 45% of them have no physical or mental disability of which to speak. These children are placed in special education because of reading problems (Ponnuru, 1999). Many children read at a skill level that is significantly lower than what is expected for their grade, and leave elementary school that

way (Blachman, 1996). Reading abilities/deficits seem to develop early in the schooling years and tend to be fairly stable throughout them. According to the National Institute for Child Health and Human Development, 74% of children who are unsuccessful readers in third grade are still poor readers in ninth grade (Blachman, 1996). Reading failure in childhood has serious negative implications for society, as it often persists into adulthood. It has been shown that difficulty in reading during the school years may result in functional illiteracy in the adult years (Powell-Smith et al., 2000). Other negative outcomes that have been correlated with LD (including reading difficulties) are juvenile delinquency, teen pregnancy, substance abuse, and higher rates of school dropout (Cramer & Ellis, 1996).

In the transition from an industrial to an information society, higher levels of literacy are in demand, which makes reading skills more important than ever (Diamond & Onwuegbuzie, 2001). Research indicates that the gap is widening between U.S. literacy levels and the demand for qualified workers to perform jobs that are technologically skilled (Beasley, 1996). A Training Manager for Georgia-Pacific in Arkansas stated, "...We are continually upgrading the skills of our employees and examining how to upgrade the standards for prospective employees. The global economy demands that we have the best-trained employees possible" (Beasley, 1996, p.141). When the large American industry raised the standards for employment, it was noted that 60% of prospective employees and 45% of current employees could not pass a reading, writing, and math test that was written at a 12th grade level (Beasley, 1996). The National Research Council has indicated that, due to the changing society, the negative

consequences associated with poor reading skills will be greater than in previous years (in Haney, 2000). It also reported that the U.S. Departments of Education and Health and Human Services recommended that the National Academy of Science develop a committee for the prevention of reading failure (Haney, 2000).

Theories of Reading Acquisition

The United States' education system has never fully reached a consensus regarding a single best approach for teaching children how to read (Carbo, 1996). The crux of the historical argument lies in whether students should be taught to read in a parts-to-whole fashion (the phonics method), or whether they should be taught from whole-to-parts (the look-say, sight-word, or whole-word approach), with phonics and whole language being the contemporary competitors in this age-old debate (Baumann & Hoffman, 1998; Carbo, 1996; Ponnuru, 1999; Weaver 1991). Horace Mann, considered to be the father of public education in America, was outspoken in his opposition to phonics; however, phonics instruction was the mainstay in public schools until the 1930s (Ponnuru, 1999). Literature-based instruction got its start in the 1930s and was the forerunner of the whole language approach (Daniels, Zemelman, & Bizar, 1999). The look-say method was the one most favored by educators between the 1940s and the 1970s (Carbo, 1996). In 1955, Rudolph Flesch wrote Why Johnny Can't Read, an influential book which later precipitated a shift in ideology back to phonics (the approach it advocated and validated) (DeMoulin, Loye, Swan, Block, & Schnabel, 1999; Ponnuru, 1999). Phonics enjoyed popularity between 1970 and 1990 but, since 1990, whole language has been the preferred method of reading instruction (Carbo, 1996; Weaver,

1991). More recently, balanced reading instruction has been receiving considerable attention from the media and the nation's educators (Freppon & Dahl, 1998). The *reading wars*, as they have come to be called, have never been more heated or received so much attention from the media, government, and general public (Ponnuru, 1999).

With mounting concern over students' plummeting achievement test scores, many lawmakers are mandating a return to phonics instruction (Baumann & Hoffman, 1998; Carbo, 1996; DeMoulin et al., 1999). California and Texas have both passed laws requiring their teachers to undergo phonics training (Carbo, 1996). Ohio has mandated that pre-service elementary teachers successfully complete a phonics instruction class (Baumann & Hoffman, 1998). Massachusetts requires that every public school teach phonics, and many other states are drafting similar pro-phonics legislation (Carbo, 1996). The Learning First Alliance (comprised of the national PTA and prominent teachers' unions) encouraged phonics instruction in a recent report. The subject of reading has become a favorite soapbox for politicians and educators alike, who often take opposing sides on the issue and polarize the debate over the best solutions to implement.

The U.S. Department of Education recognized six basic characteristics of successful reading programs in 1999. In its *Reading Excellence Program Overview*, the Department of Education focused on the following components in its formal definition of reading:

> A) The skills and knowledge to understand how phonemes, or speech sounds, are connected to print, B) The ability to decode unfamiliar words. C) The ability to read fluently, D) Sufficient background information and vocabulary to foster

reading comprehension, E) The development of appropriate active strategies to construct meaning from print, and F) The development and maintenance of a motivation to read (paragraph 11).

A recent report published by the National Center for Education Statistics showed that America's kindergartners make significant gains in literacy skills over the course of their first year of school (Denton, Reaney, & West, 2000). The study showed that, by the end of the year, 94% of kindergartners know their letters, 13% understand words by sight, and 4% comprehend words within their context. Overall, children show higher levels of reading skills and knowledge by the end of their first year of school than they did at its beginning, as evidenced by one full standard deviation increase over that time period. Although the type of reading instruction received by these children was not specified, it is apparent in reviewing the data that the first few years of formal education are the most critical in the development of literacy and reading skills, which is why this issue is of such importance.

The phonics method.

While no one single method will ever serve as a reading panacea that results in the literacy of every child, research, common sense, and past experience all support the claim that phonics instruction yields the best results, especially in terms of fostering literacy and children's enjoyment of reading (Ponnuru, 1999). Reading styles researcher, Marie Carbo (1996), found that children who respond well to phonics instruction tend to be auditory and analytic learners, as phonics presentation is traditionally very organized, sequential, straightforward, and predictable. Phonics is taught through a variety of

methods including flashcards, worksheets/workbooks, basal readers, drills, word families, writing and spelling activities, phonograms, and children's literature.

The understanding of phonics is absolutely essential to children's learning to read (National Association for the Education of Young Children [NAEYC], 1996). The knowledge and use of phonics give the beginning reader a decided advantage in decoding words and gaining meanings from print (Smith, 2000). Decoding skills are learned on the supposition that print contains meaning, a story, and a message. Verbal communication requires the knowledge of the letters of the alphabet and the sounds that they make, which the phonics approach emphasizes (NAEYC, 1996; Smith, 2000).

Phonics supporters advocate the use of systematic instruction in teaching children the alphabetical code, or how the 26 letters of the alphabet combine to form the 44 distinct sounds (phonemes) of the English language (Ponnuru, 1999). In one study of elementary school teachers conducted by Baumann and Hoffman (1998), 90% of teachers devoted significant amounts of time to teaching phonics; they identified themselves as spending either Considerable (58%) or Moderate (32%) amounts of time on phonics instruction. Also, 99% of the K-2 teachers felt that phonics was either Essential (67%) or Important (32%). Many children fail on reading performance tests when systematic phonics is not taught in schools (Smith, 2000).

Critics of the phonics approach see phonics as a lesson in boredom and as a turn-off to literature for children who do not need as much instruction in decoding skills. The worksheets and drills are viewed negatively, as being burdensome on beginning readers (Carbo, 1996; DeMoulin et al., 1999). In considering that the long-term goals of

education include literacy and productivity, excessive emphasis on phonics and other so-called low-level skills may undermine those goals, especially for students who struggle with this type of tedious skills-work (Weaver, 1991). Those who do not master phonics skills may fall victim to a vicious cycle in which they are simply assigned more skills-work and less actual reading time, so they fall behind and experience decreased self-esteem and confidence in their ability and desire to read. Marie Carbo (1996) found that phonics can be confusing to students who do not have an analytic reading style or learn well sequentially, categories of learners which she believes to include the majority of children. Of particular concern is the difficulty that children with reading disabilities have with the decoding process, or with even learning the code in the first place (DeMoulin et al., 1999). Still other criticisms include: a) Phonics does not teach comprehension, b) It teaches only how to sound out words, not actually how to read them, and c) Phonics does not offer sufficient word attack skills.

The whole language approach.

*P*roponents of whole language instruction claim that holistic approaches are the best-documented ways in which to teach reading (Daniels, Zemelman, & Bizar, 1999). Children with visual, tactile and global reading styles tend to do the best in a whole language program (Carbo, 1996). Whole language programs are appealing because of their emphasis on fun, tactile (hands-on) learning, literature, and group activities. Whole language also operates on the claim that exposure to print-rich environments will lead children to read naturally (Ponnuru, 1999). Kenneth Goodman, a noted whole language theorist, stated that children's early attempts at spelling and writing should not be

corrected since language is a personal and social construct or invention. The majority of teacher education textbooks are now written favoring the whole language approach, and de-emphasizing the need for phonics. Whole language focuses on the following strategies for learning:

> Using classic children's literature, reading aloud daily, structuring independent reading and writing, embedding literacy activities in broad interdisciplinary themes, stressing higher-order thinking, teaching multiple cuing systems for decoding unknown words, holding regular teacher-student conferences, organizing students into collaborative groups, teaching writing as a staged process, inviting early writing with developmental spelling, teaching grammar and correctness in the context of students' own writing, substituting coaching and modeling for red-penciling children's errors, encouraging student goal-setting and self-assessment, and involving students and parents in literacy homework activities, and using the teacher as a model of adult literacy (Daniels et al., 1999, p.32).

Advocates of whole language emphasize independent reading, development of the writing process, literature-based reading, and cooperative learning (Daniels et al., 1999). One study found that significantly more children in whole language programs are writing complete sentences and stories by the end of their first grade year than are children in more traditional programs. The majority of pre-kindergarten to second grade teachers in Baumann and Hoffman's (1998) study reported using holistic, whole language activities

in their instruction. These activities included reading aloud (97%), accepting invented spellings (85%), children's journal writing (78%), conducting reading response activities (69%), and using big books (67%). Additionally, 70% of K-2 teachers identified with an emergent literacy philosophy of teaching, which was defined largely through whole language experiences and activities.

Many professional associations like the National Council of Teachers of English and the International Reading Association as well as teachers' colleges are dogmatically teaching whole language methods while rigorously opposing phonics-based instruction (Ponnuru, 1999). Educators and other professionals seem to subscribe to an either /or (phonics or whole language) philosophy of reading instruction and tend to feel very strongly about their particular position on the issue.

Whole language, for its many endorsements and claims, is not without flaws and harsh criticisms. One criticism is the overemphasis on environmental and contextual cues. Robert Sweet, a phonics proponent who founded the National Right to Read Foundation, stated the absurdity of the whole language approach this way, "Put somebody in a house and put a hammer in his hand and he'll become a carpenter" (in Ponnuru, 1999, paragraph 8). Isabelle Liberman stated, "If you can't read the words on the page, it doesn't matter if you give children Dickens or Dick and Jane, they still won't be able to read"(in Blachman, 1996, p.68). Another concern is that the whole language style does not fit analytic learners, who find the approach unorganized (Carbo, 1996). Such children want to learn the correct spellings of words rather than make up their own spellings in the process of developing their writing skills. Another concern is that some

children continue to use their invented spellings past the first few years of school and may have a very hard time learning correct spellings after theirs have been embedded in their minds for so long. Additionally, some students will fail to learn the decoding skills that they need without direct phonics instruction. Another criticism is that academic goals are consistently being lowered and fewer standard English words are being learned (to make room for more multicultural/ foreign words) (Ponnuru, 1999). Also, some whole language theorists reject the need for quantitative research (because each literacy experience is individual and must be viewed in a subjective context) and therefore do not feel as pressured to conform to an objective standard of accountability.

In California, when whole language instruction was adopted in the mid-1980s, an educational crisis followed; a majority of children there could not read with basic proficiency (Baumann & Hoffman, 1998). Following that discovery, the California Department of Education's Reading Task Force recommended a change back to direct skill instruction that emphasized phonics.

The balanced literacy approach.

As with many other areas of policy conflict, a middle-of-the-road compromise between two extremes is often viewed as a solution that will be welcomed by both sides (Rycik, 1997). So it is with the issue of literacy, with the term balanced literacy being discussed both by educators and by policymakers. This approach is being heralded as the common sense way to educate, combining the best techniques and practices from both the phonics and whole language methods. It is also viewed as a combination or blend of phonics and whole language (Reutzel, 1998). Balanced literacy programs strive to allot

equal amounts of learning time to whole group, small group, and individual reading activities (Rycik, 1997).

Balanced reading programs sprouting up across the U.S. have their conceptual origins in New Zealand, where they have been successfully employed for decades (Reutzel, 1998). New Zealand's balance, however, is a far more elaborate and complex system of instructional practices than the one currently being touted in the United States. The educators of New Zealand's comprehensive approach included "environmental design, assessment, modeling, guidance, interactivity, independence, practice, oral language acquisition, writing and reading processes, community building and motivation" (1998, paragraph 5).

It is the author's opinion that balanced instruction programs in the U.S. should strive to be more comprehensive and all-inclusive, rather than a piecemeal re-working of select phonics and whole language fragments united under a fashionable moderate-sounding label to be packaged and used in public schools. This opinion is based on Reutzel's (1998) commentary.

In Madison, Wisconsin, the Balanced Literacy program (which included phonics instruction) was implemented in 1996 (Arond, 2001). In 2000, 80% of third graders tested at the proficient or advanced level in reading comprehension on a statewide test, an increase of 10% from 1998 test scores. Minority students made the greatest gains of all from the program.

After the dismal failure of whole language in California, a balanced literacy approach was adopted in 1996 (Freppon & Dahl, 1998). The balanced approach is also

referred to as a literature-based program that includes explicit teaching of skills. As many of these balanced literacy approaches have been implemented so recently, a body of research entailing their effectiveness has not yet been accumulated. More research on these programs is needed in order to ascertain how well the students are reading compared with the expected outcome in order to develop sound educational policies in the future.

Emergent Literacy and School Readiness

Emergent literacy is defined as "the view that literacy learning begins at birth and is encouraged through participation with adults in meaningful activities; these literacy behaviors change and eventually become conventional over time" (Neuman, Copple, & Bredekamp, 2000, p.4). Parents have an extremely important role to play in their child's developing or emerging literacy.

Parents are truly their children's first teachers (Diamond, Reagan, & Bandyk, 2000; Wright, Germino-Hausken, & West, 1994; National Education Goals Panel, 1997). One of the National Education Goals is that, "Every parent in the United States will be a child's first teacher and devote time each day to helping such parent's preschool child learn, and parents will have access to the training and support parents need" (1997, p.1). School readiness, then, must be considered one of the primary tasks of parenting in those early years (Diamond et al., 2000; National Education Goals Panel, 1997).

Readiness was defined (Diamond et al., 2000) as being two-fold: the readiness to learn and the readiness for school. Readiness for learning is characterized by the developmental processes that serve as the foundation for learning about specific material

or subjects; this type of readiness is the one that is most widely accepted based on the 1992 School Readiness: Scientific Perspectives Conference's recommendations. In a study by Diamond et al., teachers and parents agreed that the most important skills for entering kindergartners are listening skills, feeling confident, and the ability to follow directions. Parents viewed academic skills as being more important for kindergarten readiness than did teachers, but teachers did advocate the use of informal reading and counting activities at home in preparation for formal instruction.

Signs of emerging literacy.

The National Research Council (2000, p.20) suggested that three and four-year-olds should be able to accomplish the following literacy skills:

- Recognize print in other places besides books
- Know that the letters of the alphabet have names
- Use vocabulary and grammatical constructions in speech
- Understand and follow verbal directions
- Show an interest in books and reading
- Understand the meaning of stories, ask questions and make comments
- Attempt to read and write
- Identify 10+ letters of the alphabet, especially from own name
- Follow the sequence of the story line
- Start to notice beginning and rhyming sounds.

In a study conducted in 1999 by the U.S. Department of Education, pre-school children between ages three and five demonstrated signs of emerging literacy, such as

recognizing all letters of the alphabet (24%), counting to at least 20 (57%), writing their names (51%), reading or pretending to read (74%). While only 3% of these children could actually read on their own, 39% of them demonstrated three of the four emergent literacy skills (Nord, Lennon, Liu, & Chandler, 1999).

In the national longitudinal study The Kindergarten Year, it was found that 65% of entering kindergartners could recognize their letters, 29% could understand the letter-sound relationship at the beginning of words, and 17% could understand ending sounds (Denton, Reaney, & West, 2000). These statistics indicate that children have an amazing potential to learn and absorb information in their early years, as their literacy skills gradually emerge.

Parent-child activities that promote literacy.

Parents play a significant role in promoting literacy within the home in the early years before formal schooling. There are numerous activities that families can engage in to promote literacy development. Family literacy is defined as, "The different ways in which family members initiate and use literacy in their daily lives" (Neuman et al., 2000, p.4). There is an overwhelming consensus in the research that the following parent-child/ family-child activities are conducive to fostering emerging literacy: telling stories (National Education Goals Panel, 1997; Nord et al., 1999), regularly visiting a library (National Association for the Education of Young Children [NAEYC], 1997; National Education Goals Panel, 1997; Nord et al., 1999; Reiner, 1999; U.S. Department of Education, 2000; Zero to Three, 2000), talking and singing, reading aloud daily, providing creative materials to prepare children for writing (Nord et al., 1999; Reiner,

1999; U.S. Department of Education, 2000), limiting television usage and watching it with the child (Diamond et al., 2000; Reiner, 1999; U.S. Department of Education, 2000), providing opportunities for play and exploration (Reiner, 1999), modeling adult literacy (Reiner, 1999; Zero to Three, 2000), ensuring good medical care that includes testing the children's eyesight and hearing (Reiner, 1999; U.S. Department of Education, 2000), teaching letters, numbers, and/ or words (Nord et al., 1999), ensuring that their daycare and/or pre-school is of high quality (Diamond et al., 2000; Reiner, 1999; U.S. Department of Education, 2000), and, finally, creating a special shelf for the kids' books as well as a special place for reading and writing (Reiner, 1999;U.S. Department of Education, 2000). These are just some of the ways that parents can involve their children in learning and develop their cognitive abilities before kindergarten.

A study conducted by Nord et al. (1999) found that more families are engaging in literacy activities with their pre-school children, ages three to five years old. In 1999, 81% of these children had been read to, 50% had been told a story, 49% had been taught songs or music, and 39% had made arts and crafts at least three times in the past week with their families; 36% had been taken to the library within the past month and 64% had been taught letters, words, and numbers frequently.

Family risk factors.

There are several family characteristics or factors that place a child at risk for poor reading achievement in school. These factors include, but are not limited to, the following: living in a below-poverty line household, being black or Hispanic, living in a household with less than two parents, living with a mother whose speaks a language other

than English at home, and living with a mother who did not complete high school (Wright et al., 1994). The National Education Goals Panel (1997) found that parents who had graduated from college read to their preschoolers more than twice as often as parents who had not graduated from high school. It also found that reading achievement was consistently higher for students in Grades 4, 8, and 12 whose parents had graduated at least from high school or college than for those whose parents had not. Another surprising, yet telling statistic is that "...Parents' educational attainment continues to be a strong predictor of reading and writing abilities even after children reach adulthood" (p.22). This suggests a strong intergenerational link between parents' education and children's reading/academic achievement that merits further examination in research.

Children in poverty are read to less often than are children in higher socioeconomic classes. In 1999, 38% of children in poverty were read to daily, compared with 58% of children above the poverty threshold (Forum on Family and Child Statistics, 2000). Children in the United States currently account for 40% of the poor population, more likely than any single other age group to experience poverty (Demo & Cox, 2000). Black children were read to daily at a rate of 41% and Hispanic children at a rate of 33%, compared to 61% of white children. Children whose mothers graduated from college were read to daily at a rate of 70%, while the children with mothers who did not finish high school were read to at a rate of 38%. Only 42% of children are read to daily in homes with one or no parent, compared with 57% of children living in two-parent homes. These and other risk factors can lead to children starting to school not being ready to learn and the result is lower achievement once they get there.

Psychological Factors that Influence Literacy Development

Brain development.

During the first three years of life the brain grows to 90% of its eventual size and weight and children's capacity for learning develops (U.S. Department of Education, 2000). Children's experiences and growth cause the formation of neural connections in the brain. Parents play a critical role in the brain development of their children. Research done by Shore (1997) found that children's brain cells were quite literally turned on when their parents talked, sang, and read to them (in U.S. Department of Education, 2000). The importance of the early childhood period was echoed in the project From Neurons to Neighborhoods:

> From the time of conception to the first day of Kindergarten, development proceeds at a pace exceeding that of any subsequent stage of life...what happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or fragile stage for what follows (Shonkoff & Phillips, 2000, p.4-5).

There is a consensus among the research that literacy begins long before children enter formal schooling or learn to read (McLane & McNamee, 1991; Nord et al., 1999; U.S. Department of Education, 2000). Children can potentially develop a strong foundation of literacy skills throughout their first years of life. Safe, nurturing environments contribute to better learning ability later in life (High, LaGasse, Becker, Ahlgren, & Gardner, 2000).

Attachment relationships.

The parent-child relationship is key to cultivating a love of reading in a child. The National Association for the Education of Young Children [NAEYC] stated, "The most important thing is that teaching children about reading becomes an activity that brings children closer to the caring adults in their lives" (1997, p.1). A study conducted by Bus and van Ijzendoorn (1992), found that secure attachment was indicative of a more positive affective atmosphere surrounding mother-child interactions during a troublesome or difficult task, such as reading or more complex types of formal literacy instruction. Securely attached dyads read together more often and, when conflicts did arise during reading sessions, mothers handled them more effectively and were not threatened by their children's anxiety or frustration.

Cognitive development.

Vygotsky's theory of cognitive development is important to consider in the discussion of joint book reading. His view of development as an internalization of social relationships may be an accurate way to describe literacy development. Children internalize the structure of literacy activities that take place in their environment; their literacy environment is constructed by interactions (Teale, 1984).

Joint book reading is by nature a social interaction, one between parent and child. Vygotsky proposed that children learn best by attempting tasks that are within their zone of proximal development (ZPD) (Ormrod, 1999). When parents read and interact with their children using books, they are helping to scaffold the child's learning process by providing guidance and structure to a task that would otherwise be too difficult for the

child to perform independently. By collaborating with a more competent individual (in this case the parent) during joint book reading, it has been theorized that the child is gradually able to learn the increasingly complex tasks that lead to, and eventually culminate in, reading acquisition.

Numerous studies cited by Teale (1984) found that, "...Literacy is at first an interpsychological process structured and supported by the parent. With development, this parental scaffolding self-destructs as the child takes over more of the interaction. Eventually, reading and writing become intrapsychological processes, and the child is an independent reader and writer" (p.118).

McCracken and McCracken (1996) suggested that teaching children to read is a four-step process. It begins with parents reading to their children, an activity which they may not even recognize as teaching. The next step is that children start to practice and play with books and repeat the stories from memory. Then children begin to mimic reading their favorite memorized books repeatedly, noticing the text and discovering the meaning of print. Once children enter school, if all three steps have been successfully followed, word recognition will begin to take place, almost regardless of the teaching method employed (McCracken & McCracken, 1996).

The Benefits of Joint Book Reading

There are many benefits of parents reading to their children on a regular basis. Some documented benefits of reading to children include the following: it improves readiness for school (Diamond et.al., 2000; National Education Goals Panel, 1997), instills a lifelong love of books and reading (Diamond et.al, 2000; High et al., 2000;

National Education Goals Panel, 1997; Reiner, 1999; Zero to Three, 2000), familiarizes them with story components (National Education Goals Panel, 1997; Nord et al., 1999; Zero to Three, 2000), builds their vocabulary (High et al., 2000; NAEYC, 1997; National Education Goals Panel, 1997; Nord et al., 1999; Reiner, 1999; Senechal, LeFevre, Thomas, & Daley, 1998; Teale, 1984), expands their knowledge of the world and encourages exploration (National Education Goals Panel, 1997; Nord et al., 1999; Reiner, 1999; Teale, 1984; Zero to Three, 2000), helps them associate oral language with printed texts (High et al., 2000; McLane & McNamee, 1991; National Education Goals Panel, 1997; Senechal et al., 1998; Teale, 1984; Zero to Three, 2000), increases listening and speaking skills (Reiner, 1999; Senechal et al., 1998; Zero to Three, 2000), fosters parent-child closeness and secure attachment (Bus & van Ijzendoorn, 1992; McLane & McNamee, 1991; NAEYC, 1997; Reiner, 1999; Teale, 1984; Zero to Three, 2000), provides motivation for mastering reading skills (both present and future) (High et al., 2000; U.S. Department of Education, 2000; Teale, 1984; Zero to Three, 2000), familiarizes them with appropriate book handling behaviors (High et al., 2000; McLane & McNamee, 1991; Teale, 1984; Zero to Three, 2000), and potentially helps children cope with difficult situations and feelings (Zero to Three, 2000). These are all potential outcomes of parents reading to their children, though they may not all occur for all children all the time.

While actual time spent reading to children in the first few years of life varies from one set of parents to the next (Bus & van Ijzendoorn, 1992), it seems that more parents are becoming aware that joint book reading and other home literacy activities are

important (Nord et al., 1999). In the study conducted by Senechal et al. (1998), it was found that parents in the sample population started reading to their children, on average, when the child was 9 months old. They also reported frequent storybook reading, occasional library visits, and having between 61 and 80 children's books in their home. Also significant was the children's interest in reading with their parents—they often were the ones initiating the joint book reading. It is interesting to note that the children in the study not only responded to their parent's initiating of reading interactions, they also recruited their parents to read to them of their own accord.

Later academic achievement.

One of the most researched benefits of parents reading to their children is the correlation it has with children's future academic success. The NAEYC stated in one of its releases, "Adults often think that children learn about reading in the primary grades. But the truth is that many children already know a great deal about reading because they have been read to from the time they were born! Children who become good readers are those who have had many positive experiences with books during their early years…" (1999, p.1). The National Research Council (1998) suggested that, "Just as a child develops language skills long before being able to speak, the child also develops literacy skills long before being able to read" (in U.S. Department of Education, 2000, p.5). Another release by the NAEYC stated, "Reading aloud with children is an essential component to language development and is one of the most important activities for preparing them to succeed as readers" (1998, p.1). Success in adulthood depends partially on the stimulation received and cognitive development that takes place during

the early childhood years (High et al., 2000). The study found support in its research for the claim that reading aloud, apart from other intervening variables, stimulates language development; it also examined the beneficial effects of reading aloud to toddlers and younger infants, as opposed to older age groups.

Another finding suggested that storybook reading predicted only oral language in children, while parent teaching predicted only written language (Senechal et al., 1998). This study also suggested that the association between parent reading and the child's oral language skills lasted at least until the first grade. The National Research Council (1998) found a significant amount of evidence demonstrating the relationship between children's being read to consistently and their future achievement in reading (in U.S. Department of Education, 2000).

A study of 56 children found that the frequency of pre-school joint book reading was significantly related to children's later reading abilities (Scarborough, Dobrich, & Hager, 1991). It was also suggested that children played an active role in determining how often their parents read to them. Children who were normal readers typically entertained themselves with books daily as preschoolers, while children who were poor readers only did so two or three times per week. Overall, the results indicated that children who were poor readers did not have as much experience with books and reading at school entry as those who were better readers (Scarborough, Dobrich, & Hager, 1991).

In a meta-analysis of the empirical research conducted about the relationship between the frequency of joint book reading and outcome measures, 8% of the variance in the outcome was explained by frequency of joint book reading. It was also found that

reading between parents and children was related to children's written language acquisition, language growth, emergent literacy, and reading achievement (Bus, van Ijzendoorn, & Pellegrini, 1995).

Reading precocity.

When studying precocity in readers, parents' involvement in instruction and emphasis on reading to their children seems to have a connection with their children's being able to read early. In a 1988 study conducted by Jackson, Donaldson, and Cleland (in Senechal et al., 1998), 95% of parents of precocious readers had identified letter sounds for their children. In this study, precocious readers were read to by their parents often and were also taught about reading by them. These findings suggest that parents who read to their children are also likely to spend time teaching them reading and writing skills.

A historical review of the literature (dating from the 1960s), revealed that joint book reading figured prominently in the histories of precocious readers (those who became literate before entering formal schooling) (Teale, 1984).

Later reading ability.

Cunningham and Stanovich studied 27 eleventh grade students to determine the relationship between early reading acquisition and later reading experience and ability (1997). The students were initially tested in the first grade; this research was a follow-up. Reading ability in first grade was significantly predictive of performance in eleventh grade on all outcome measures of reading comprehension, vocabulary, exposure to print, and overall knowledge. Findings also indicated that early reading acquisition could aid in

the cultivation of lifetime reading habits, regardless of terminal reading comprehension level (Cunningham & Stanovich, 1997).

A longitudinal study of 54 children found that early reading ability predicted later reading ability. These children were studied from first grade to fourth grade. It was found that if a child was a poor reader at the end of first grade, he/she would almost always still be a poor reader by the end of fourth grade, with a probability of .88. Children who were good readers spent more time reading both in the classroom and outside it (Juel, 1988).

A study of 3,959 high school seniors across 10 states was conducted to determine what effects existed of receiving formal reading instruction in their kindergarten year (Hanson & Farrell, 1995). One-third of the students went to kindergarten classes where a formal reading instruction program had been implemented. The results of this study were very positive and supported the validity of teaching reading in kindergarten. An overall positive effect was found on school-related factors such as grades, attendance, and the need for remedial instruction. The study "demonstrated a remarkably clear and consistent pattern of increased reading competency for high school seniors as a result of receiving formal reading instruction in kindergarten" (Hanson & Farrell, 1995, p.928). This finding was especially significant in light of the fact that, overall, the seniors who received the reading program were generally from a lower social class. This study supported the premise that learning to read earlier in school is advantageous, and that mastery of a critical skill such as reading would bolster a child's confidence in his/her abilities to read as well as to learn in other areas (Hanson & Farrell, 1995).

Purpose of the Study

At a national level, there is a growing need for effective interventions and solutions to prevent reading difficulties and failure in children. As found in the literature, reading skills become increasingly interrelated as children get older and progress from one grade to the next, which means that research and prevention efforts should target young children (Haney, 2000). Teale (1984) stated,

> In summary then, we can conclude that although it seems that children can learn to read without having been read to by parents or siblings when the children were preschoolers, there is overwhelming evidence that such experience has numerous facilitative effects on literacy development... results from research consistently indicate that being read to is one type of experience that delightfully and effectively ushers a child into the world of literacy (p.120).

While there is a dearth of research indicating a direct, causal relationship between joint book reading in the pre-school years and children's later academic achievement, the correlation between joint book reading and achievement has been shown to be significant in numerous studies.

This study focused on children during the pre-school years, a time when literacy skills are emerging and interest in reading is impressionable. As children spend much of their time during the pre-school years within the home/family environment (as opposed to a formalized school setting), the emphasis of this research was on home/family activities that promote literacy and reading.

Hypotheses.

H_1: There would be a significant positive correlation between the child's age at which the parents began reading to him/her and the child's age at which he/she could read an entire book independently.

H_2: There would be a significant positive correlation between the frequency of joint book reading and the child's age at which he/she could read an entire book independently.

H_3: There would be a positive correlation between frequency of joint book reading and later academic achievement measures, namely GPA and Stanford Scores.

H_4: There would be a correlation between students' final GPA and Stanford Achievement Test scores from the same academic year.

Method

Participants

The subjects for this research included elementary students in Grades 1-5 at a private Christian day school in the Eastern United States (N=37). There were no other selection criteria used for the inclusion of participants. The school principal gave the researcher full permission to conduct the research and collect data (see Appendix A).

All parents of children in Grades 1-5 received informational material requesting their participation in the study and had the freedom to either accept or decline without penalty. In the informational material (see Appendix B) furnished to the parents, the expectations of participants were clearly outlined as being: a) A self-administered parent questionnaire, b) The release of their children's Stanford Achievement Test scores from their previous year of enrollment, and c) The release of their children's report card grades

from the previous year and the previous term of enrollment. In the information letter, parents were informed that their children's achievement scores and report card grades would only be referred to as percentages, never in terms of individuals, and certainly never to be associated with children's names. In order for a child to participate, a signed informed consent form (see Appendix C) was required to be returned to the child's teacher or to the school office by one of the child's parents.

Children from every grade level participated in this research (See Figure 1.). Out of a total of 90 students in Grades 1-5, 41% chose to participate (N=37). There were 19 male participants (51.4%) and 18 female participants (48.6%) total.

The majority of surveys were completed by mothers (97.2%). The ethnic representation of the research population was 94.6% Caucasian (N=35) and 5.4% Asian (N=2). The highest level of education completed by each parent was also determined. Among the mothers, 2.7% completed high school or received a GED, 37.8% had completed some college, 13.5% had received an associate's degree, 40.5% had completed a bachelor's degree, and 5.4% had earned a master's degree. Among the fathers, 16.2% had completed high school or received a GED, 8.1% had completed some college, 16.2% had earned an associate's degree, 40.5% had earned a bachelor's degree, 16.2% had completed a master's degree, and 2.7% had earned a doctorate.

Instruments

Overall description of instruments.

For this research, three pieces of data were collected from each participant. The first instrument was the Home Literacy Survey (see Appendix D). The purpose of the

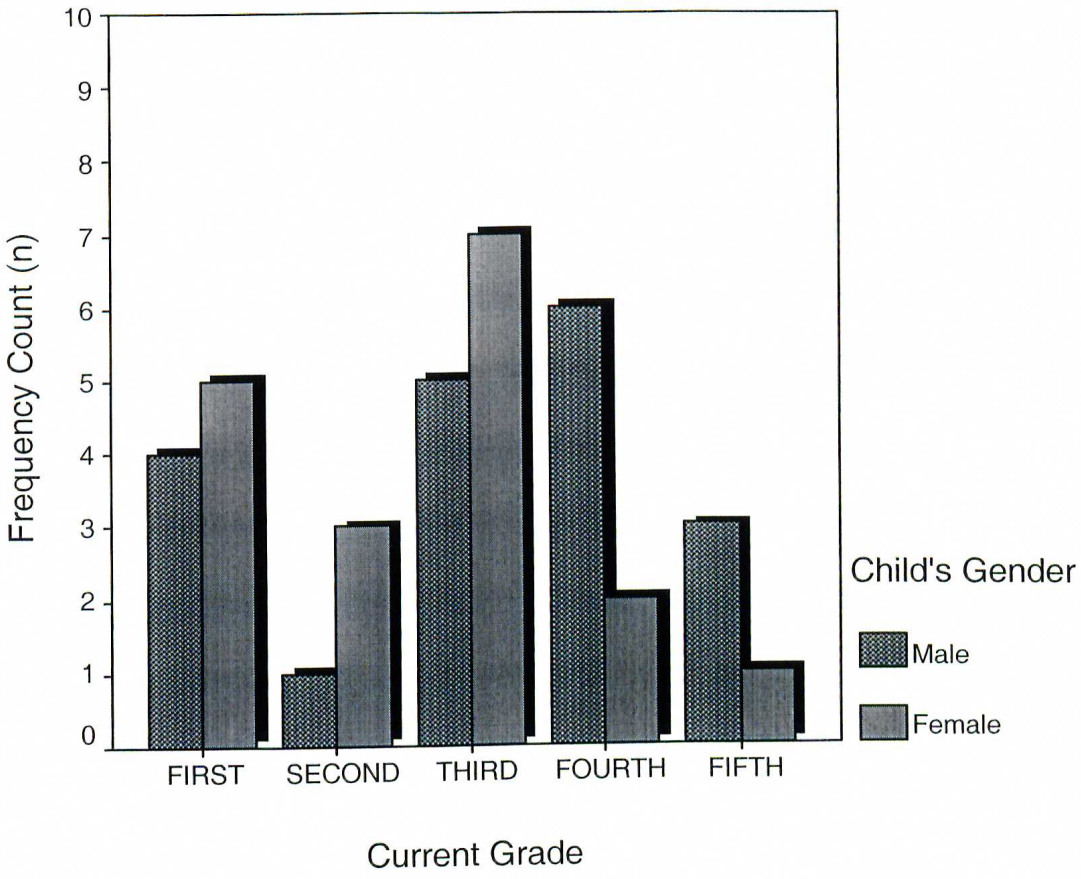

Figure 1. Response Rates of the Sample by Grade and Gender

questionnaire was to determine the type and frequency of home literacy behaviors present in the child's household/family prior to the child's start of kindergarten. Also, some demographic information that was previously found to correlate strongly with academic achievement was included on the survey instrument. Two separate measures of academic achievement were collected as well, students' report card grades (GPA) and Stanford Achievement Test scores. Students' GPA might have provided a more accurate description of classroom performance in general and over a longer period of time than Stanford scores, which were based on only one week of testing and could have been influenced by test anxiety or other testing conditions. However, the Stanford scores provided a more objective measure of student performance than report card grades as compared with students throughout the nation.

Home literacy survey.

The Home Literacy Survey, though compiled and edited by the researcher, was largely based on similar parent questionnaires found in the literature (Anderson, 2000; Fitzgerald et al., 1991; Haney, 2000; Leseman & de Jong, 1998; Senechal et al., 1998; Stewart, 1995). Most items were modified from their original format or wording and the Likert scales were altered, but the content remained generally the same. Therefore, the content validity of the instrument was high, considering the extensive body of literature upon which the items were based.

For analysis purposes, the questionnaire was divided into subscales (see Appendix E). The items were logically organized by content to form the subscales. The subscales of the questionnaire included *Literacy Activities, Household Print, Parent Involvement, Pre-*

Kindergarten Skills, Reading Interactions, and Current Reading. The Literacy Activities subscale included items related to the frequency of library visits, educational television viewing, parent-child dialogue about television programs, family storytelling without books, and listening to stories or books on tape. The Household Print subscale only included two items related to the number of children's books available in the home and number of magazine subscriptions received. The Parent Involvement subscale included items related to the frequency of parent modeling of reading behaviors, teaching songs, teaching reading skills actively, working on arts and crafts, and teaching printing skills. The Pre-Kindergarten Skills subscale included only two items— the child's age at first printing their name and the number of letters that the child could both recognize and say. The Reading Interactions subscale included frequency of joint book reading, child requests to be read to, parent-child dialoguing about books, pretending to read independently, the child's age at which parents started reading to him/her, and the age at which the child could read through an entire book aloud on his/her own. The Current Reading subscale consisted of three items related to the number of joint book reading times experienced in the past week, the frequency of child's current reading for pleasure, and the number of non-children's books read by the parent in the past year. The scoring procedures for the home literacy survey included reverse scoring on several items. Consistency involved the most positive frequency of the literacy behavior or outcome being assigned a score of "1," regardless of the number of frequency categories or options available. (See Appendix F).

Report card grades (GPA).

In order to gain a more comprehensive view of the students' academic progress and to establish inter-rater reliability between teachers, students' final report card grades from all available previous years of enrollment were collected in addition to their grades from the previous term (which provided the most current information available). Kindergarten report card information was not used due to the cumbersome number of skill/ability categories involved, the subjectivity of the data, the lack of differences in competency levels, and the number of students whose report cards for kindergarten differ from the sample school's report card because of entry into sample school after the children's kindergarten year.

The following are the subject areas that report cards measure according to grade level:

- First and Second grades: Language Arts, Phonics, Reading, and Spelling
- Third through Fifth grades: Language Arts, Reading, and Spelling

Due to some discrepancies between the exact terms of the data in first grade, a rating scale (i.e. M=Mastery at expected skill level, S=Satisfactory Progress at expected skill level, N=Needs improvement/growth at expected skill level, U=Unsatisfactory) and an interval, four-point scale (i.e. A=90-100, B=80-89, C=70-79, F=Below 70) were integrated for the First Grade Language subject area of the report card. Therefore, an M was equivalent to an A, an S was equivalent to a B, an N was equivalent to a C, and a U was equivalent to an F. However, all other subject areas were measured on the standard, interval, four-point grading scale.

It is important to note that the GPA referred to in the data analysis was *not* an overall GPA that included all report card subject areas (i.e. math, history, science, physical education), but rather included *only* the specific subject areas mentioned above. For example, a third grader's GPA, for the purposes of this research, included only his/her grades in the following literacy-related subjects: Language Arts, Reading, and Spelling; the third grader's average GPA was calculated by adding his/her grades in the three areas and dividing by the total number of subject areas. The current GPA for students in each grade was calculated as well as their overall cumulative GPA. Most of the analyses were conducted utilizing the students' current GPA only, which reflected only their scores from the first term of the current (2001-2002) academic year. The report card grades were entered into the database in the following manner: 1=A, 2=B, 3=C, 4=F.

Stanford achievement test.

The third piece of data that was collected for each participant was the child's Stanford Achievement Test scores from all previous years of enrollment at the school. The Stanford is only administered in the spring of each year, making last year's scores the most up-to-date scores on record. The Stanford Achievement Test, Ninth Edition, was administered to all students in Grades K-12; the school utilized the Christian Edition of the Stanford.

The Stanford Achievement Test Series (collectively referred to as the *Stanford 9*) is composed of three individual measures: The Stanford Early School Achievement Test (SESAT), the Stanford Achievement Test (SAT), and the Test of Academic Skills (TASK) (Salvia & Ysseldyke, 1998). The SESAT is for use with the kindergarten and

first grade levels, the SAT is for use in grades one through nine, and the TASK is used to assess ninth grade through community college. The SESAT has two levels—one for use at the end of kindergarten and one for use at the end of first grade. The SAT has three levels—primary (levels 1-3), intermediate (levels 1-3) and advanced (levels 1-2). The TASK has three levels. The testing level is determined according to half-year increments, as the Stanford was designed to be administered during specific seasons of the academic year. The Stanford 9 series has 13 levels altogether, and between 5 and 13 subtests per level. The following are actual subtests of the Stanford 9 (though not all subtests are included in each test, depending on the level): *Sounds and Letters, Word Study Skills, Word Reading, Sentence Reading, Reading Vocabulary, Reading Comprehension, Listening to Words and Stories, Listening Comprehension, Language, Study Skills, Spelling, Mathematics, Science, Social Science, and Environment.*

The test is group administered and is a paper and pencil test. The test battery includes a combination of multiple-choice and open-ended items (1998). The Stanford 9 is both norm referenced and criterion referenced.

The Stanford Achievement Test Series was standardized on a population of approximately 250,000 students (1998). The students were selected for participation based on variables such as socioeconomic status, community type, geographic region, and public/nonpublic school status. The demographics of the standardization sample correlates closely with those available in the 1992-93 census.

The Stanford 9's reliability was established by utilizing alternate-forms and internal consistency methods (1998). Alternate-forms correlation coefficients ranged

from .58 to .93. The internal consistency (KR-20) coefficient ranged from .78 to .98, with only two of those coefficients falling below .80.

The test series' validity, in keeping with the standard of other achievement tests, was based on its content validity (Salvia & Ysseldyke, 1998). Empirical validity was determined on the basis of the following factors: the increasing level of item difficulty according to higher grade levels, a significant (moderate to high) relationship with the eighth edition of the same test series, and intercorrelations between its subtests and the OLSAT 7 (the Otis-Lennon School Ability Test, which was developed and standardized concurrently with the Stanford 9).

Only the following subcategories of the Stanford Test were examined for each student, according to grade level at time of testing:

- Kindergarten: Word Reading, Sentence Reading, Listening (Vocabulary and Comprehension [V&C]),
- First grade: Word Reading, Reading Comprehension, Spelling, Language, Listening (V&C)
- Second through Fourth grades: Vocabulary, Reading Comprehension, Spelling, Language, Listening (V&C)

It is important to note that the Stanford scores used in this research were reported by grade equivalents of academic achievement. For example, an above-average third grader might have received a score of "4.5" on his or her Language subtest, indicating that he or she is performing at the equivalent level of a student in the middle of his/her fourth grade year. The Stanford score used in the data analysis consisted of the average of all literacy-

related content areas mentioned above by each grade level combined into one aggregate score. The Stanford was administered to the research sample in the spring of each academic year, which means that the only scores available for current students' were their scores from their previous academic year (as testing at students' current grade level had not yet been administered for this year). Stanford scores were analyzed only for students' academic year immediately prior to the time of this research.

Stanford scores were entered just as they were received, with a student scoring in the first grade, seventh month receiving a score of 1.7, for example. A higher score indicated higher achievement, which was opposite from the way that report card grades were entered, with a higher score indicating lower achievement.

Procedure

Permission to conduct research at the school was obtained from the school principal by the researcher (see Appendix A). Informational materials informing parents of the opportunity to participate in the study and outlining the requirements were sent home with all elementary students in Grades 1-5. Included in the information packet was the following: a letter of endorsement by the school principal, a letter of introduction by the researcher (an alumna of the school), a separate letter detailing the requirements for participation (see Appendix B), and an informed consent form (see Appendix C). In the letter by the principal, an incentive was mentioned in hopes that it would increase the response rates of the targeted population (Grades 1-5). The incentive was a coupon for 20% off a single item at a local Christian bookstore. It was the hope of the researcher that the participants would use the coupon to purchase a book for their child/ children, which

would then further strengthen the literacy environment in the home (by increasing the number of books available) and promote joint book reading and/or discussion of the book between parents and their children.

All students who returned an informed consent form signed by a parent were included in the research. The approximate length of time that potential participants were given to respond was eight weekdays, from the date the initial packet went home to the date that the consent form was to be returned to school personnel. The following week, the questionnaires were sent home to parents via their children or mailed directly to their homes, based on parents' preferred method of delivery. Parents were asked to return the self-administered questionnaires by mail to the researcher within approximately one month, before the school recessed for the Christmas holiday.

Once the questionnaires were received, they were labeled with their code numbers. The code numbers were pre-assigned to the participants and detailed in a master list. Once the survey responses were entered into the database and verified to match the coded academic achievement information, the child's name was physically detached from the survey instrument. The master list was kept confidential and the researcher did not access the list once the database information was verified.

The principal oversaw all data collection that was conducted at the school. He or a designated representative recorded all report card grades and Stanford Achievement Test scores for each participant on data collection sheets. The data collection was considered complete once all three pieces of information were received and coded for each participant.

Due to a communication oversight on the part of the researcher, the principal later personally contacted each participating family and requested their explicit permission to collect Stanford scores and report card grades from *all* grade levels that participating students had completed thus far (which represented a change from the original criteria as stated in the information letter; see Appendix C). The principal recorded the details of each phone conversation, including date and time of call and the name of the adult family member.

Results

Prior to addressing the specific research hypotheses, descriptive statistics were obtained for all items of the questionnaire to determine the frequencies of home literacy characteristics and behaviors. For the frequency counts of the nominal survey data, see Table 1. For descriptive statistics of the questionnaire's ordinal and interval data, see Table 2. To qualify the means and standard deviations of the items in Table 2, see Appendix F. A Pearson's correlation was conducted to determine the relationships between items on the home literacy survey. As can be seen from Table 3, there were numerous inter-item correlations between the following: number of library visits per month (*lbrary*); listening to books on cassettes (*listn*); age child learned to print name (*name*); how often parents taught their child songs (*tchsng*); reading skills (*tchrdg*); arts and crafts (*tchart*); and printing skills (*tchprt*); age parents started reading to their child (*readto*); how often parents read to their child (*oftred*); how often child requested to be read to (*requst*); how often child dialogued about books (*talkbk*); how often child tried or pretended to read books on his/her own (*pretnd*); age child read an entire book

Table 1.

Frequencies of Survey Items Measured as Nominal Data

Survey Item	Freq.	Percent	Survey Item	Freq.	Percent
Preschool			SayAlphabet		
Yes	27	73.0	Yes	36	97.3
No	10	27.0	No	1	2.7
LibCard			FavBook		
Yes	12	32.4	Yes	29	78.4
No	25	67.6	No	8	21.6
PlaySchool			PretendRead		
Yes	18	48.6	Yes	24	64.9
No	18	48.6	No	13	35.1
EdGames			ParentAsk		
Yes	35	94.6	Yes	27	73
No	2	5.4	No	10	27
HomePC			StruggleRead		
Yes	29	78.4	Yes	5	13.5
No	8	21.6	No	32	86.5
PrintName			ParntLikeRead		
Yes	31	83.8	Yes	35	94.6
No	6	16.2	No	2	5.4

Table 2.

Home Literacy Survey Descriptives

Descriptive Statistics

	N	Mean	Std. Deviation
Educational TV	37	1.3514	.6756
Talk @ TV programs	37	1.8919	1.1734
Tell Stories	36	3.1944	1.2380
Listen to Cassettes	36	3.2222	1.6232
Read in Front of Child	37	1.3784	.7208
Teach Songs/Music	37	2.2973	1.3305
Teach Reading Skills	37	2.4595	1.3662
Teach Printing Skills	37	2.7838	1.3361
Work on Arts/Crafts	36	2.8611	1.3342
Talk @ Books Read	37	2.5135	1.5023
Pretend to Read Books	37	2.3784	1.4972
Child Read for Pleasure Now	37	2.1081	1.2863
Frequency of Joint Reading	37	2.1892	.7760
Child Request to be Read to	36	2.3611	1.1989
Library Visits per Month	37	4.2162	1.4555
Books Available	37	2.0541	1.1534
Magazine Subscriptions	37	2.8108	.8110
Age Child Learned Name	37	3.1622	.8665
# of Letters Recognize & Say	35	2.4571	1.5967
Age Started Reading to Child	37	1.8919	.7740
Read an Entire Book Alone	37	3.3243	.8516
Read to Your Child in Past Week	37	3.3514	2.0712
Valid N (listwise)	33		

Table 3. *Correlations Between Significant Home Literacy Survey Items*

Correlations

	LBRARY	LISTN	NAME	TCHSNG	TCHRDG	TCHART	TCHPRT	READTO	OFTRED	REQUST	TALKBK	PRETND	BKALON	NUMBK	READFN
LBRARY	1.000	-.174	.060	.023	.158	.000	-.090	.145	.160	.186	-.065	.051	.435 **	.304	.165
LISTN	-.174	1.000	.214	-.123	.028	.107	.086	.155	.368 *	.281	.426 **	.092	.094	.045	.041
NAME	.060	.214	1.000	.463 **	.545 **	.581 **	.487 **	.482 **	.449 **	.457 **	.489 **	.444 **	.604 **	.305	.258
TCHSNG	.023	-.123	.463 **	1.000	.595 **	.453 **	.475 **	.356 *	.079	.230	.102	.486 **	.305	.366 *	.257
TCHRDG	.158	.028	.545 **	.595 **	1.000	.609 **	.802 **	.285	.256	.377 *	.464 **	.592 **	.441 **	.479 **	.287
TCHAR	.000	.107	.581 **	.453 **	.609 **	1.000	.652 **	.203	.217	.318	.445 **	.592 **	.414 *	.217	.393 *
TCHPRT	-.090	.086	.487 **	.475 **	.802 **	.652 **	1.000	.084	.389 *	.363 *	.569 **	.667 **	.283	.374 *	.159
READT	.145	.155	.482 **	.356 *	.285	.203	.084	1.000	.220	.226	.264	.204	.392 *	.168	.179
OFTRED	.160	.368 *	.449 **	.079	.256	.217	.389 *	.220	1.000	.620 **	.582 **	.271	.367 *	.393 *	.118
REQUST	.186	.281	.457 **	.230	.377 *	.318	.363 *	.226	.620 **	1.000	.645 **	.518 **	.418 *	.448 **	.546 **
TALKB	-.065	.426 **	.489 **	.102	.464 **	.445 **	.569 **	.264	.582 **	.645 **	1.000	.566 **	.300	.229	.186
PRETND	.051	.092	.444 **	.486 **	.592 **	.592 **	.667 **	.204	.271	.518 **	.566 **	1.000	.315	.316	.382 *
BKALO	.435 **	.094	.604 **	.305	.441 **	.414 *	.283	.392 *	.367 *	.418 *	.300	.315	1.000	.299	.474 **
NUMBK	.304	.045	.305	.366 *	.479 **	.217	.374 *	.168	.393 *	.448 **	.229	.316	.299	1.000	.198
READFN	.165	.041	.258	.257	.287	.393 *	.159	.179	.118	.546 **	.186	.382 *	.474 **	.198	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

independently (*bkalon*); number of children's books available in the home (*numbk*); and how often child read for pleasure currently (*readfun*).

The first hypothesis stated an expected relationship between the child's age when parents started reading aloud and the child's age at reading an entire book independently. This hypothesis was supported by the data [r (37)= .392, p= .016] (See Figure 2).

Secondly, as was hypothesized, there was a significant positive relationship found between the frequency of joint book reading during the pre-school years and the child's age at reading an entire book independently [r (37)= .367, p= .025] (See Figure 3).

The third hypothesis stated an expected correlation between frequency of joint book reading and later academic achievement measures. A Pearson's correlation showed that this hypothesis was not generally supported by the data. Only one significant correlation resulted, between frequency of joint book reading and 2nd graders' GPA from the current academic year [r (4)= .973, p = .027].

Fourthly, it was hypothesized that there would be a correlation between students' final GPA and Stanford Achievement scores from the same academic year. A Pearson's correlation that included the entire sample was performed first. Seven participants could not be included in the analysis because they had not taken the Stanford the previous year. Overall, there was no significant relationship between the GPA and Stanford scores [r (30) = -.338, p = .067].

Next, separate Pearson's correlations were performed grade-by-grade (See Table 4). The 1st and 5th grades were excluded from this analysis, however. Report card grades

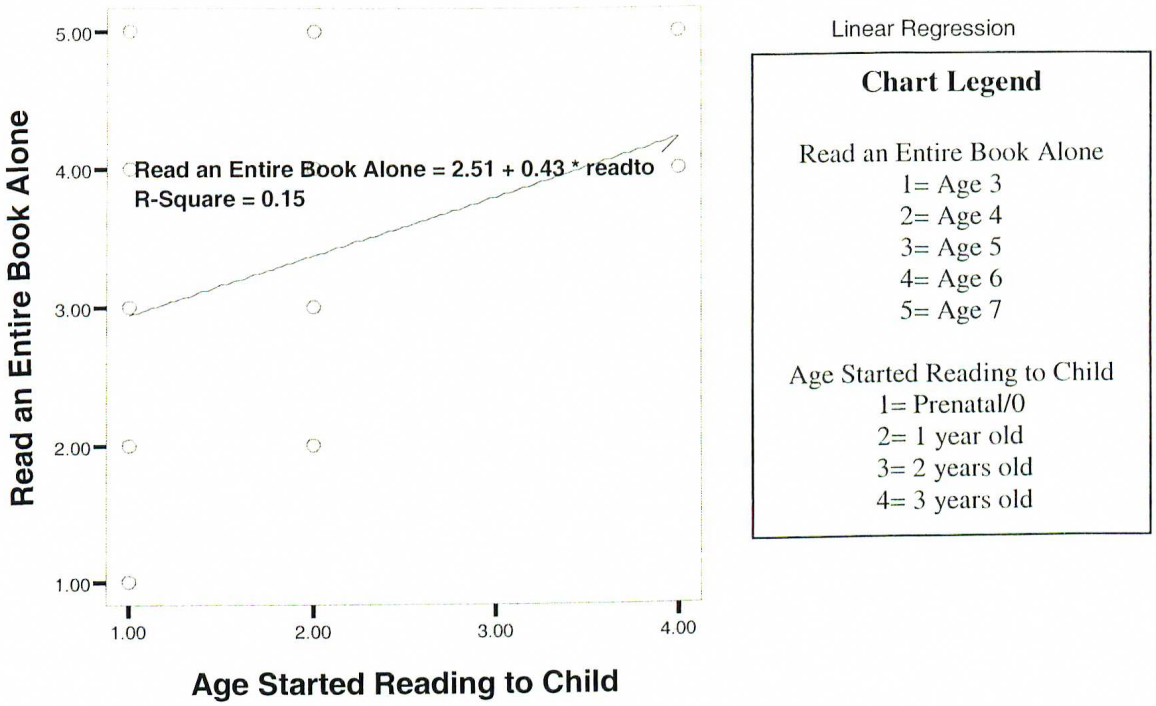

Figure 2. The Relationship Between the Age at which Parents Started Reading to Their Child and the Child's Age at Reading an Entire Book Independently

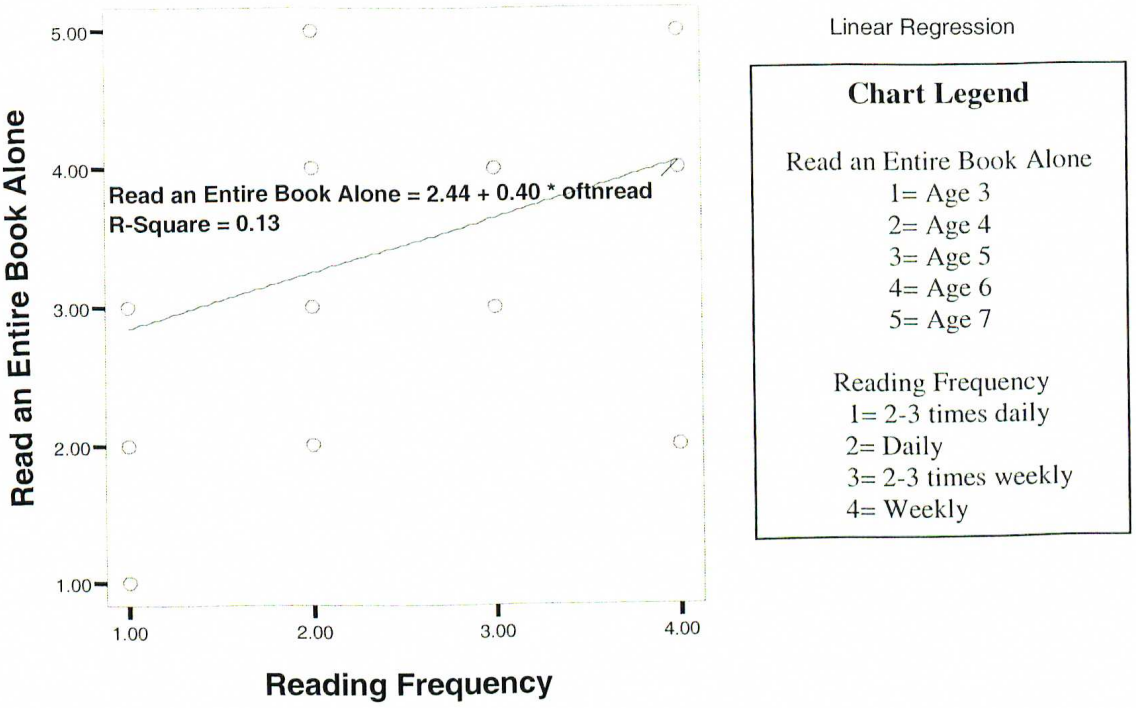

Figure 3. The Relationship Between Frequency of Pre-Kindergarten Joint Book Reading and Child's Age at Reading an Entire Book Independently

Table 4.

The Correlations Between Previous Year's GPA, Stanford Scores, and Survey Subscales

	GPA	SAT	LitAct	HousPrt	ParInv	ReadInt	CurRead	Pre-K
				FIRST GRADE n=9				
GPA	a	a	a	a	a	a	a	a
SAT (n=6)	a	1.00	.911*	.193	-.506	-.474	-.502	-.455
LitAct	a	.911*	1.00	-.068	-.543	-.274	-.722*	-.554
HousPrnt	a	.193	.068	1.00	-.164	.202	-.461	.025
ParInv	a	-.506	-.543	-.164	1.00	.646	.614	.303
ReadInt	a	-.474	-.274	.202	.646	1.00	.337	.291
CurRead	a	-.502	-.722*	-.461	.614	.337	1.00	.393
Pre-K	a	-.455	-.554	.025	.303	.291	.393	1.00
				SECOND GRADE n=4				
GPA	1.00	-.660	.990	-.167	.816	.495	.739	.690
SAT (n=4)	-.660	1.00	-.779	-.385	-.684	-.969*	-.054	-.938
LitAct	.990	-.779	1.00	.982	.655	.786	.756	.945
HousPrnt	-.167	-.385	.982	1.00	-.408	.594	-.246	.552
ParInv	.816	-.684	.655	-.408	1.00	.485	.302	.507
ReadInt	.495	-.969*	.786	.594	.485	1.00	-.073	.943
CurRead	.739	-.054	.756	-.246	.302	-.073	1.00	.255
Pre-K	.690	-.938	.945	.552	.507	.943	.255	1.00
				THIRD GRADE n=12				
GPA	1.00	-.699*	-.615	.744*	-.127	-.250	.267	b
SAT (n=9)	-.699*	1.00	.575	-.747*	.265	.458	-.437	-.186
LitAct	-.615	.575	1.00	-.409	.217	.459	.046	.115
HousPrnt	.744*	-.747*	-.409	1.00	-.017	-.011	-.067	.103
ParInv	-.127	.265	.217	-.017	1.00	.664*	.120	.404
ReadInt	-.250	.458	.459	-.011	.664*	1.00	.141	.291
CurRead	.267	-.437	.046	-.067	.120	.141	1.00	.376
Pre-K	b	-.186	.115	.103	.404	.291	.376	1.00
				FOURTH GRADE n=8				
GPA	1.00	-.904**	.708	.415	.363	.566	.215	.791
SAT (n=7)	-.904**	1.00	-.842*	-.579	-.316	-.630	-.269	-.865*
LitAct	.708	-.842*	1.00	.710	.269	.792*	.327	.921**
HousPrnt	.415	-.579	.710	1.00	.604	.559	.700	.686
ParInv	.363	-.316	.269	.604	1.00	.547	.898**	.452
ReadInt	.566	-.630	.792*	.559	.547	1.00	.504	.702
CurRead	.215	-.269	.327	.700	.898**	.504	1.00	.276
Pre-K	.791	-.865*	.921**	.686	.452	.702	.276	1.00
				FIFTH GRADE n=4				
GPA	1.00	b	b	b	b	b	b	b
SAT (n=4)	b	1.00	.081	-.960*	-.413	-.909	-.640	-.958*
LitAct	b	.081	1.00	-.293	.778	.339	.694	.192
HousPrnt	b	-.960*	-.293	1.00	.293	.775	.422	.845
ParInv	b	-.413	.778	.293	1.00	.692	.801	.577
ReadInt	b	-.909	.339	.775	.692	1.00	.900	.987*
CurRead	b	-.640	.694	.422	.801	.900	1.00	.832
Pre-K	b	-.958*	.192	.845	.577	.987*	.832	1.00

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.05 level (2-tailed).

a. Previous Year's GPA not available for Current First Grade.

b. Cannot be computed because at least one of the variables is constant.

from the current 1st graders' kindergarten year were not used due to the numerous skill categories involved and the lack of homogeneity among the categories. The current 5th graders' report card grades from 4th grade were not used in the analysis because their grades lacked between-subjects variation (i.e. all of them reported "A's"). In the 3rd and 4th grades, a correlation was found between Stanford scores and GPA from the previous year (See Table 4).

Finally, a Pearson's correlation was performed on current grades 3-5 only. The rationale for including grades 3-5 was that there was homogeneity in the specific content areas of both the Stanford and the report card (Stanford subtests were: *Vocabulary, Reading Comprehension, Spelling, Language, and Listening*; Report Card categories were: *Language, Reading, and Spelling*). There was a strong relationship between GPA and Stanford scores when considering this portion of the sample [r (20) = -.720, p = .000] (See Figure 4).

Discussion

Much research has been done in the area of literacy development in young children. This research sought to add to that body of literature and to identify which specific home literacy activities related to later academic achievement.

Prior to discussion of the specific findings, a discussion of the uniqueness of this sample should be set forth. The children and parents in this study were all from a private Christian school. While descriptive analysis of the demographics of the sample showed a great deal of similarity, it also revealed diversity. Had the sample been extremely homogeneous, it would have invalidated much of the significance found in the analysis.

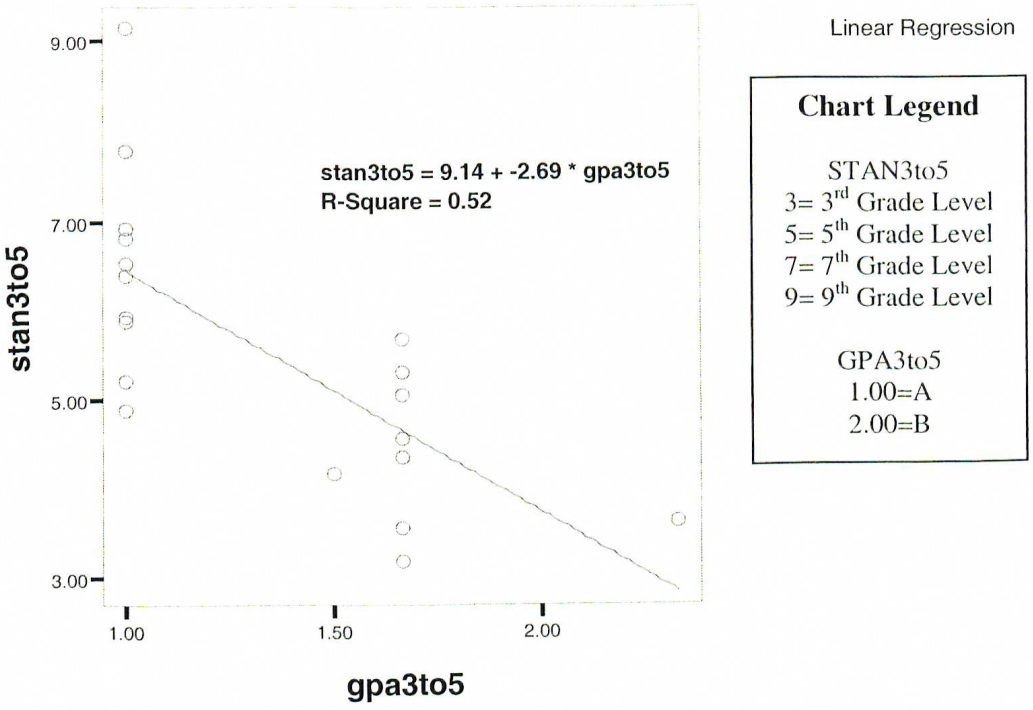

Figure 4. The Relationship Between Current Third, Fourth, and Fifth Graders Final GPA and Scores on the Stanford Achievement Test from their Previous Academic Year of Enrollment

So, while the sample would seem on the surface to be quite homogeneous, there was a great deal of variability in terms of actual behavior relevant to the home literacy survey.

When looking at the significant relationships between the individual items of the survey instrument, it became obvious that there was a connection between many of the behaviors measured. For example, joint book reading was significantly correlated with children asking to be read to, talking about books, reading books alone and even the age at which children learn to print their name. So, while it was not quite all or nothing (the parent either did all of these home literacy activities with their children or none of them), it seemed that parents engaged in more than just one or two of these behaviors if they did them at all.

One surprising finding was that gender was not a significant factor in the analysis of the survey (1=male, 2=female). When a Pearson's correlation was conducted, there were only three survey items that were significantly (negatively) related to gender: child's current reading for pleasure, how often child amused self with books, and whether or not child liked to play school ($p<.01$).

With regard to the first two hypotheses, while significant relationships were supported by the data, both the child's age when parents started reading aloud and the frequency of pre-school joint book reading were not as strongly predictive of the child's age at reading an entire book independently when compared with other survey items. When all of the survey items that were found to be significantly correlated with the child's age at reading an entire book independently were analyzed using stepwise multiple regression, both child's age when parents started reading and frequency of joint

book reading were excluded variables. Table 5 displays the correlations between the variables, the unstandardized regression coefficients (β), R, R^2, and adjusted R^2. R was significantly different from zero at the end of each step. The strongest predictors of the child's age at reading independently turned out to be the child's age at learning to print name, number of library visits per month, and whether or not the child had a library card of his/her own. The overall relationship between the three independent variables and age at reading an entire book independently was reported as .775. Altogether, 60.1% of the variability in the child's age at reading independently was accounted for by knowing age at which the child printed his/her name, number of library visits per month, and whether or not the child had a library card of his/her own. The adjusted R^2 was .564, which indicated a good fit between the sample and the population.

The third hypothesis was not supported by the data. There was no significant relationship between frequency of joint book reading and measures of academic achievement. The lack of significance may have been due to the small sample size or to too many frequency options (that perhaps could have been consolidated) in the wording of the survey item.

While frequency of joint book reading did not directly relate to outcome measures, other home literacy variables did correlate with academic achievement. A Pearson's correlation was conducted between survey items and academic achievement measures for grades 3-5 only (See Table 6).

A stepwise multiple regression analysis was performed on the sample in order to determine which survey items predicted GPA (with the current first grade being left out

Table 5.

Regression of Child's Age at Reading an Entire Book Independently

Variable	B	SE B	β	R	R^2	Adjusted R^2
Step 1						
(Constant)	1.409	.433				
Age Learned Name	.599	.132	.614	.614	.378	.359*
Step 2						
(Constant)	.530	.467				
Age Learned Name	.575	.117	.590			
Library Visits	.228	.070	.391	.728	.530	.502*
Step 3						
(Constant)	9.565E-02	.473				
Age Learned Name	.460	.119	.472			
Library Visits	.209	.066	.359			
Library Card	.526	.221	.294	.775	.601	.564*

*. F ratio is significant at the .01 level

Table 6.

The Relationship Between the Previous Year's Stanford Scores and GPA with Survey Items for Grades 3-5 Only

Correlations

	STAN3TO5	GPA3TO5	LBRARY	BKSAV	RECSAY	REQUST	BKALON	BKNUM
STAN3TO5	1.000	-.720 **	-.476 *	-.377	-.465	-.571 *	-.598 **	-.464 *
GPA3TO5	-.720 **	1.000	.258	.440 *	.505 *	.457 *	.150	.343
LBRARY	-.476 *	.258	1.000	.631 **	.250	.185	.523 **	.398
BKSAV	-.377	.440 *	.631 **	1.000	.507 *	.239	.396	.332
RECSAY	-.465	.505 *	.250	.507 *	1.000	.519* *	.082	.327
REQUST	-.571 *	.457 *	.185	.239	.519 *	1.000	.524 *	.556 **
BKALON	-.598 **	.150	.523 **	.396	.082	.524 *	1.000	.291
BKNUM	-.464 *	.343	.398	.332	.327	.556 **	.291	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

for lack of report card grades from kindergarten). The number of letters that child could recognize and say prior to kindergarten and whether or not child liked to play school predicted GPA (See Table 7).

Another stepwise multiple regression analysis was performed on the entire sample to determine which variables predicted students' Stanford scores. Child's age at reading an entire book independently and the number of children's books available strongly predicted total Stanford scores (See Table 8).

With respect to the fourth hypothesis, it was surprising that the analysis of grades one through five did not show a significant relationship between the previous year's final GPA and Stanford scores. In the analysis of Stanford scores and GPA, it was expected that the correlation would be negative, as Stanford scores were entered as the higher the score, the higher the grade level of achievement (i.e. 3.5=Third Grade, Fifth Month, 4.2= Fourth Grade, Second Month…) and GPA was entered as the lower the score, the better the grade (i.e. 1=A, 2=B…).

Again, when the sample was analyzed as a whole, there was no significant relationship between total GPA and total Stanford scores for grades one through five. Kindergarten had to be excluded from this analysis because of the lack of objective report card data available at that grade level. If all 37 participants were able to be included in the analysis, the correlation might have approached significance.

Next, Pearson's correlations were performed grade-by-grade in order to determine the strength of the relationship between students' GPA and Stanford scores (See Table 4). There was no correlation between the current second graders' academic achievement

Table 7.

Regression of Total GPA and Survey Items

Variable	B	SE B	β	R	R^2	Adjusted R^2
Step 1						
(Constant)	1.052	.149				
NumLetters	.112	.050	.367	.367	.134	.107*
Step 2						
(Constant)	.439	.276				
NumLetters	.126	.047	.411			
PlaySchool	.379	.148	.391	.535	.286	.240**

*. F ratio significant at the .05 level
**. F ratio significant at the .01 level

Table 8.

Regression of Total Stanford Achievement Test Scores and Survey Items

Variable	B	SE B	β	R	R^2	Adjusted R^2
Step 1						
(Constant)	8.567	1.396				
AgeBook	-1.330	.407	-.547	.547	.299	.271*
Step 2						
(Constant)	8.319	1.307				
AgeBook	-1.717	.419	-.706			
BooksAvail	.762	.350	.376	.644	.415	.366*

*. F ratio significant the .01 level

measures from their first grade year. Strong correlations were found between the academic measures for both 3rd and 4th grades. A Pearson's correlation for the current fifth graders' could not be performed because of the lack of within-group differences on their final GPA from fourth grade.

However, an analysis that included only grades 3-5 showed a strong correlation between the academic measures, which meant that students' Stanford scores could be predicted from students' final report card grades for that academic year (See Figure 4). The regression equation is

$$\textit{Stanford Score} = -2.69\ \textit{GPA} + 9.14.$$

Emerging Literacy Skills and Later Achievement

With regard to one of the primary purposes of this investigation, there were several home literacy behaviors that stood out as having an impact on children's later academic achievement, such as the number of letters children could recognize and say prior to kindergarten, number of children's books that were available in the home, age at which children could read an entire book independently, and whether or not children liked to play school with others.

Since child's learning to print his/her name was shown to be an important variable in his/her age at learning to read independently, a stepwise multiple regression analysis was conducted to determine which survey items predicted child's age at learning to print his/her name. Table 9 shows that the child's age at reading an entire book independently, the frequency of parents' working on arts and crafts with children, and child's age when parents started reading were all strong predictors of the child's age at learning to print

Table 9.

Regression of Child's Age at Learning to Print Name

Variable	B	SE B	β	R	R^2	Adjusted R^2
Step 1						
(Constant)	1.082	.474				
AgeBook	.631	.139	.614	.614	.378	.359*
Step 2						
(Constant)	.893	.433				
AgeBook	.463	.138	.451			
ArtsCrafts	.260	.088	.394	.712	.507	.477*
Step 3						
(Constant)	.689	.423				
AgeBook	.361	.140	.352			
ArtsCrafts	.251	.084	.381			
AgeStarted	.300	.142	.268	.753	.567	.527*

*. F ratio significant at .01 level

his/her name. These three accounted for 56.7% of the variability associated with learning to print name.

As the number of letters a child could recognize and say at school entry was found to be predictive of Stanford scores, a stepwise multiple regression analysis was performed in order to determine which home literacy variables predicted the number of letters that a child could recognize and say at school entry. The regression equation for predicting the number of letters child could recognize and say before kindergarten is

Number of Letters= .570 *How often Child Requests to be Read to* + 1.143.

The overall relationship between the two variables was .438. Altogether, 19.2% of the variance in the number of letters child could recognize and say at school entry was explained by the frequency of child's requests to be read to.

It was further discovered that the frequency of children's current reading for pleasure was predicted by whether or not their parents enjoyed reading and the frequency of parents' working on arts and crafts with them (Table 10).

A longitudinal study of early literacy experiences of 42 children in the U.K. found that children who were members of a library and had favorite books at age three were more competent readers at age seven than children who were not, as measured by their reading book level in school (Weinberger, 1996). Later reading book level was also significantly correlated with the following at school entry (age five): child's ability to print his/her first name, knowledge of the alphabet, ability to copy a printed phrase, frequency of joint book reading, parental modeling of reading behaviors, and child's initiative to look at books on his/her own. The study overall showed a significant

Table 10.

Regression of Frequency of Child's Current Reading for Pleasure

Variable	B	SE B	β	R	R^2	Adjusted R^2
Step 1						
(Constant)	-1.294	.766				
ParentEnjoy	3.147	.709	.606	.606	.367	.348*
Step 2						
(Constant)	-1.927	.752				
ParentEnjoy	2.948	.662	.567			
ArtsCrafts	.295	.115	.326	.687	.472	.440*

*. F ratio significant at the .01 level

relationship between home literacy activities and emergent literacy skills and children's later achievement in the area of reading (Weinberger, 1996).

In an analysis that included 245 children, there was a strong correlation (r= .61, p< .001) between letter identification and reading achievement at age seven. Letter identification, along with printing skill and vocabulary scores on the WPPSI were significant predictors of reading at age seven as found by a multiple regression analysis. Taken together, the three factors accounted for 40% of the variance in reading scores (Blatchford, Burke, Farquar, Plewis, & Tizard, 1987).

The interest and motivation of the child to participate in literacy activities was found to be a predictor of later attainment. According to Wells' (1981) study, children who were characterized as high attainers were:

> significantly more likely than low attainers to take part in a wide range of activities, to possess a large number of their own books, to have acquired some minimal skills in reading and writing before starting school and to concentrate for extended periods on activities involving reading, looking at books, writing, scribbling, and painting (Wells, 1981, p.188).

The study also found that the role of parents was important overall, but specifically as related to the child's development of skills and attitudes that later influenced his/her achievement. An especially important predictor of attainment was found to be knowledge and ability in the area of written language. The study also found a strong relationship between parents' and children's interest in literacy (Wells, 1981).

The Overall Performance of the School

To determine whether there was a significant difference between the sample and the standardization population's scores on the Stanford Achievement Test, a sample-to-population t-test was to have been conducted, but no single unique set of standardization norms was available for comparison, as numerous testing conditions and student conditions were weighted in the individual calculation and reporting of norms. Although the sample's academic performance compared with national norms could not be calculated by statistical means, the uniqueness of the research sample was still supported. The school principal reported that the elementary school as a whole (Grades K-6) performed at the 73rd percentile on the Stanford Achievement Test during the 2000-2001 academic year. The nation, on average, performed at the 50th percentile, which made the performance of the sample seem to be significantly different. It is important to note that the 73rd percentile ranking reflects the composite scores of all of the subtests of the Stanford Achievement Test, not just the ones utilized for this research.

Survey Instrument Subscales

Home literacy behaviors were measured by a survey instrument designed by the researcher. It is important to note that neither the survey instrument nor its subscales were standardized prior to use. Additionally, several subscales consisted of only a few items each. However, it can be seen from Table 11 that many of the subscales were significantly correlated. The items were grouped together into subscales based on face validity. It was surprising that certain subscales, like Literacy Activities and Adult Involvement, were not significantly related.

Table 11.

Home Literacy Survey Subscale Correlations

Correlations

	LitActivities	HousePrint	Adult Involve	ReadInteract	CurrentLit	Pre-K Skills
LitActivities	1.000	-.041	.246	.472**	.165	.262
HousePrint	-.041	1.000	.049	.228	.237	.335*
AdultInvolve	.246	.049	1.000	.629**	.497**	.405*
ReadInteract	.472**	.228	.629**	1.000	.559**	.513**
CurrentLit	.165	.237	.497**	.559**	1.000	.417*
Pre-K Skills	.262	.335*	.405*	.513**	.417*	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Positive correlations between GPA and the home literacy survey subscales were expected, as the items included in the subscales were coded with the score of 1 being equal to the most desirable or most frequent behavior (i.e. 1=Daily, 6=Not at all) and GPA was coded in the same direction (1=A, 2=B, 3=C, 4=F). Negative correlations were anticipated between survey subscales and Stanford scores, as higher scores on the Stanford were indicative of higher achievement.

A Pearson's correlation was performed to determine the relationship between the home literacy survey subscales and measures of later academic achievement, namely Stanford Achievement Test scores and GPA. The analysis was conducted two times, once as an entire sample (Grades 1-5), then grade-by-grade. Table 4 shows results of the grade-by-grade analysis of the home literacy survey subscale scores, GPA, and Stanford scores.

Several significant findings can be drawn from examination of this table. A significant positive relationship was found between Pre-Kindergarten Skills and current 1st grade GPA ($p<.05$). There were numerous significant correlations between the Literacy Activities subscale and Stanford scores from the kindergarten year. In the 2nd grade, a significant negative correlation was found between the Reading Interactions subscale and Stanford scores ($p<.05$). In the 3rd grade, a significant positive relationship was found between Household Print and GPA ($p<.05$), as well as a significant negative correlation between Household Print and scores on the Stanford ($p<.05$). In the 4th grade, significant negative correlations were found between Stanford scores and Literacy Activities ($p<.05$) and Pre-Kindergarten Skills and ($p<.05$). In the 5th grade, there was a

significant negative relationship between Pre-Kindergarten Skills and Stanford scores ($p<.05$). There was also a negative correlation between Household Print and scores on the Stanford ($p<.05$). Literacy Activities, Household Print, and Pre-Kindergarten Skills seemed to be the subscales most commonly related to outcome measures.

Though some of the subscales correlated with Stanford scores and GPA in certain grades, overall there was not one subscale that was consistently related to achievement at every grade level. One of the reasons for this could have been that when the sample was broken down according to grade level, there were uneven distributions of children in each grade, which served to weaken the power of the statistical analyses. The fifth grade, for example, had only four participants.

In analyzing the academic achievement data and subscales for grades 3-5 only, a Pearson's correlation revealed a significant relationship between Stanford scores and Reading Interactions ($p<.05$), Current Reading, ($p<.05$), and Pre-Kindergarten Skills ($p<.05$). A significant correlation was also found between GPA and Household Print ($p<.01$) and Pre-Kindergarten Skills ($p<.05$).

Conclusions

It is important to note that the predicted outcomes of this study should be interpreted cautiously. There are several limitations and sources of bias that need to be considered when making generalizations. Some limitations in the sampling are: 1) Non-randomized, convenience sample, 2) Small sample size ($N<100$), 3) Higher SES of sample families than the average population, and 4) Sample included only self-identified Christian families (a pre-existing condition, as families were screened for this criteria

before admission to the school). Some limitations regarding the survey instrument are: 1) It was designed by the researcher; 2) The reliability and validity of the instrument have not yet been established; and 3) Self-report style has the potential for producing socially desirable responses. Also some of the survey subscales contained only 2 or 3 items, out of a total of 47, so any conclusions about the household print, pre-kindergarten skills, or current reading subscales should be interpreted cautiously.

When looking at the data as a whole, it would seem that there are a variety of reading-related activities in which parents can have a significant impact on their pre-school child's reading abilities and subsequent academic success. Some of those activities identified by this study were expected (such as number of library visits), while other were not (such as working on arts and crafts together). Teale (1984) described structure and support of literacy by parents as parental scaffolding. Perhaps the variety of home literacy activities measured by the home literacy survey plays a part in Vygotsky's concept of scaffolding, in which parents support, encourage, and interact with their child around storybooks, reading, and literacy. Perhaps it is also the level or frequency of joint book reading itself which conveys meaning and importance to the child.

Regardless of the theory ascribed to it, it would appear that joint book reading is a significant activity for parents and their children. It is not a single, isolated event however, nor is there a single home literacy activity to recommend. Rather, we should be sure that parents are made aware of the importance of participating and engaging with their children in the active process of joint book reading as well as other vital home literacy behaviors.

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Appendix A

Principal Letter

I, Mr. Paul Kemp, Head Administrator of New Life Christian School (NLCS) in Frederick, Maryland, do give my permission for Michal Lacy, psychology student at Liberty University in Lynchburg, Virginia, to contact the families of New Life Christian School for the purposes of research. I authorize the collection and/or release of the following pieces of data from only those families that explicitly consent to participate in the NLCS Home Literacy Study:

- Parent Questionnaires
- Student Stanford Achievement Test scores from all previous years of their enrollment
- Student Report Card Grades from all previous years and the previous term of their enrollment

It is important to note that I am not allowing full access to confidential student records or files to the researcher, only the release of the previously stated pieces of information. My administrative staff will be responsible for the physical collection of the previously stated information, namely the Stanford Achievement Test scores and report card grades.

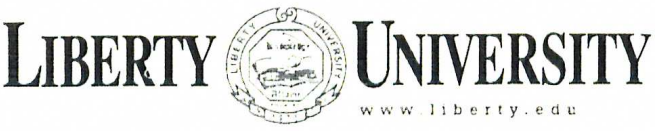
I understand that a copy of the researcher's senior honors thesis in its entirety will be furnished to me following its completion. I understand that all results, findings, and conclusions drawn from the research conducted at New Life Christian School will be included in the thesis copy I will be receiving. I will be making arrangements with the researcher for the Spring 2002 presentation of such results, findings, and conclusions to be made to all interested NLCS parents and faculty/staff.

I am aware that the results of the NLCS Home Literacy Study will be presented at a meeting of the Virginia Psychological Association in the Spring of 2002. I am also aware that the results of the study, included as a part of the researcher's senior honors thesis, may be published in a professional journal if that opportunity becomes available.

Signed_____ Date_____

Appendix B

Information Letter



Changing Lives... One Degree at a Time.

1971 University Boulevard
Lynchburg, Virginia 24502-2269

October 29, 2001

Dear NLCS Parent,

The Department of Psychology at Liberty University supports the practice of informed consent and protection for human subjects participating in research. The following information is provided for you to decide whether you will allow your child to participate in the present study being conducted on Grades 1-5 at New Life Christian School. You are free to withdraw from participation in the study at any time. If you choose to withdraw, please call or email me at any time before January 1, 2002.

By consenting to participate in this study, you would be agreeing to fill out a parent questionnaire about home literacy practices. The parent questionnaire needs to be filled out by the parent who acted as your child's primary caregiver during his/ her pre-schooling years, if at all possible. Your consent would also allow New Life Christian School to release the following information to me about your child:

- Final report card grades from *last* year
- First quarter report card grades from *this* year
- Stanford Achievement Test scores from last year only

It is important to note that I, the researcher, will **not** be given direct access to your child's confidential file at the school. Administrative staff will be responsible for collecting your child's report card grades and Stanford scores, which will then be released to me.

Your participation in the study is solicited but strictly voluntary. I assure you that the names of you, your spouse, and your child will **not**, in any way, be associated with the research findings. All of the data collected will be identified only through a code number. All results will be discussed in terms of overall percentages of students, *never* in terms of individual students.

If you would like additional information concerning this study before you agree to participate, please do not hesitate to contact me or one of my professors by phone or e-mail. Thank you very much for your time. I appreciate your interest and cooperation.

Sincerely,

Michal Lacy
B.S. Candidate
(434) 582-4253
mtlacy@liberty.edu

Marilyn Gadomski, Ph.D.
Thesis Committee Chair
(434) 582-2774
mlgadoms@liberty.edu

Nancy Anderson, Ph.D.
Psychology Professor
(434) 582-2559
naanders@liberty.edu

Janice DeLong
Professor
(434) 582-2448

Appendix C

Statement of Consent

(Please print)

I, _____, give my consent to be involved in the Home Literacy study at New Life Christian School. I realize that I will be asked to fill out a questionnaire as part of my participation. I authorize the staff of New Life Christian School to release the following information for research purposes: my child/children's final report card grades from last year, my child/children's report card grades from last quarter, and my child/ children's scores on the Stanford Achievement Test from last year.

I understand that all data will be identified only through a code number, never by my child's name. I also understand that all findings and results from this study will only be discussed in terms of overall percentages, never on the basis of an individual student.

I understand that this research is part of a senior-level Honors Thesis and I give my permission for the results to be published in a professional journal, if that option becomes available.

Signature_____

Names of Participating Children in Grades 1-5 at NLCS:

_____
_____
_____
_____

Note: If you have more than one child participating, they can all be included on the same form.

How would you like the survey and all related correspondence to be sent to you?
(Please check one)

- ❑ Please send home with my child
- ❑ Please mail to me at my home address:

  _____
  _____
  _____

PLEASE HAVE YOUR CHILD RETURN THIS FORM IN THE ENVELOPE PROVIDED TO HIS/HER TEACHER OR THE SCHOOL OFFICE BY
NOVEMBER 8, 2001

Appendix D

Home Literacy Survey

New Life Christian School

Winter 2001

Please return your completed questionnaire in the enclosed envelope to:

Michal Lacy
Liberty University
1971 University Boulevard
Box 23294, Lynchburg, VA 24506

Instructions: This questionnaire needs to be filled out by the parent who acted as your child's primary caregiver during his or her years prior to kindergarten. This should only take about 10 minutes to fill out. Please answer each question the best that you can remember about your child's activities prior to his or her kindergarten year. For each question, please check only **ONE** answer. Do not leave any items blank. Thank you for your participation!

Please Note: If you have more than one child participating in the study, please fill out a *separate questionnaire* for each child, and mail them back in separate envelopes.

PLEASE RETURN SURVEY BY DECEMBER 14, 2001

1. What is the month and year of your child's birth?

_____/19_____

2. What grade is your child in this year?

- ❑ 1st
- ❑ 2nd
- ❑ 3rd
- ❑ 4th
- ❑ 5th

3. What is your child's gender?

- ❑ Male
- ❑ Female

4. Did your child attend a pre-school program?

- ❑ Yes
- ❑ No

5. How many times in an average month did your child visit the library?

- ❑ 0
- ❑ 1
- ❑ 2
- ❑ 3
- ❑ 4
- ❑ 5 or more

6. Did your child have his or her own library card?

- ❑ Yes
- ❑ No

7. Did your child like to play "school" with others?

- ❑ Yes
- ❑ No

8. How often did your child watch educational TV or videos (i.e. Sesame Street, Barney, Reading Rainbow, Arthur, etc.)?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

9. How often did your child talk to you about television programs that he/she had seen?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

10. How often did you or other family members tell stories without using a book?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

11. How often did your child listen to stories or books on tape?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

12. About how many children's books did your household have available?

- ❑ 0-15
- ❑ 16-30
- ❑ 31-45
- ❑ 46-60
- ❑ 61 or more

13. How many magazines did your family subscribe to?

- ❑ 0
- ❑ 1-2
- ❑ 3-4
- ❑ 5 or more

14. Did your family own any educational or reading games?

- ❑ Yes
- ❑ No

15. Did your child have access to a computer at home?

- ❑ Yes
- ❑ No

16. Could your child print his or her first name before kindergarten?

- ❑ Yes
- ❑ No

17. How old was your child when he or she learned to write their first name?

- ❑ 2
- ❑ 3
- ❑ 4
- ❑ 5
- ❑ 6

18. Could your child recognize ALL of the letters of the alphabet on sight and say their sounds?

- ❑ Yes (**Skip to #20**)
- ❑ No

19. If NOT, about how many letters could your child recognize and say?

- ❑ 0-5
- ❑ 6-10
- ❑ 11-15
- ❑ 16-20
- ❑ 21-26

20. Could your child recite the entire alphabet before entering kindergarten?

- ❑ Yes
- ❑ No

21. How often did you read in front of your child (including newspapers, magazines, recipes, mail, books)?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

22. How often did you actively teach your child songs or music?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

23. How often did you directly teach your children reading skills (i.e. letter names, letter sounds, printing letters, writing words) in the home?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

24. How often did you work on arts and crafts with your child?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

25. How often did you teach your child to print letters or words?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

26. How old was your child when you began to read to him/her?

- ❑ Prenatal (0 years old)
- ❑ 1 year old
- ❑ 2 years old
- ❑ 3 years old
- ❑ 4 years old
- ❑ 5 years old

27. How often did you read to your child?

- ❑ 2-3 times per day
- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

28. At what time of day did you most often read to your child?

- ❑ In the morning
- ❑ In the afternoon
- ❑ In the evening
- ❑ At bedtime

29. Did you usually ask your child questions about the story while you read to him/her?

- ❑ Yes
- ❑ No

30.* How would you <u>best</u> describe your reading time with your child? (please choose only <u>one</u>)

- ❑ Child relaxed and enjoyed story
- ❑ Child helped to read story, sometimes reading the page after me
- ❑ Child asked questions about the story and/or pictures/vocabulary
- ❑ I prompted my child by asking questions about the story
- ❑ I used this time as an activity to teach letter names, letter sounds, and/or words

31. How often did your child request to be read to?

- ❑ 2-3 times per day
- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

32. Did your child have a favorite book?

- ❑ Yes
- ❑ No

33. How often did your child talk to you about books that had been read to him or her?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

34. How often did your child pretend or attempt to read storybooks independently?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

35. Did your child ever read (or pretend to read) to other children?

- ❑ Yes
- ❑ No

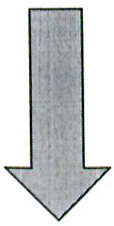
36. How old was your child when he/she could read through an entire book aloud on his/her own?

- ❑ 3
- ❑ 4
- ❑ 5
- ❑ 6
- ❑ 7
- ❑ Does not apply/Cannot read on own yet

---

*(Haney, 2000)

Please continue to the next page



Please answer the following questions based on your child's current habits and your family's background.

37. How many times in the past week have you or another family member read to your child?

- ❑ 0
- ❑ 1
- ❑ 2
- ❑ 3
- ❑ 4
- ❑ 5 or more

38. How would you describe your child's intelligence level in relation to his/her classmates?

- ❑ Superior
- ❑ Above Average
- ❑ Average
- ❑ Below Average
- ❑ Far Below Average

39. How would you describe your child's academic achievement in relation to his/her classmates?

- ❑ Superior
- ❑ Above Average
- ❑ Average
- ❑ Below Average
- ❑ Far Below Average

40. Has your child ever struggled with learning to read, when compared to the progress of his/her classmates?

- ❑ Yes
- ❑ No

41. About how often does your child read for pleasure?

- ❑ Daily
- ❑ 2-3 times per week
- ❑ Weekly
- ❑ Monthly
- ❑ Rarely
- ❑ Not at all

42. Who is completing this survey?

- ❑ Child's Mother
- ❑ Child's Father

43. Which of the following categories would best identify your child/family's race or ethnic group?

- ❑ White, Caucasian
- ❑ African-American
- ❑ Latino
- ❑ Asian
- ❑ First Nations/Native American
- ❑ Other/ Not Listed

44. What is the highest level of education achieved by the child's mother?

- ❑ Some High School
- ❑ High School Diploma/GED
- ❑ Some College
- ❑ Associate's Degree
- ❑ Bachelor's Degree
- ❑ Master's Degree
- ❑ Doctorate

45. What is the highest level of education achieved by the child's father?

- ❑ Some High School
- ❑ High School Diploma/GED
- ❑ Some College
- ❑ Associate's Degree
- ❑ Bachelor's Degree
- ❑ Master's Degree
- ❑ Doctorate

46. Do you personally enjoy reading?

- ❑ Yes
- ❑ No

47. About how many (non-children's) books have you read in the past year?

- ❑ 0-2
- ❑ 3-5
- ❑ 6-8
- ❑ 9-11
- ❑ 12 or more

(Once the survey has been given a code number, the name ***will be*** **detached!**)

Child's Name_____

Appendix E

Items Included in Questionnaire Subscales

Literacy Activities- 5, 8, 9, 10, 11

Household Print- 12, 13

Parent Involvement- 21, 22, 23, 24, 25

Pre-Kindergarten Skills- 17, 18 & 19 combined

Reading Interactions- 26, 27, 31, 33, 34, 36

Current Reading- 37, 41, 47

Appendix F

Scoring of Home Literacy Survey

For item 1, the data was entered in a month/year format as the information requested. For item 2, the "first grade" response was given a "1" and the "fifth grade" response was given a "5." For item 3, a male was coded as a "1," while a female was coded as a "2." For nominal data items 4, 6, 7, 14, 15, 16, 20, 29, 32, 35, and 46, "yes" responses were assigned a "1" and "no" responses were assigned a "2." Frequency items 8, 9, 10, 11, 21, 22, 23, 24, 25, 33, 34, and 41 were all scored in the same manner: 1=Daily, 2=2-3 times per week, 3=Weekly, 4=Monthly, 5=Rarely, 6=Not at all. On item 17, an answer of "2 years" received a "1," an answer of "3 years" received a "2," an answer of "4 years" received a "3," an answer of "5 years" received a "4," and an answer of "6 years" received a "5." Items 18 and 19 were combined into one question for the analysis. On item 26, a response of "prenatal" was coded "1," a response of "1 year old" was coded "2," a response of "2 years old" was coded "3," a response of "3 years old" was coded "4," a response of "4 years old" was coded "5," and a response of "5 years old" was coded "6." For items 27 and 31, the scoring procedure was the same as the previous frequency items except that the "2-3 times per day" response was given a "1" and every subsequent response increased by one thereafter, with the "Not at all" response being scored as a "7. Item 28 was scored as: 1=In the morning, 2=In the afternoon, 3=In the evening, and 4=At bedtime. For item 30, a response of "Child relaxed and enjoyed story" was coded as "1" and a response of "I used this time as an activity to teach letter names, letter sounds, and/or words" was coded as "5," with the values for responses in

between given increasingly ascending scores. On item 36, a response of "3 years old" was given a "1," a response of "Does not apply/Cannot read on own yet" was given a "6," with the values in between given increasingly ascending scores. For items 38 and 39, a score of "1" was given for a "Superior" response and a score of "5" was given for "Far Below Average," with values in between given increasingly ascending scores. Item 42 was scored this way: 1=Child's Mother, 2=Child's Father, 3=Guardian, 4=Other Relative. For item 43, a "1" was given for the response "White, Caucasian" and a "6" was assigned for the response "Other/Not Listed," with responses in between given increasingly ascending scores.

Survey items that were reverse scored included 5, 12, 13, 18/19, 37, 44, 45, and 47. For items 5 and 37, a response of "5 or more" was given a "1" and a response of "0" was given a "6," with responses in between given increasingly ascending values by code number. Item 12 was scored in the following way: 1= 61 or more, 2= 46-60, 3= 31-45, 4= 16-30, 5= 0-15. For Item 13, a response of "5 or more" was given a "1" and a response of "0" was given a "4," with responses in between given values in ascending order by value. Items 18 and 19 became one question that was analyzed together. Items 18 and 19 were scored in the following way: 1=All 26 letters, 2=21-25 letters, 3=16-20 letters, 4=11-15 letters, 5=6-10 letters, and 6=0-5 letters. For items 44 and 45, a value of "1" was assigned to the "Doctorate" response and a value of "7" was assigned to a "Some High School" response, with values in between given increasingly ascending scores by value.