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Learning The ABC's: Family Involvement in Kindergarten Literacy

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LEARNING THE ABC'S:

FAMILY INVOLVEMENT IN KINDERGARTEN LITERACY

by

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"I can do all things through Christ who strengthens me." Philippians 4:13

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Abstract

The present study investigated home literacy environments established through reading with children, engaging in literacy activities, and having literacy materials provided, along with families' participation in literacy-related school events. One hundred one kindergarten children and their families from five classrooms in two inner-city urban elementary schools were invited to participate in the "Learning the ABCs" project. A total of 68 families gave consent. Participation in the project included receiving 15 weeks of Home Literacy Bags. The 68 participating children were randomly assigned into two intervention groups using cluster sampling of the five classes. Group One received weekly bags with four activities while Group Two received weekly bags with four activities, a variety of materials, and one book.

The primary purpose of this study was to determine the strength of four family involvement variables (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school) in predicting kindergarten students' gain scores on three literacy assessments (ALRI, TERA-3, and DIBELS). The primary research question was: To what extent can kindergarten students' ALRI, TERA-3, and DIBELS gain scores be explained by participation in family involvement activities?

A secondary purpose of the study was to determine which of the family involvement activities was the strongest predictor of kindergarten students' literacy achievement as measured by the literacy assessments. The secondary research question was: Which family involvement activity is the strongest predictor of gains in kindergarten students' letter and sound knowledge and phonological awareness?

Literacy assessments were implemented using a pre/post test design. The literacy gain scores served as the dependent variables and the family involvement activities served as the independent variables. Each variable set was included in a regression analysis, which was followed up with an analysis of regression structure coefficients (r_s) to determine the individual variable contributions.

Chapter One: Introduction and Background

The importance of family involvement may best be explained using the motto of the Even Start Program in Louisville, Kentucky, which is taken from the sayings of Confucius (National PTA, 2000):

Tell me, I'll forget.
Show me, I may remember.
But involve me, and I'll understand.

Applying this terminology to family involvement, if schools strive to "involve" families in the educational process of their children, then the families may "understand" the academic strengths and weaknesses of their children, as well as develop an "understanding" of the vital role they play as partners in the educational process. If given the opportunity, family members have the capability of affecting student success as much as, or even more than, schools and teachers (Ramey & Ramey, 1999).

Political leaders support the notion that parents should be involved and are strongly encouraging schools to incorporate a plan to facilitate such family involvement. In 1994, Congress required all schools receiving Title I funding to develop a plan. The plan should "outline how parents, the entire school staff, and students will share responsibility for improved student achievement and the means by which the school and parents will build and develop a partnership to help children achieve the state's standards" (Brady, 1999, p. 4; Epstein, 1996). Additionally, the National Goals 2000: Educate America Act stipulated that "every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children"

(Brady, 1999, p. 4). The term partnership is a commonality indicating that education is a team effort.

While political decision-makers have placed great emphasis on the topic of family involvement, their attention has also been directed toward the topic of literacy. In 1997, Congress, along with the Secretary of Education, asked the Director of the National Institute of Child Health and Human Development to convene a national panel of experts to assess the research-based knowledge concerning the various approaches to the teaching of reading (National Reading Panel, 2000). In doing their research, the panel found only 15,000 research studies on reading before 1966, but an additional 100,000 since that time (National Reading Panel, 2000; Saracho & Spodek, 2002). The attention being given to the topic of literacy is evident and warranted because one of the best predictors of whether a child will function competently in school and contribute to society is the level to which the child progresses in reading and writing (International Reading Association, 1998).

From birth through age three, children spend the majority of their time with their family members. Therefore, the acquisition of literacy skills begins in the child's home environment, before ever entering into a formal school setting. The National Reading Panel (2000) recognized the important role of family members. One of the panel's key themes was that families should be providing children with early language and literacy experiences that foster reading development. One major experience for children is conversation. By the age of three, children have acquired more than half of the language

they will use throughout their lives (U.S. Department of Education, 1994). Making such a strong connection between the early language experiences of a child and the adult language they will develop into gives reason to focus on early literacy development.

Parents are a child's first teachers, and they are a source of the early language experiences for their children. Epstein (1995) claims that parents, therefore, need to be supported as educators. A report by the National Education Association (2002) stressed that the earlier the family involvement begins in a child's educational journey, the more powerful the effects will be. The timing of involvement in the area of literacy was another key theme of the National Reading Panel (2000). The panel expressed repeatedly the importance of early identification and intervention for all children at risk of failure with reading. Focusing on early literacy is necessary because the level of language and literacy skills that a child has acquired by the end of kindergarten is predictive of his/her literacy and vocabulary skills in later elementary years (Dickinson & Tabor, 2002).

A longitudinal study by Hart and Risley (1995) found that by the age of three, the verbal vocabularies for children from professional families were larger than that of the parents in welfare families. A child in a professional family hears 11 million words a year while a low-income child hears only 3 million words in a year. If family members are not aware of the impact they can have on their children's learning and achievement, educators have the opportunity to communicate this to them. While family members are the ultimate decision-makers in the level and amount of involvement they have in their children's education, teachers have the opportunity for encouraging their involvement. If teachers know which family involvement activities could have the greatest impact on their student's literacy achievements, they could share the ideas with family members.

Statement of Purpose

The primary purpose of the present study was to determine the strength of different family involvement activities in predicting kindergarten students' gain scores on three literacy assessments. The family involvement variables emerged as the families participated in four literacy-related activities. The four activities were (a) reading with children; (b) engaging in literacy activities; (c) having literacy materials provided; and (d) participating in literacy-related events at school. The literacy assessments included the Alphabet Letter Recognition Inventory (ALRI), Test of Early Reading Ability–3 (TERA-3), and Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

A secondary purpose of the study was to determine which of the four family involvement activities was the strongest predictor of kindergarten students' literacy achievement as measured by the aforementioned assessment tools.

Statement of Research Questions

The questions to be considered included the following:

1. To what extent can kindergarten students' ALRI gain scores be explained by participation in family involvement activities (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school)?
2. To what extent can kindergarten students' TERA-3 gain scores be explained by participation in family involvement activities (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school)?

3. To what extent can kindergarten students' DIBELS gain scores be explained by participation in family involvement activities (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school)?
4. Which family involvement activities (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school) are the strongest predictors of gains in kindergarten students' letter and sound knowledge? (The letter and sound knowledge gain scores will be taken from the DIBELS Letter Naming Fluency and Initial Sound Fluency, and the TERA-3 Alphabet Subtest.)
5. Which family involvement activities (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school) are the strongest predictors of gains in kindergarten students' phonological awareness? (The phonological awareness gain scores will be taken from the DIBELS Initial Sound Fluency, Phoneme Segmentation Fluency and Nonsense Word Fluency, and the TERA-3 Alphabet Subtest.)

Significance of the Research

The present study involved a merger of a kindergartener's family involvement with early literacy skill development. The three concepts, kindergarten, family involvement, and early literacy, influence one another, and this research will specifically address how the intersection of these three ideas influences the academic achievement of children. It has been stated that a child's home literacy environment may have a lasting influence on the child's language development (Leseman & DeJong, 1998). Therefore, educators who

become aware of students' home literacy environments will hold meaningful information; however, regardless of the home background students have experienced, teachers are still responsible for teaching them how to read and write (Howes, 2003). Today's kindergarten classes include some children who have been in formal educational settings for 3 or 4 years as well as children who are participating for the first time in formal education. Because of these differences in background, a teacher's classroom could have a 5-year range in children's literacy-related skills (Riley, 1996).

Identifying specific family involvement activities that can affect specified literacy skills among children would provide a helpful knowledge base to early childhood educators. Family members can be a resource for a child's education, and when given practical ideas and strategies they can help to bring gains in academic achievement for their child.

Chapter Two: Review of the Literature

Family involvement, literacy skills, and kindergarten literacy are three popular topics in current educational research. The present study examined the relationships among the three with the primary purpose of determining the strength of different family involvement activities in predicting kindergarten students' gain scores on three literacy assessments. Each of the three topics, family involvement, literacy skills, and kindergarten literacy, is reviewed here along with the intricate overlap that occurs among the three. The literature review will facilitate the purpose of the study by underscoring the importance of family involvement as a predictor of literacy success.

Family Involvement

Family Involvement Defined

If family involvement is what educators are seeking, it is imperative that educators know what it is and what it looks like. Baker and Soden (1998) completed an evaluation of the challenges to family involvement research. They reported that one of the challenges with researching this topic is in the inconsistent definitions of the term *family involvement.* The inconsistencies exist in defining both *family* and *involvement*. First, in defining the term family, it is interesting to note that in the initial studies of involvement in children's education, the emphasis was placed on the parents (or legal guardian) alone (Becker & Epstein, 1982; Bempechat, 1990). As more research has been completed, a shift has taken place from focusing on solely the parents to an inclusion of the entire family. The entire family includes extended family members such as grandparents, aunts,

uncles, cousins, or siblings (Becker-Klein, 1999). Therefore, the term *family* in family involvement is generalized to include any member of the family.

The second half of the term, *involvement*, brings greater challenges to developing a clear definition of family involvement. The descriptions throughout literature contain a variety of key phrases including *relationship*, *partnership*, *interaction*, *participation*, *shared responsibility*, *power*, and *empowerment* (Anderson, 1999; Epstein, 2001; National PTA, 2000; Olsen & Fuller, 2003). The most common definition found in literature is "...the participation of parents in every facet of the education and development of children from birth to adulthood" (National Parent's Day Coalition, 1998, p.; National PTA, 2000, p. 3). Another definition by Nardine (1990, p.67) is "...a relationship between families and schools in which parents and educators work together to provide the best possible environment for the schooling of children." In comparing the above definitions, it is interesting to consider the difference between "families participating" and "families having a relationship with schools." The latter definition suggests that a true partnership must exist for genuine involvement to take place. The term "partnership" implies a responsiveness in which both parties support each other (Bauer & Shea, 2003).

However, an even broader definition of family involvement was mentioned by Reynolds (1992) as "...any interaction between a parent and a child that may contribute to the child's development." Due to the nature of this research, Reynolds' definition that places an emphasis on the interaction between a family member and child will be used in identifying family involvement.

Family Involvement in Action

With the chosen definition of family involvement emphasizing interactions between children and family members, it is now necessary to move into searching for a more precise description of what these interactions would look like to an observer. The literature reviewed included a variety of descriptors for family involvement with a few very specific descriptors, such as providing tutoring (Bempechat, 1990), visiting the school (Ballantine, 1990), checking homework every night, voting in school board elections, or limiting television viewing (National Education Association, 2002). Many sources, however, provided only broad descriptors such as general participation (Booth & Dunn, 1996; Ramey & Ramey, 1999), problem solving, or information sharing (Epstein, 2001).

While family involvement takes on many forms, the six types of involvement described by Joyce Epstein (1995) provide a relatively inclusive list. These six types include: (a) parenting – basic parenting or basic obligations of families, (b) communicating – two-way communication between home and school, (c) volunteering – participation in both classroom and school-wide activities, (d) learning at home – participation in home-based learning activities, (e) decision-making – membership in PTA or other policy making committees, and (f) collaborating with community – coordination with surrounding business agencies. These six types, organized by Epstein, provide an umbrella under which any family activity could fall. Epstein emphasized that families will find the type of involvement they feel most comfortable with and, should not feel as though they are expected to represent all six types in order to be involved.

Epstein's six types of involvement show that family involvement in education is not limited to experiences that take place within the walls of our classrooms. One dimension of family involvement is participation in activities at the school, including school events, volunteering, and organizations such as the school PTA/PTO (Mayes, 2002; Olsen & Fuller, 2003). However, families can also be involved at home through educational activities and in creating the home environment and structure (Becker-Klein, 1999). Just as family involvement takes on many forms, it can also take place in many locations. The emphasis must remain on families helping children find academic success, and this can happen in schools, homes, or other places in the community (Office of Educational Research and Improvement, 2001).

Epstein and Becker (1982) surveyed approximately 3,700 elementary school teachers asking questions about their family involvement practices, specifically learning activities to be done in the home. One of the most frequently mentioned activities was reading with children. More than one-fifth of the teachers answered that reading with children was the most valuable involvement activity they suggest to families. In giving suggestions to families about additional activities to do in the home to work on particular skills, 30% of the teachers stated that they did not encourage it because of the family members' lack of cooperation or lack of knowledge. They believed that implementing the activity would be too difficult for the family members. Another 30% of the teachers used the strategy of suggesting home literacy activities on a regular basis, 10% stating they found it the most useful family involvement strategy to employ.

Epstein and Dauber (2001) also interviewed parents about their attitudes concerning family involvement practices of their children's teachers and schools. Interestingly

enough, of the over 2,000 parents interviewed, 80% said they would help their child more if the teacher guided them in how to help at home. Based on this finding, family members want educators to send home activity ideas for them to do with their children. However, Miller (1982) cautioned educators that the nonstandard language and social skills used in the home have the potential to jeopardize the children's reading achievement instead of helping it. It was with this in mind that Binford and Newell (1991) implemented a family involvement program with at-home learning activities that also included training sessions for the family members. A presentation would be made to the family members to show them how to use the activities properly. In this specific case, the parent educator would take the materials and give a presentation in the home if the parent was unable to attend a session at the school.

Another family literacy program, created and implemented by Morrow and Young (1997), included monthly meetings with literacy center activities shared with families and teacher-modeled literacy activities. Families left the meeting with activities to do at home that were created to be fun, educational, and culturally sensitive. A study was performed with one experimental group participating in the family meetings and one control group being excluded from the meetings. The results indicated significant academic differences in favor of the experimental group.

Importance of Family Involvement

To convince family members they need to be involved in the education of their children, it is helpful to have a grasp on the benefits of the involvement. More than 30 years of research have supported the conclusion that when parents play an active role in their children's education, children have greater achievement in school (Becher, 1984;

U.S. Department of Education, 1999; National PTA, 1997; Otterbourg, 1998). The improved academic achievement could be considered an extension of other benefits to family involvement, such as better school attendance (Epstein & Sheldon, 2002), higher self-esteem (Brown, 1989), and better homework habits (Office of Educational Research and Improvement, 1997; Epstein & Dauber, 2001). Children whose parents are actively involved in their educational process have consistently demonstrated progress in academics, discipline, and decision-making skills. Those students fortunate enough to have involved parents have higher graduation rates, lower crime rates, stronger families, and better communities (National Parent's Day Coalition, 1998). It is unclear which comes first, the achievement or the involvement, but regardless of the order, achievement is the goal and involvement seems to fuel the progress.

In considering Epstein's six levels of family involvement, an assumption that could be made is to view them as a hierarchy with one type or level being more important than the others. This is a false assumption (Gordon & Breivogel, 1976; Hiatt-Michael, 2001). In fact, while many positive results of family involvement do exist, it is unclear which type produces the most positive student outcomes (Booth & Dunn, 1996). Each type of involvement brings with it a unique set of positive results, all of which have the potential to benefit the student academically.

Engaging in learning activities in the home is one type of family involvement strategy that has potential benefits. The family literacy program implemented by Morrow and Young (1997) resulted in the program participants spending more time reading together, and spending more time engaging in activities together. Involved family members expressed a newfound comfort at the school and a confidence in helping their children on

academic matters. There were no academic assessments used to assess knowledge gained as a result of participation.

Providing academic benefits to children is not the end for the influence of family involvement. The benefits can carry over into the families and the schools. One study of Head Start families (Parker, Piotrkowski, & Peay, 1997) found that involved families had fewer psychological problems, and a more positive feeling towards their life satisfaction. Schools find benefits as well in that their knowledge of children and their families improves, which enables them to educate the children more appropriately after taking into consideration individual circumstances (Desimone, 1999).

If having family involvement produces academic benefits, then not having family involvement would most likely have the opposite effect. A study completed by the National PTA (1997) explored this possibility by considering the adverse effects from a lack of parent involvement. It was found that parents who do not participate in school events or do not know what is happening in their child's school have children who are more likely to fall behind in their academics. In addition, Brady (1999) found that parents who maintain frequent contact with the school have higher-achieving children than those parents who have less frequent contact. Numerous studies have confirmed that students with involved families, regardless of the type of involvement, have an advantage over students lacking the involvement of their families.

Barriers to Family Involvement

For family involvement to be successful and bring about potential benefits, there is great reliance on the participation of the students' families. Unfortunately, many potential barriers stand in the way of this valuable participation. Based on a survey performed by

the National Parent-Teacher Association (Office of Educational Research and Improvement, 2001), parents reported that they did not become involved in their children's education for a variety of reasons. The lack of involvement was due to time (89%), feeling they had nothing to contribute (32%), not knowing how to become involved (32%), lack of child care (28%), feeling intimidated (25%), not being available during the time school functions were scheduled (18%), or not feeling welcome at school (9%) (Bauer & Shea, 2003). In a survey of Title I principals, 87% stated that a lack of parents' time was a significant barrier, and 56% reported that a lack of teachers' time was a barrier (Office of Educational Research and Improvement, 2001). Lack of time is clearly one of the largest barriers.

Time is a major obstacle to successful family involvement but it is not the only roadblock. Parents are not always certain about how they can and should be involved in their children's education. It is a very important part of a teacher's job to communicate clearly and openly with families about their roles. In a poll by the Research Association for the Public Education Network, only 47% of parents reported time as a barrier to their participation. However, 48% said that they were not given the opportunity to become involved, did not know how to become involved, or felt that their individual involvement did not make a difference (Fege, 2000).

When the home and school environments are not the same, another barrier arises. For the children, the most predictable reaction would be for them to embrace the more familiar home culture and reject the unfamiliar school culture, including the vital academic components and goals (Liontas, 1998). The same could be true for the parents.

If the school environment does not bring comfortable feelings to the parents, they are more likely to avoid the school altogether.

Based on the parent surveys done by Dauber and Epstein (2001), parents who are better educated are more involved. Therefore, a lack of education may be considered a barrier. The survey results also indicated that parents with fewer children are more involved with their children at home, once again indicating a potential barrier of having many children. Some of the barriers could be caused by the school personnel (Brady, 1999). The attitudes of the teachers and/or principals as well as the overall atmosphere of the building can cause a barrier to emerge if the families are not made to feel comfortable.

Teachers' Influence on Family Involvement

Many research studies have concluded that family involvement is an important component for children's success in school (Britto & Brooks-Gunn, 2001; Desimone, 1999; Griffith, 1998). Therefore, the question is asked, IF families are so important, HOW can schools and communities help more families become involved and stay involved in their children's education, especially parents who would not typically become involved on their own (Epstein, 2001)? One way for teachers to encourage family involvement is to be positive and have a good attitude about the involvement. Dauber and Epstein (2001) reported that the attitudes and practices of the teacher and other school personnel determined the level of family involvement over other characteristics such as parental education, marital status, or socioeconomic level.

Ongoing two-way communication is one way for teachers to influence a family's involvement. A review of national data done by Simon (2001) indicated that reaching out

to parents through written and verbal communication positively influenced their attendance at school functions and involvement as a school volunteer. According to Moles (1999), teachers should make positive contact with the families of their students' early in the school year to positively influence the families' perception of contact with the school.

Because time has been shown to be one of the greatest barriers to a family's involvement, it is important to work towards avoiding the barrier by being flexible. Teachers can consider scheduling conferences in the evening as well as during the day and scheduling school events at different times of day throughout the school year (Brown, 1989). The busy schedules of students' families make attendance at conferences or school events more difficult unless accommodations are made for them. A publication by the Department of Education in the state of Iowa (1998) included a suggestion that schools have at least one opportunity each month for families to get acquainted with the schools. Family members should feel welcome on the school campuses and the opportunities they have to be at the schools will improve their comfort level and increase their involvement.

Conferences and other school events are strategies to use for maintaining continuous two-way communication between the home and the school. Other communication strategies could be practiced regularly, including written correspondences, phone calls, or home visits (Barbour & Barbour, 2001; National Reading Panel, 2000). Within these communications, families could be given suggestions for how to help their children with literacy-learning at home. In a survey of parents administered by Epstein (1986), 80% of the parents said they could spend more time helping their children at home if they were

shown how to do specific learning activities. Home visits can prove beneficial because when children view their parents and teachers working together, they tend to develop a more positive attitude towards school and learning (Bell, 1996).

Literacy Skills

Literacy Defined

In the past, a classroom teacher's daily schedule showed a time set aside for reading and a time set aside for writing. In today's classrooms, the schedules now read "Literacy Block" (Whitehead, 2002). What used to be categorized as reading and writing has now emerged into something much more integrated. The National Literacy Act of 1991 described literacy as "an individual's ability to read, write, and speak in English, compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and to develop one's knowledge and potential" (Brady, 1999, p. 9). More recently, in his book *Developing Language and Literacy with Young Children*, Whitehead (2002) defined literacy as the ability to read and write a language or languages. With many other definitions found in the literature, the most common strand continues to be an emphasis on reading, writing, and speaking.

A discrepancy occurred in the verb used to describe what happens with the reading, writing, and speaking. Some defined literacy as learning to read and write (Dickinson & Snow, 1987) while others defined literacy as knowing how to construct meaning through reading and writing (Owocki, 2001). Howes (2003) stated that parents of children in the pre-reading stage either view literacy as an activity engaged in for the purpose of enjoyment or as a set of skills that need to be acquired. The verbs used by various researchers to define literacy may have been different, but the purpose of literacy

remained constant. Literacy is not solely for the purpose of schooling, but is instead an aspect of living and prospering within a community (Whitehead, 2002).

Components of Literacy

Referring to literacy as reading, writing, and speaking is sufficient for definition purposes, but more specific characteristics are needed in order to determine the skills children need to acquire in order to read, write, and speak effectively. In this review of literature, 20 different components of literacy were discovered. The 20 components, ranging from alphabet naming and pretend reading (Britto & Brooks-Gunn, 2001) to phonological sensitivity and word decoding (Burgess, Hecht, & Lonigan, 2002) were listed together and then sorted into categories. By combining similar ideas, I feel confident that the 20 components can be combined into five categories. The five literacy categories (components) are (a) reading and comprehension, (b) oral language and listening, (c) letter and sound knowledge, (d) phonological awareness, and (e) print concepts and emergent writing.

Reading and comprehension seems to be one of the most automatic components to be included in the concept of literacy, and it is also one of the most important. In fact, it has been reported that reading aloud to children is the single most important activity for building skills required for their future success as a reader (Hiebert, Pearson, Taylor, Richardson, & Paris, 1998). Several researchers have found that children from lower socioeconomic homes actually benefit more from being read to than children from other social classes (Henderson, 1994). Reading stories with young children can be enhanced when the children are encouraged to discuss, retell, and experience the stories. According to Adams (1990), it is the reading as an activity on its own during which children learn

words from the story context, and it is this learning words from the story context that accounts for approximately one-third of the new vocabulary words children are expected to learn each year.

Involving children in stories leads directly into their development of oral language. Building a strong foundation in oral language is a prerequisite for learning to read and write later in life (Lilly & Green, 2004). The crucial foundation for oral language begins in the child's home. Based on their three-year longitudinal study, Hart and Risley (1995) reported that in a "welfare" family, a child hears a total of only 616 spoken words in an average hour, while in a "professional" family a child hears a total of 2,153 spoken words in an average hour. The difference of 1,537 words each hour leads to an academic gap. Strategies for filling the gap of oral language include exposure to varied vocabulary that allows children to build the content knowledge that is critical for their learning to read (Neuman, 2001).

Oral language has strong connections to future reading success. However, a pre-reader's letter knowledge has been reported as being the single best predictor of first-year reading success (Adams, 1990). Chall (1967) reported a finding that knowledge of letter names correlated with early reading ability. While most children enter kindergarten with some knowledge of the letters of the alphabet, many at-risk children come with little or no knowledge of the alphabet (Adams, 1990). Children can learn these letters and sounds by singing alphabet songs, saying and hearing alphabet poems, and manipulating magnetic letters (Strickland, 1998). Through appropriate experiences such as these, children will be more likely to learn the skills they need to become successful readers.

Becoming a successful reader also requires strong phonological awareness. Studies have shown that when a child has a high level of phonological awareness, he/she will perform more successfully when learning how to read (National Reading Panel, 2000). Well-developed phonological awareness is the ability to hear phonemes, to discriminate between different phonemes, and to produce phonemes. It includes various levels covering the skills of detecting, isolating, manipulating, blending, or segmenting phonemes, syllables, or words. An additional phonological awareness concept is the ability to both recognize and produce rhyming words. A child with poor phonological awareness skills will struggle to read and will struggle to recover (Adams, Foorman, Lundberg, & Beeler, 1998). Exposure to songs, poems, and rhyme on a regular basis will help children become more comfortable with the phonological awareness needed for reading success.

The final component of literacy as defined for this review is print concepts and emergent writing. All children are writers, but some of them are not yet aware of it. Before the age of 3, most children's experiences with writing consist of random scribbling. The scribbling eventually begins to look more and more like the letters of the alphabet and eventually it is the correct formation of the letters. When working with young children, it is interesting to note that they benefit from using inventive spelling (writing sounds they hear) instead of having an adult spell for them (Clarke, 1988). Graves and Stuart (1985) would also emphasize to adults that young writers learn more when they view the writing process as purposeful. One example of purposeful print is environmental print, such as labels, signs, or food containers (Neuman & Roskos, 1993).

Children should be allowed to explore and experiment with their own writing while also observing adults using writing in day-to-day life (Whitehurst, 2001).

Listing the five components of literacy separately should not detract from the close connection that they have with each other. They are tightly interwoven together and each individual component has strong associations with the other four. For instance, when reading a story, children are exposed to reading as they hear the text (Godwon & Perkins, 2002), oral language as they discuss or retell the story (Owocki, 2001), letter and sound knowledge and print concepts as they interact with the letters and words on the page (Whitehead, 2002), and phonological awareness as they hear the rhymes, alliterations, and rhythm of the text (Dickinson & Snow, 1987). One goal of literacy development is for all children to enter into society as literate individuals. The five components work simultaneously to make this a reality.

Importance of Literacy

When the National Reading Panel convened in 1997, an intense examination of literacy research ensued. Of the documents reviewed, only 15,000 were published prior to 1966, with an additional 100,000 publications since that time. Based on this information, it becomes clear that more attention is being directed to the area of early literacy. The increased attention brings with it new funding initiatives that can expand research in the area of early literacy (Dickinson & Tabor, 2002), and it also brings heightened visibility putting early literacy in the spotlight (Meisels, 1999).

More often teachers are reporting that the children who enter into their kindergarten classrooms do not have the literacy skills they need to have success in school (International Reading Association, 2002). Students' lack of literacy skills could be

related to the fact that the average child spends 40 hours a week in front of a television (U.S. Department of Education, 1999). A study by Clarke and Kurtz-Costes (1997) of low-income African-American families found that time spent watching television was negatively associated with preschool children's performance on school readiness measures as well as negatively associated with the educational quality of the home learning environment. Conversely, Murphy (1991) learned that watching educational shows, such as Sesame Street, might have a positive impact on a young child's school readiness skills. Perhaps the time spent watching television should not be the focus, but instead the particular selection for viewing.

Narrowing the Literacy Focus

All five of the previously mentioned literacy components have research supporting their importance. For the purpose of the present study, the two components of letter and sound knowledge and phonological awareness were the focus. In the literature reviewed, the components of reading and comprehension and oral language were most often considered when referring to a family's involvement in education. Therefore, due to the limited resources on the topic, the present study attempted to add information to the research base.

The majority of information on letter and sound knowledge and phonological awareness provides suggestions for classroom use. The National Reading Panel (2000) stressed that time spent engaged in phonological awareness training was one cause of a child's improvement in phonemic awareness, reading, and spelling. Interestingly, Bradley and Bryant (1985) reported that interventions designed to promote reading skills are most powerful when the training includes both phonological awareness and letter and sound

knowledge together. In fact, the National Reading Panel (2000) discovered that focusing too much on the letter-sound relationships without actually using the sounds for a purpose is not as effective. Both of these literacy components were reported as being strong predictors of how well a child will learn to read during his first two years of schooling (National Reading Panel, 2000).

Kindergarten Literacy

The literacy curriculum in kindergarten was described in a 1991 article as covering such skills as letter recognition, letter formation, basic print concepts, sound/symbol relationships, counting, and number recognition (Purcell-Gates & Dahl, 1991). In just the last decade, the initiation of formal reading instruction has been taken from the primary grades and is now taking place in kindergarten classrooms (Saracho & Spodek, 2002). In addition, kindergarten classes now include children who have been in group settings prior to entering school as well as children whose initial schooling experience is the first day of kindergarten. In this critical year for laying the foundation of education, teachers are challenged with having children with varying levels of knowledge about printed language (International Reading Association, 1998).

The learning that takes place in kindergarten is strongly related to future academic success. According to research by Dickinson and Tabor (2002) scores that kindergartners achieved on receptive vocabulary, narrative production, and emergent literacy were highly predictive of the students' reading comprehension and receptive vocabulary scores when they reached the fourth and seventh grades. The National Association for Educators of Young Children (1990) embraced a similar view that the determining factor for when a

child is ready for school rests in how the child performs on readiness assessments in the kindergarten classroom.

Educators and family members view the importance of the kindergarten classroom differently. In a study of teacher and parent views, it was reported that the two groups agreed that listening, feeling confident, and following directions were important skills to be learned in kindergarten. However, parents ranked reading, writing, and counting higher than the teachers (Knudsen-Lindauer & Harris, 1989).

Establishing a Home Literacy Environment

As mentioned earlier, the attention in the field of literacy has been directed lately towards younger and younger children. Literacy learning is a continuous process that begins at birth so from day one of a child's life, his/her family is developing a home literacy environment (Lily & Green, 2004). Brady (1999) reported that a student's home environment has more impact on his/her achievement than any other factor. A study by Burgess, Hecht, and Lonigan (2002) suggested that the home literacy environment was significantly related to achievement in the literacy areas of oral language, phonological awareness, and word decoding.

Similarly, Bempechat (1990) reported that a stronger correlation was found between achievement and family background and home environment than between achievement and the quality of the school. This does not come as a surprise, considering the research finding that the most accurate predictor of a student's achievement in school is not income or social status, but the extent to which the family is able to (a) create a home environment that encourages learning; (b) express high, realistic goals and expectations for the child's achievement; and (c) become involved in their child's education at school

(National Parent's Day Coalition, 1998; San Diego County Department of Education, 1997). Based on these reported findings, the home literacy environment is critical to a child's acquisition of literacy knowledge.

One item found in literacy-rich homes is a library of books. According to research by Tracey (1995), parents reading to their children is the best known, most recommended parental practice that is related to positive attitudes and reading achievement. Actually, the availability of reading material in the home, whether owned or borrowed from the library, is directly associated with children's achievement in reading comprehension (U.S. Department of Education, 1994).

Reading books is not the only activity family members can do together to enhance literacy development. According to the International Reading Association (1998), a young child's knowledge of nursery rhymes is related to more abstract phonological knowledge and reading later in life. Families can read and sing nursery rhymes together to enhance literacy. Additionally, counting and identifying letters using print in the environment or manipulative letters can help strengthen the literacy environment in the home (Whitehead, 2002). Revisiting the results of Dauber and Epstein's survey (2001), 80% of families reported that they would help their child more if they were given guidance and instruction on how to help. Dauber and Epstein suggested that educators provide ideas and strategies that can maximize the potential of the home learning environment for kindergarten children and their early literacy development.

Summary

Throughout this review of literature, family involvement was defined as an interaction between family members and children for the purpose of overall development.

Benefits, such as improved academic achievement, and barriers to the involvement, such as lack of time, were listed, in addition to a variety of family involvement practices. It was discovered that most families are willing to implement strategies to help their child achieve if they are given direction on how to proceed. The role of the educator plays a big role in influencing the family's involvement through ongoing communication, positive relations, and continual sharing of ideas.

The area of literacy was broken down into five different components, two of which, letter and sound knowledge and phonological awareness, were the focus of the present study. While the overall topic of literacy has been used very often lately, the two specific literacy topics mentioned above are less addressed in recent research, leading in that direction for the purpose of this study.

The family's involvement in the area of literacy, with a focus on the development of a home literacy environment, was emphasized. Various researchers pointed out the importance of reading with children, engaging in literacy activities, attending literacy-related events to learn about at-home activities, and screening of television viewing as means of improving the home literacy environment.

The present study investigated the home literacy environments that are established through reading with children, engaging in literacy activities, and having literacy materials provided, along with the families' participation in literacy-related events at school. The literacy concepts of letter and sound knowledge and phonological awareness were assessed to analyze the relationship between involvement in the activities and literacy achievement.

Chapter Three: Methodology

The primary purpose of the present study was to determine the strength of different family involvement activities in predicting kindergarten students' gain scores on three literacy assessments. The family involvement variables emerged as the participating families engaged in four literacy-related activities. The four activities were (a) reading with children; (b) engaging in literacy activities; (c) having literacy materials provided; and (d) participating in literacy-related events at school. The literacy assessments included the Alphabet Letter Recognition Inventory (ALRI), Test of Early Reading Ability–3 (TERA-3), and Dynamic Indicators of Basic Early Literacy Skills (DIBELS). Therefore, the main research question was: To what extent can kindergarten students' ALRI, TERA-3, and DIBELS gain scores be explained by participation in family involvement activities?

A secondary purpose of the study was to determine which of the four family involvement activities was the strongest predictor of kindergarten students' literacy achievement as measured by the aforementioned assessment tools. The secondary research questions included: Which family involvement activities are the strongest predictors of gains in kindergarten students' letter and sound knowledge? and Which family involvement activities are the strongest predictors of gains in kindergarten students' phonological awareness?

The present study took place within the context of the Early Literacy and Learning Model (ELLM). The Early Literacy and Learning Model is a research-based early

literacy program designed to improve the language and literacy skills of 3-year-old, 4-year-old, and kindergarten children who live in low-income communities and who are often at risk of academic failure (Florida Institute of Education, 2004). The two elementary schools chosen as implementation sites for this project were selected due to their involvement with the Early Literacy and Learning Model (ELLM).

This chapter includes a discussion of the research design used, an explanation of the research instruments used as measurement tools, and a description of the site and sample chosen for the study, along with the rationale behind the selection, and a detailed account of the research procedures followed throughout the study. The procedures for data collection, management, and analysis for this study are also explained in this chapter. This chapter is concluded with an explanation of how informed consent was obtained from the participating families along with how the Institutional Review Boards of both The University of North Florida and the Duval County Public Schools granted approval of the study before data collection began.

Research Design

The present study compared the letter and sound knowledge and phonological awareness of kindergarten students before and after they experienced specific family involvement activities. The study was done using a correlational design, as described by McMillan and Schumacher (2001). Kindergarten children were given three literacy assessments to measure their knowledge of letters and sounds along with their beginning level of phonological awareness. The three assessments, to be described in detail in a later section, include the Alphabet Letter Recognition Inventory (ALRI), Test of Early

Reading Ability-3 (TERA-3), and Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

Throughout the study, all of the participating children and their families had the opportunity to experience three types of family involvement activities (reading with children, engaging in literacy activities, and participating in literacy-related events at school). One randomly assigned group of children was also given literacy materials and, therefore, had the opportunity to experience a fourth family involvement variable of having literacy materials provided. For simplicity's sake the term *materials group* will be used to refer to the children who received literacy materials and the term *no materials group* will be used to refer to the children who were not provided with literacy materials.

Following the 15 weeks from January 21 to May 6, 2005, with each child receiving a different amount of exposure to the four literacy-related activities, the kindergarten children were given the initial three assessments as posttests to once again measure their knowledge of letters and sounds and their level of phonological awareness. The timing and organization for the events of the study are shown in Table 1.

The gains made by students from the pretest to the posttest were calculated and correlated with the amount of their participation in the four types of literacy-related involvement activities. Specifically, predictive correlational analyses were performed using multiple regression analysis. The nine gain scores (ALRI; TERA-3 Alphabet, Conventions, Meaning, and Reading Quotient; and DIBELS Letter Naming Fluency, Initial Sound Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency) served as the dependent variables for the nine analyses. Predictor variables included the four family involvement variables of time spent reading with children, time

TABLE 1

Timing of Pretest, Posttest, and Interventions

Pretest	Family Involvement Activities	Posttest
January – Alphabet Letter Recognition Inventory (ALRI)	January 21 – May 6 **All Participating Children (*Materials* and *No Materials*)** □ Reading with children □ Engaging in literacy activities □ Participating in literacy-related events at school	May – Alphabet Letter Recognition Inventory (ALRI)
October – Test of Early Reading Skills – 3 (TERA-3)		May – Test of Early Reading Skills – 3 (TERA-3)
November/January– Dynamic Indicators of Basic Early Literacy Skills (DIBELS)	**Additional Activity for *Materials* Group** □ Having literacy materials provided	April – Dynamic Indicators of Basic Early Literacy Skills (DIBELS)

spent engaging in literacy activities, having literacy materials provided, and time spent participating in literacy-related events at school. These analyses were used to address this study's five substantive research questions as presented in Chapter 1.

Generally speaking, a multivariate statistical procedure (e.g., canonical correlation) would have been considered appropriate for a study of this type. Multivariate procedures allow for simultaneous consideration of all dependent variables within a single analysis (Stevens, 1996). However, a multivariate design was not feasible for this study due to the limits of the sample (i.e., small sample size, lack of heterogeneity). Consequently, multiple regression analysis (which allows for predictive modeling while simultaneously

allowing for smaller sample sizes due to consideration of only one dependent variable at a time) was the most appropriate alternative.

Research Instruments

Assessors other than the researcher administered the three literacy instruments at appropriate pretest and posttest points in time. Trained assessors from The Florida Institute of Education administered two of the literacy measures, the Alphabet Letter Recognition Inventory, and the Test of Early Reading Ability – 3. The researcher was provided assessment results for both the pre- and posttest from the Florida Institute of Education. Appropriately trained employees within the school administered the third literacy assessment, Dynamic Indicators of Basic Early Literacy Skills (DIBELS), and copies of the results were provided to the researcher.

Measures of Literacy Knowledge

Alphabet Letter Recognition Inventory. To assess the children's letter and sound knowledge, an alphabet recognition test was administered using a pretest/posttest design. The Alphabet Letter Recognition Inventory (ALRI) is a locally designed instrument intended to assess the students' knowledge of letter recognition and as a result guide the teachers' instruction of letters of the alphabet. The assessment requires that the students attempt to recognize all 52 letters of the alphabet – 26 uppercase and 26 lowercase. The letters are presented to the students in a non-alphabetic order. The order of presentation is the same for the pretest and the posttest as well as the same for the uppercase letters and the lowercase letters.

The assessment does not end after a designated number of incorrect responses. Instead, each child is shown all 52 letters and asked to respond. Because of the

individualized administration procedures, the time required for each assessment varies by child. However, the ALRI assessment administered for the present study required between two and six minutes per child. The results provide the teachers with individual analysis of which letters each child knows as well as a class profile combining the letter knowledge of all students. The ALRI variable was entered as an interval measure with the actual number of correct letters named as the variable. The score can range from 0 – 52 depending on the total number of upper- and lowercase letters identified.

Test of Early Reading Ability –3 (TERA-3). Another assessment tool used for measuring the students' knowledge of the alphabet, sound-letter correspondence, and phonological awareness was the Test of Early Reading Ability –3 (TERA-3) (Reid, Hresko, & Hammill, 2001). The TERA-3 has three subtests, Alphabet, Conventions, and Meaning, which are reported individually. A fourth score, the Reading Quotient, is a compilation of the other three subtest scores combined.

The items on the Alphabet subtest measure the student's letter name knowledge, ability to determine the initial and final sounds in printed words, and awareness of letters presented in different, and sometimes unfamiliar fonts. The Alphabet subtest also measures the student's ability to recognize the number of sounds (phonemes) and syllables in a spoken word. Counting phonemes and syllables are two significant areas of phonological awareness.

The Conventions subtest addresses a child's knowledge of conventions of print. Such concepts as knowing where to begin reading, knowing the correct orientation of letters, and understanding proper punctuation use are included. The third subtest, Meaning, addresses the skill of comprehension. An emphasis is placed on vocabulary and sentence

structure (Reid, Hresko, & Hammill, 2001). Once again, the fourth score, the Reading Quotient, is the sum of the three subtests.

The TERA-3 subtest scores are reported as norm-referenced, standardized scores with a mean of 10 and a standard deviation of 3. The TERA-3 Reading Quotient scores are reported as norm-referenced, standardized scores with a mean of 100 and a standard deviation of 15 (Reid, Hresko, & Hammill, 2001). The four sets of pretest and posttest scores were made available to the researcher as raw scores and were treated as interval variables and input into the SPSS file as such. The raw scores were more conducive to the process of calculating accurate gain scores for the purpose of this study.

The reliability coefficients for scores on the TERA-3 ranged from .91 to .99, indicating high reliability (Reid, Hresko, & Hammill, 2001). In addition, based upon the work of Anastasi and Urbina (1997), the TERA-3 also provides valid results. Validity was assessed for content-description, criterion-prediction, and construct identification. Content-description validity was confirmed as developers of the TERA-3 reviewed existing research, compared skills assessed to reading behaviors, asked experts to perform an item analysis, and initiated a differential item functioning analysis to ensure the absence of bias. The criterion-prediction validity was confirmed first through a correlation with the subtests of the TERA-2 followed up by a correlation with other reading assessments. The magnitude of the resulting coefficients supports the criterion-prediction validity of the TERA-3. Finally, the construct-identification validity was confirmed using correlation with age and measures of school achievement. Additionally, the relationship between TERA-3 subtest measures was considered. The high correlation

results supported the construct-identification validity of the TERA-3 assessment (Reid et al., 2001).

Dynamic Indicators of Basic Early Literacy Skills (DIBELS). DIBELS is an assessment system designed to assess students' progress in early literacy in a time efficient manner (Dynamic Indicators of Basic Early Literacy Skills, 2004). The DIBELS assessment was designed to be administered at the beginning, middle, and end of each academic year. The local school district chooses to implement an additional assessment period so that the DIBELS takes place four times each school year. Each testing session, presented in a one-on-one setting, is timed resulting in a total testing time of 10 minutes per student. For the purposes of the present study, the second, third, and final administrations of the DIBELS assessment were used to calculate the kindergarten students' gain scores. The reading coaches at the respective schools conducted the DIBELS assessments. The researcher was provided assessment results directly from the coaches.

Four different literacy concepts were assessed throughout the kindergarten school year using the DIBELS assessments. These included Letter Naming Fluency (LNF), Initial Sounds Fluency (ISF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency (NWF). The first, LNF, assesses letter and sound knowledge, the second, ISF, assesses both letter and sound knowledge and phonological awareness, while the other two, PSF and NWF, assess a child's phonological awareness. Each administration of the DIBELS assessment included two to four of these concepts. The timing of each DIBELS assessment as it took place during this study is shown in Table 2.

Table 2

Timing of DIBELS Assessments

	DIBELS Assessment Two November	DIBELS Assessment Three January	DIBELS Assessment Four April
Letter Naming Fluency (LNF)	X	X	X
Initial Sound Fluency (ISF)	X	X	
Phoneme Segmentation Fluency (PSF)		X	X
Nonsense Word Fluency (NWF)		X	X

Administration of the Letter Naming Fluency portion of the DIBELS assessment requires that the student is shown the letters of the alphabet in a random order and is asked to name as many letters he/she can in a one-minute time period. The score is reported as the number of letters recognized correctly within a one-minute time limit. This assessment occurred during each DIBELS session used for the purpose of this research.

The Initial Sound Fluency measures a child's ability to both recognize and produce the beginning sound of a given word. The goal for a kindergarten student in the initial sounds fluency section is 25 or more initial sounds per minute by the third assessment. The Initial Sound Fluency took place during the second and third assessment of the kindergarten year.

Phonemic Segmentation Fluency measures a child's ability to produce individual sounds within a given word. The goal for the PSF section is for the student to recognize 35 or more phonemes per minute by the final assessment of the kindergarten year. Nonsense Word Fluency assesses a child's ability to blend letters together to form unfamiliar words. The Nonsense Word Fluency assessment remains optional until the final assessment when 20 or more letter sounds per minute are expected (Dynamic Indicators of Basic Early Literacy Skills, 2004). Both the Phoneme Segmentation Fluency and Nonsense Word Fluency took place during the third and final DIBELS assessment sessions. While not every aspect of phonological awareness was addressed, the measure of phoneme segmentation fluency is a reliable indicator of the child's overall development in phonological awareness (Dynamic Indicators of Basic Early Literacy Skills, 2004).

Each area of the DIBELS assessment produced interval data. The interval variables were used as such when entered into the SPSS file. Each measure on the DIBELS assessment has been thoroughly researched and yields scores that are reliable and valid indicators of early literacy development and predictive of future reading proficiency (Dynamic Indicators of Basic Early Literacy Skills, 2004).

Measures of Family Involvement

The four family involvement variables to be measured included the following:

1. Reading with children
2. Engaging in literacy activities
3. Having literacy materials provided
4. Participating in literacy-related events at school

The first two family involvement variables listed above were the responsibility of the families to report. Each Friday during the 15-week project, the children took home a new

ELLM Home Literacy Bag. One of the items inside of the bag was a folder containing the weekly ELLM Home Literacy Log (see Appendix A). Families were asked to keep track of the number of minutes they spent each day reading to their children (variable one) and the total number of minutes they spent each day engaged in literacy activities (variable two). A stopwatch was provided to each family to help them keep track of their time. Families were asked to return the completed Home Literacy Log each Friday when the next week's Literacy Log would be sent home.

The third family involvement variable, having literacy materials provided, was determined by randomly assigning one group of children to receive literacy materials in their ELLM Home Literacy Bag each week. The randomization and selection processes are explained in detail in a later section along with how the variables were created and organized in the data set.

The final family involvement variable of participating in literacy-related events at school was monitored by attendance sign-in sheets at each meeting. Each meeting was one-hour long so the total number of minutes was calculated by multiplying the number of meetings attended by 60 minutes.

Selection of Site and Sample

The families of 101 kindergarten children from five different classrooms in two inner-city urban elementary schools were invited to participate in the study. The first school had two kindergarten classrooms and was considered to be a neighborhood school with only 15% of its population being bussed to school. Of the 400 students enrolled, 92% qualified for free or reduced lunch based upon family income. The second school had three kindergarten classrooms and of the 450 students enrolled, 90% qualified for free or

reduced lunch based upon family income. The five kindergarten classrooms used for the study were taught by teachers with varying degrees of experience but each of whom was involved in the ELLM early literacy program and received weekly visits from the school's ELLM Literacy Coach. Each of the five classroom teachers has earned her Bachelor's Degree in Education.

As a part of the ELLM program, parental consent forms for participation in ELLM assessments were sent home in September with all of the children in the five kindergarten classrooms. Only those students with returned consent forms (68 children) were assessed using the TERA-3 assessment. Of the 101 kindergarten families invited to participate in the Learning the ABCs project in January, 74 families returned a signed consent form for the project, 20 families returned no consent form, 2 families returned a consent form requesting not to participate, and 5 children withdrew from school during the 15-week project. Any child enrolling in school during the 15-week project was invited to participate with the ELLM Home Literacy Bags, and these numbers were included in the total of the 101 invited children. Therefore, the number of children included in the analysis of literacy results varied due to the availability of pre- and posttest results, as some children were not enrolled in school at the time of the pretest. As a result, the analysis of TERA scores included 64 students, and the analysis of DIBELS scores included 66 students.

Research Procedures

Organization and Development

The participating kindergarten children were randomly assigned to one of two intervention groups. It was the desire of the researcher that the children within each

classroom received the same intervention. Therefore, the two intervention groups were randomly assigned using cluster sampling of the five classes instead of by individual children. The separation of the five classes into two intervention groups was done to ensure that the two intervention groups were as equal in number as possible. When the randomization process was taking place, the researcher took into account only the 68 students who had previously returned a permission slip for inclusion in ELLM assessments, as mentioned earlier. To equalize the groups as closely as possible, one intervention group consisted of the three classrooms with 11, 12, and 13 returned consent forms to equal a total of 36 students. The second intervention group consisted of the two classrooms each of which had 16 returned consent forms, to equal 32 students (Table 3).

Table 3

Intervention Groups

Intervention	School	Class	Number of students with returned consent forms	Total number of students in group
One	1	A	11	36
	1	B	12	
	2	D	13	
Two	2	C	16	32
	2	E	16	

The intervention assigned to each of the two groups was chosen randomly with intervention group one receiving ELLM Home Literacy Bags that included literacy activities, books, and materials (*materials group*) and intervention group two receiving ELLM Home Literacy Bags that included only literacy activities (*no materials group*). It should be noted here that all of the 101 children were invited to take home a weekly

ELLM Home Literacy Bag. The numbers in Table 3 (68 children) include only those children whose literacy assessment results were used for the purposes of this study. A total of 99 children received weekly ELLM Home Literacy Bags for the 15-week project. Two families requested not to participate in the project. All children were allowed to keep the activities and/or materials that were provided in the ELLM Home Literacy Bag.

The specific literacy activities to be included in the weekly ELLM Home Literacy Bags were developed based upon the letter and sound knowledge and phonological awareness skills that are assessed on the three literacy instruments being used for this study (ALRI, TERA-3, and DIBELS). The literacy skills assessed using the three literacy assessments were compiled into a set of literacy standards for the purpose of the "Learning the ABCs" project. The standards are listed in Table 4.

Each week's ELLM Home Literacy Bag contained four literacy activities – two letter

Table 4

Literacy Standards

Letter and Sound Knowledge Standards	Phonological Awareness Standards
Recognizes and names all upper- and lowercase letters of the alphabet.	Recognizes beginning sounds and identifies whether two words begin with the same sound.
Connects sounds to letters.	Produces two words that begin with the same sound.
Manipulates letters to make words.	Segments syllables in words.
Recognizes and "reads" print in the environment.	Blends phonemes to form words.
	Counts phonemes by segmenting phonemes to read and write words.

Note. Standards were developed based on ELLM Literacy Performance Standards and standards and skills addressed by ALRI, TERA-3, and DIBELS assessments.

and sound knowledge activities and two phonological awareness activities. A Table of Specifications (see Appendix B) was created to lay out the literacy standards to be addressed in each activity throughout the 15-week project. Each of the four letter and sound knowledge standards was addressed in seven different activities through the course of the 15-week project. Four of the five phonological awareness standards were addressed six times each and the fifth phonological awareness standard was addressed four times in the 15-week project. The literacy activities for both the materials group and the no materials group addressed the same standards each week. The only difference was that the materials group was provided with books to read and literacy materials to accompany the activities.

The Table of Specifications (see Appendix B) listed the children's book and materials to be included in the materials group ELLM Home Literacy Bags. The children in this group received a different children's book each week in their literacy bags. As a part of the ELLM program there are 54 books that each classroom receives throughout the year. The 14 books chosen for the "Learning the ABCs" project came from the original ELLM list of 54 books. It was the desire of the researcher to provide books to the children and their families that were already familiar to the children.

Dissemination and Gathering of Information

Prior to implementation of the "Learning the ABCs" project, the researcher met with the principal and classroom teachers at each school. The project was explained along with the expectations of the school and the teachers. A signed consent form was requested of the two school principals and five classroom teachers (see Appendix C for school-based letters of consent). The classroom teachers were informed of their responsibilities for the

project. These responsibilities included providing student information to the researcher, disseminating project information to the families, and collecting ELLM Home Literacy Logs. The responsibilities of the principal were minimal. Principals were asked to aid in providing a place for the family meetings to be held and in scheduling the best times for the meetings to take place. Additionally, their support in gaining the kindergarten children's DIBELS results was requested. The reading coaches at the two schools were not included in the initial meeting. However, once the researcher realized the need for their input in gaining DIBELS results, the coaches were informed of the project and were asked to participate.

The classroom teachers were asked to provide their students' names, birthdates, gender, and family contact information. The researcher then attempted to contact each of the 101 families invited to participate prior to the implementation of the ELLM Home Literacy Bags. A total of 67 families were contacted either by phone or in person. The remaining 34 families were unable to be reached. When contacted, family members were informed of the ELLM Home Literacy Bags that would be coming home and were told that if they chose to participate in the project, they would receive a $25.00 gift certificate to a local discount department store in appreciation for their time in completing the ELLM Home Literacy Logs. Once again, any of the 101 families who chose to complete a literacy log received the gift certificate. The incentive was not limited to only those children who had signed a consent form for the ELLM assessment in September.

One of the family involvement activities being measured was the family's time spent reading with their child. The children in the materials group received a book in their ELLM Home Literacy Bag to make the act of reading at home more possible. The

children in the no materials group were not provided with a book. Therefore, prior to implementation of the "Learning the ABCs" project, the researcher worked with the teachers in the no materials group classes to ensure they had established an active Classroom Lending Library where children could check out books from the classroom to take home for reading with their families.

Learning the ABCs Project Implementation

During week one of the "Learning the ABCs" project, the children took home their first ELLM Home Literacy Bag in a canvas bag that was labeled "ELLM Home Literacy Bag." For the remaining weeks of the project, large sealable plastic bags were used for transporting materials from the school to the home. Each week's plastic bag had a label attached with the week number (e.g., ELLM Home Literacy Bag #3) and a detailed list of the items included in the bag. In addition, labels with the children's names were attached to the bags to increase the sense of ownership for the bag and to minimize confusion at the end of the day when materials were being transported home.

Inside of the bags each week were the four literacy activities for the week, a cover sheet with directions, and a green or yellow folder containing the week's ELLM Home Literacy Log. The materials group bags also contained a book and literacy materials to use with the activities. The first week's literacy bag contained an informed consent form and a stopwatch for the families to use throughout the project to make their timekeeping as easy as possible. Each child's weekly literacy bag continued to include an informed consent form until the child's form had been signed and returned. The literacy activity cards for weeks 2 through 14 also included a form with the researcher's name and phone

number inviting family members to call if they encountered a problem or had any questions about the literacy activities or the project in general.

The kindergarten children continued to take home a new ELLM Home Literacy Bag each Friday for 15 weeks and were asked to return the ELLM Home Literacy Log to school the following Friday. Reminders were sent home each Thursday concerning the logs.

Literacy-related school events were held on three occasions throughout the project. The literacy sessions took place once at the first school and then later that same week at the second school. The three different literacy sessions took place at different times of the day. The first session was at 6:00 pm and the second and third sessions were held at 1:30 and 2:00 pm, respectively. Refreshments were served at each meeting, and door prizes were given away. Information about each meeting was disseminated through the weekly ELLM Home Literacy Bags, separate communication between the teacher and family members, and communication from the school to the family through school newsletters. For each literacy session, all kindergarten children and their families were invited. Unfortunately, the attendance at the meetings was not very high. The number in attendance at the three literacy sessions was 3, 3, and 6, respectively.

Data Collection and Management

Copies of the 68 original consent forms for ELLM assessment were collected and placed into a notebook. In addition, pretest data for the ALRI and TERA-3 were collected from the Florida Institute of Education, and pretest data for the DIBELS were collected from the reading coaches at the two schools. The general data about the children

including name, birthday, gender, and family contact information were obtained from the classroom teachers. Collected data were then input into SPSS by the researcher.

During the first week of the "Learning the ABCs" project, each child took home an informed consent form (see Appendix D for parent/child informed consent) in his/her ELLM Home Literacy Bag. The informed consent included information about the project's implementation, including the fact that participants would receive a $25.00 discount store gift certificate in appreciation for their time. The returned consent forms were duplicated, and a copy was returned to the family for their records. The researcher placed the signed consent forms in the consent form notebook along with the original ELLM consent forms organized by class. After the first week of the project, any child who had yet to return a signed consent form had another copy sent home in his/her ELLM Home Literacy Bag. This process continued each week until a signed consent form was returned. There were 20 children who never returned a signed informed consent form. These participants were omitted from the analysis of data.

The first two family involvement variables of (a) time spent reading with children and (b) time spent engaging in literacy activities, were reported by family members using the weekly ELLM Home Literacy Log (see Appendix A). The ELLM Home Literacy Logs were created for each specific week including each day's date. Each week's log contained the same step-by-step procedures for the families to follow in completing the log. The log included two columns – one for reporting time spent reading with the child and one for time spent engaging in literacy activities with the child. Each child's ELLM Home Literacy Log was kept in either a green or yellow folder that was labeled, "Please return this folder and this week's completed ELLM Literacy Log to school this Friday." The

literacy logs were color coded so that the materials group (green group) had certain words printed in green and the no materials group (yellow) had certain words highlighted in yellow.

The children took home their ELLM Home Literacy Bags each Friday and were asked to return the folder with the week's completed ELLM Home Literacy Log the next Friday. This process continued for the duration of the 15-week project. Any ELLM Home Literacy Logs that were returned prior to Friday were sent back home by the teacher for the family to continue recording their time spent on reading and doing the activities. Any log returned after Friday was kept by the teacher and returned to the researcher on the next Friday.

Each Thursday, the classroom teachers sent home two reminders about returning the ELLM Home Literacy Log on Friday. The reminders, provided by the researcher, were written to include an emphasis on the gift certificate that would be received if the logs were completed and returned. The word *completed* was also highlighted to emphasize the need for a response on the log and not simply a returned blank log. One of the reminders was a paper bracelet to be placed on the child's wrist and the other reminder was a note to be attached to any other papers going home that day (see Appendix E for two types of reminders).

Each Friday when collecting the ELLM Home Literacy Logs and sending home new ELLM Home Literacy Bags, the researcher conversed with the children about any logs discovered missing. Children were asked questions concerning the folders and the logs, and whether they had been seen and used by the family. It was not uncommon for a child

to take the ELLM Home Literacy Bag out of his/her backpack and report that the activities had not been done at home.

When the ELLM Home Literacy Logs were returned each Friday, the reported number of minutes for reading with children and engaging in literacy activities were input into an Excel file. The Excel file was programmed to sum up the minutes reported for each day into a total for the week. At the end of the 15-week project, the 15 weekly totals were compiled into a total number for the entire project.

During the course of the project, observations were made concerning ELLM Home Literacy Logs that were not being returned or were being returned blank with no minutes recorded. Changes were made on the forms in an attempt to increase the response rate among the families. One change occurred on the ELLM Home Literacy Logs during week seven. Step three of the log instructed family members to "write in the number of minutes you spend each day (1) reading aloud to your child, and (2) doing literacy activities with your child." Beginning in week seven, the following statement was added. "If you spend zero minutes reading or doing an activity, please write a zero in the space provided instead of leaving it blank. Please return the form regardless of the number of minutes recorded." The statement was typed in all capital letters and was highlighted.

A second change that was made applied to the notes that were sent home each Thursday reminding families to return the log. The reminder notes beginning in week 10 stated, 'If you have not returned any home literacy logs yet – it is not too late to start! Please return your completed log this Friday and you will be eligible for a gift certificate."

For organizational and anonymity purposes, each child was assigned a code to be used for data input into SPSS instead of his/her name. The five classes were assigned a letter (A, B, C, D, or E). The children within each class were assigned a number 1-26. The children who had returned an original ELLM assessment consent form in September were assigned a number below 16, and those students added to the "Learning the ABCs" project without an original consent form were assigned the number 20 or above. The student's code was written on his/her ELLM Home Literacy Log each week. The ELLM Home Literacy Log was kept in a green or yellow folder. The child's name and code were written on the folder to ensure that the log was given to the correct child. The returned logs were placed into notebooks in order of the weeks and by class with no mention of a child's name.

The third family involvement variable of having literacy materials provided was coded in the data set based upon the randomly assigned groups. To distinguish between the materials and no materials groups, an additional variable was included in the SPSS data set. The variable of *material* was created, and the children in the materials group were assigned the number 1 to indicate that they had received literacy materials while the children in the no materials group were assigned a 0 to indicate that they had not received additional literacy materials.

The fourth family involvement variable, time spent involved in literacy-related events at school, was recorded using attendance sign-in sheets at each meeting. Each meeting was 60 minutes long, so the total number of minutes recorded for this variable was calculated by multiplying 60 times the number of meetings attended.

Data Analysis

At the conclusion of the study, descriptive statistics were computed for the variables from the study. Tables and figures representative of the aggregate Alphabet Letter Recognition Inventory (one score), Test of Early Reading Abilities – 3 (four subscale scores), Dynamic Indicators of Basic Early Literacy Skills (four subscale scores), and family involvement variables were generated. The pretest and posttest results for the literacy assessments were compared in order to determine the gains made by each student. In addition, a matrix of simple bivariate correlations was generated to study basic relationships among the variables of interest.

As previously noted, multiple regression was the analytic method of choice for determining responses to the study's five substantive research questions. All analyses utilized direct variable entry procedures, and any results found to be statistically significant ($p < .05$) have been followed up with analyses of regression structure coefficients to determine individual variable contributions to the analysis. Specifics of each analysis follow.

The original design for data analysis was to include four family involvement variables. However, the family involvement variable of time spent participating in literacy-related events at school was removed due to the lack of participation among the families. Of the 101 students invited to participate, only 10 families attended the sessions. Of these 10 families, only 6 were among the 68 children included in the study's data analysis. Each of the 6 families attended one meeting for a total participation across the study population of six hours. Therefore, when referring to the family involvement variables for the remainder of this chapter, only three will be mentioned.

Research Question One

Research question one queried the extent to which the ALRI gain scores can be explained or predicted by the collective set of family involvement variables (reading with children, engaging in literacy activities, and having literacy materials provided). The question was addressed by multiple regression analyses followed by computation of regression structure coefficients (Thompson & Borrello, 1985). These coefficients (a) express correlations between the predicted dependent variable scores and each predictor variable and (b) serve as reliable indicators of variable contributions to the overall predictive model. The ALRI gain scores served as the predicted dependent variable scores, and the three remaining family involvement variables served as the predictors.

Research Question Two

Research question two queried the extent to which the TERA-3 gain scores can be explained or predicted by the collective set of family involvement variables (reading with children, engaging in literacy activities, and having literacy materials provided). The question was addressed by multiple regression analyses followed by computation of regression structure coefficients (Thompson & Borrello, 1985). These coefficients (a) express correlations between the predicted dependent variable scores and each predictor variable and (b) serve as reliable indicators of variable contributions to the overall predictive model. The four individual TERA-3 gain scores served as the predicted dependent variable scores, and the three remaining family involvement variables served as the predictors.

Research Question Three

Research question three queried the extent to which the DIBELS gain scores can be explained or predicted by the collective set of family involvement variables (reading with children, engaging in literacy activities, and having literacy materials provided). The question was addressed by multiple regression analyses followed by computation of regression structure coefficients (Thompson & Borrello, 1985). These coefficients (a) express correlations between the predicted dependent variable scores and each predictor variable and (b) serve as reliable indicators of variable contributions to the overall predictive model. The four individual DIBELS gain scores served as the predicted dependent variable scores, and the remaining three family involvement variables served as the predictors.

Research Question Four

Research question four sought to address the relative predictive merit of the three family involvement variables (reading with children, engaging in literacy activities, and having literacy materials provided) in predicting kindergarten children's gains in letter and sound knowledge. The predicted dependent variable scores to be used for measuring kindergartners' letter and sound knowledge included the TERA-3 Alphabet, DIBELS Initial Sound Fluency, and DIBELS Letter Naming Fluency. This question was addressed by analyzing the regression structure coefficients for these three variables as produced in the analysis for research questions two and three.

Research Question Five

Research question five sought to address the relative predictive merit of the three family involvement variables (reading with children, engaging in literacy activities, and

having literacy materials provided) in predicting kindergarten children's gains in phonological awareness. The predicted dependent variable scores to be used for measuring kindergartners' phonological awareness included the TERA-3 Alphabet, DIBELS Initial Sound Fluency, DIBELS Phonemic Segmentation Fluency, and DIBELS Nonsense Word Fluency. This question was addressed by analyzing the regression structure coefficients for these four variables as produced in the analysis for research questions two and three.

Institutional Review Board Approval and Informed Consent

Approval for this study was first obtained from the Institutional Review Boards at The University of North Florida and the Duval County School Board (see Appendix F) prior to the collection of data. In addition, a meeting was held with the principal and classroom teachers at each elementary school. The study was explained to them and their consent for participation was requested and received (see Appendix C for school-based letters of consent).

The kindergarten students and families who became participants in the study did so voluntarily. A consent form was sent home with the children in their first ELLM Home Literacy Bag (see Appendix D for parent/child informed consent form). Signing the informed consent indicated the families' permission to allow their children's assessment results to be used for the purpose of this study. Failure to return an informed consent did not result in a lack of involvement with the ELLM Home Literacy Bags.

Because the ELLM program was being administered in these five classrooms, all kindergarten children received an ELLM Home Literacy Bag for the 15-week "Learning the ABCs" project regardless of informed consent, with the exception of two families

who requested not to be involved in the project. The signed informed consent form granted family members' permission for children's assessment results to be used in data analysis for this project. When a signed consent form was returned, a copy was made and returned to the family for their records. The kindergarten children continued to have an informed consent placed in their weekly ELLM Home Literacy Bags throughout the 15-week project until a completed form was returned. The consent form guaranteed families that assessment results would be kept confidential and would be tracked through a number assigned to each child instead of using the child's name. Any information gained about the individual families will continue to be kept confidential and not shared with another person.

Chapter Four: Findings

As previously stated, the primary purpose of this study was to determine the strength of four family involvement variables (reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school) in predicting kindergarten students' nine gain scores on three literacy assessments (ALRI – one score, TERA-3 – four scores, and DIBELS – four scores). The primary research question to be addressed was: To what extent can kindergarten students' ALRI, TERA-3, and DIBELS gain scores be explained by participation in family involvement activities?

A secondary purpose of the study was to determine which of the four family involvement activities was the strongest predictor of kindergarten students' literacy achievement as measured by the three literacy assessments mentioned above. The secondary research question was: Which family involvement activity is the strongest predictor of gains in kindergarten students' letter and sound knowledge and phonological awareness?

This chapter describes the data analysis process used by the researcher in addressing the study's purpose and research questions. Interesting observations made during project implementation are noted. The initial descriptive statistics used to inspect the accuracy and relevance of each variable are explained along with the relevant findings that emerged from the frequencies and graphs generated for each variable. The descriptive statistics include attention to variables that proved to be of interest but were not included

as a focus in the research questions. Each research question is addressed individually beginning with a brief discussion of the simple (i.e., bivariate) correlations indicating the relationships between all variables of interest. Finally, the findings related to each dependent variable are addressed through an explanation of multiple regression procedures and the analyses of regression structure coefficients.

Observations Made during Project Implementation

The main focus of this chapter will be on the findings directly related to the research questions. However, a few observations that were made throughout implementation of the "Learning the ABCs" project unrelated to any of the research variables will first be shared. One was related to the weekly literacy logs. As explained earlier, families were asked to keep track of the number of minutes they spent reading with children and engaging in literacy activities by writing the numbers on the log. Some families provided added details by giving specific information about what took place. One of the most unique involved a mother who reported that she spent 0 minutes one night but added that it was because the family had gone to dinner for her birthday. Another mother wrote down the number of minutes spent engaging in literacy activities and added the words "with dad" on occasion. Through personal contact with the mother she reported that she was a student so when she did her homework, the child and father worked on the activities in the ELLM Home Literacy Bag.

Over the course of the 15-week project, there were three occasions when a personal note was included in a child's returned folder. One mother wrote, "It helps parents know what skills to focus on more and what skills that need to be reinforced. Our whole family participated and we really had fun doing the activities." This same mother reported that

her child came to school each Friday very excited and filled with anticipation about which book he would receive in his ELLM Home Literacy Bag. Another mother stated that her child had lost the provided book so they read other books they already had in the home and included the time on the log.

Starting in week two of project implementation, a card was included in the set of literacy activities with a phone number for families to call if they encountered any problems or had any questions concerning the activities. None of the families chose to take advantage of the provided resource for the purpose of the activities. One family member did call at the end of week three to ask when she would receive her three gift certificates because she had returned three weekly logs. After informing her that one gift certificate would be delivered at the end of the project, all correspondences mentioning the gift certificate were edited to include the specific date of delivery.

Descriptive Statistics

The four family involvement and nine literacy variables listed above were closely examined for accuracy, relevance, and contribution to the study's purpose and research questions. Additional variables of child's age, number of returned logs, and number of logs returned with a response were also examined.

Family Involvement Variables

Reading with children. Descriptive statistics for the family involvement variable of reading with children are presented in Table 5. The range of time that the 66 participating families reported spending reading with their children was between 0 minutes and 5,003 minutes over the course of the 15-week study. Class A, a class in the materials group with 14 participants, reported the highest number of minutes spent reading with children for 13

of the 15 weeks. These high levels of reported number of minutes (weekly sums for all children in class A) ranged from 1,112 minutes to 1,537 minutes each week.

Table 5

Reading with Children Descriptive Statistics

N	Valid	66
	Missing	0
Mean		837
Median		462
Mode		0
Range		5003
Minimum		0
Maximum		5003
Percentile	25	164
	50	463
	75	1087

Class E, a class in the no materials group with 12 participants, reported the lowest number of minutes spent reading with children for 10 of the 15 weeks. These low levels of reported number of minutes (weekly sums for all children in class E) ranged from 127 minutes to 607 minutes (see Appendix G for reported number of minutes).

A bar graph comparing the average number of minutes each class spent reading is presented in Figure 1. The three classes with the highest number of reported minutes reading with children were classes A, B, and D, the three classes in the materials group, while the two classes with the lowest number of reported minutes reading with children were classes C and E, the two classes in the no materials group. Over the course of the 15-week study, the total number of minutes reading with children by all five classes combined was highest during week two (4,739 minutes) and lowest during week 15 (2,815 minutes). Three of the last four weeks of the study were the lowest overall for the

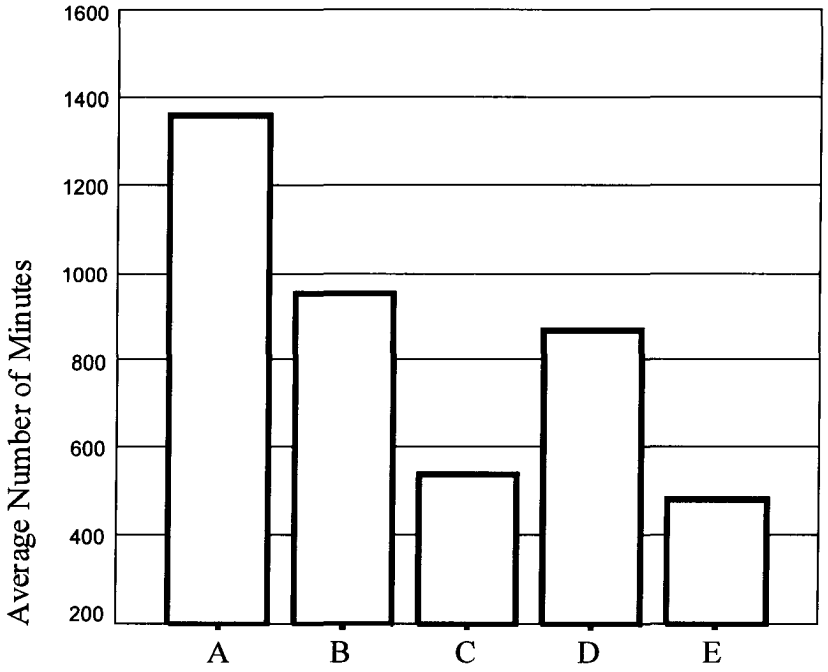

Figure 1. Average number of minutes read aloud by class with Class A, B, and D in the materials group and Class C and E in the no materials group.

family involvement variable of time spent reading (see Appendix G for reported number of minutes).

Engaging in literacy activities at home and having literacy materials provided. When the average number of minutes spent engaging in literacy activities *without materials* was compared to the average number of minutes spent engaging in literacy activities *with provided materials,* the three classes with the highest reported number of minutes were classes A, B, and D, the three classes in the materials group. In fact, the total number of minutes spent engaging in literacy activities over the course of the 15-week project was 14,642 for the families in the no materials group (28 children) while the families in the

materials group (38 children) engaged in literacy activities with the provided literacy materials for 43,300 minutes (see Appendix H for report of number of minutes).

The total number of minutes engaged in literacy activities by the families across the study was highest during week two (5,670 minutes) and lowest during week 15 (2,542 minutes). The last six weeks of the study made up four of the lowest overall responses for time spent engaged in literacy activities.

Participating in literacy-related events at school. As described previously, the fourth family involvement variable, participating in literacy-related events at school, was removed as a variable due to the lack of participation among the families. Of the 101 students invited to participate, only 10 families attended the sessions. Of these 10 families, only 6 were among the 68 children included in the study's data analysis. Each of the 6 families attended one meeting for a total participation across the study population of six hours.

Literacy Variables

Alphabet Letter Recognition Inventory. The ALRI pretest scores shown in Table 6 indicate that 89.5% of the children already recognized 48 of the 52 letters of the alphabet (upper- and lowercase) prior to their involvement in the project. As a result, the ALRI literacy assessment was removed as a literacy variable for this study due to a lack of potential variance between pre- and posttest scores.

Test of Early Reading Ability-3. TERA-3 pretest scores were available for 64 of the kindergarten children. The TERA-3 data set includes four gain scores, which are Alphabet, Conventions, Meaning, and Reading Quotient. Descriptive statistics of the TERA-3 scores (see Appendix I for frequency tables) show that of the 64 children, the

Table 6

ALRI Pretest Frequency Table

ALRI Score	Frequency	Cumulative Percent
52	**36**	**63.2**
51	**6**	**73.7**
50	**5**	**82.5**
49	**2**	**86.0**
48	**2**	**89.5**
44	1	91.2
43	1	93.0
41	1	94.7
39	1	96.5
38	2	100.0
Total	57	

following gains were made: on the Alphabet subtest, 4 children made negative gains and 4 children made no gains; on the Conventions subtest, 14 children made negative gains and 3 children made no gain; on the Meaning subtest, 9 children made negative gains and 9 children made no gain: and on the Reading Quotient, 6 children made negative gains and 1 child made no gain. The greatest gain was a gain of 32 on the Reading Quotient. A bar graph comparing the literacy gains of the five classes (presented in Figure 2) indicates that the average gain was the highest for class C on the Alphabet subtest and the Reading Quotient, class E on the Conventions subtest, and class D on the Meaning subtest.

Dynamic Indicators of Basic Early Literacy Skills. The data analysis involving DIBELS scores included 66 of the kindergarten children. The DIBELS data set included four gain scores, which are Letter Naming Fluency, Initial Sound Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency. Descriptive statistics of the DIBELS scores (see Appendix J for frequency tables) indicate that of the 66 children, the following gains were made: on Letter Naming Fluency, 16 children made negative gains and one child made no gain; on the Initial Sound Fluency, 20 children made negative

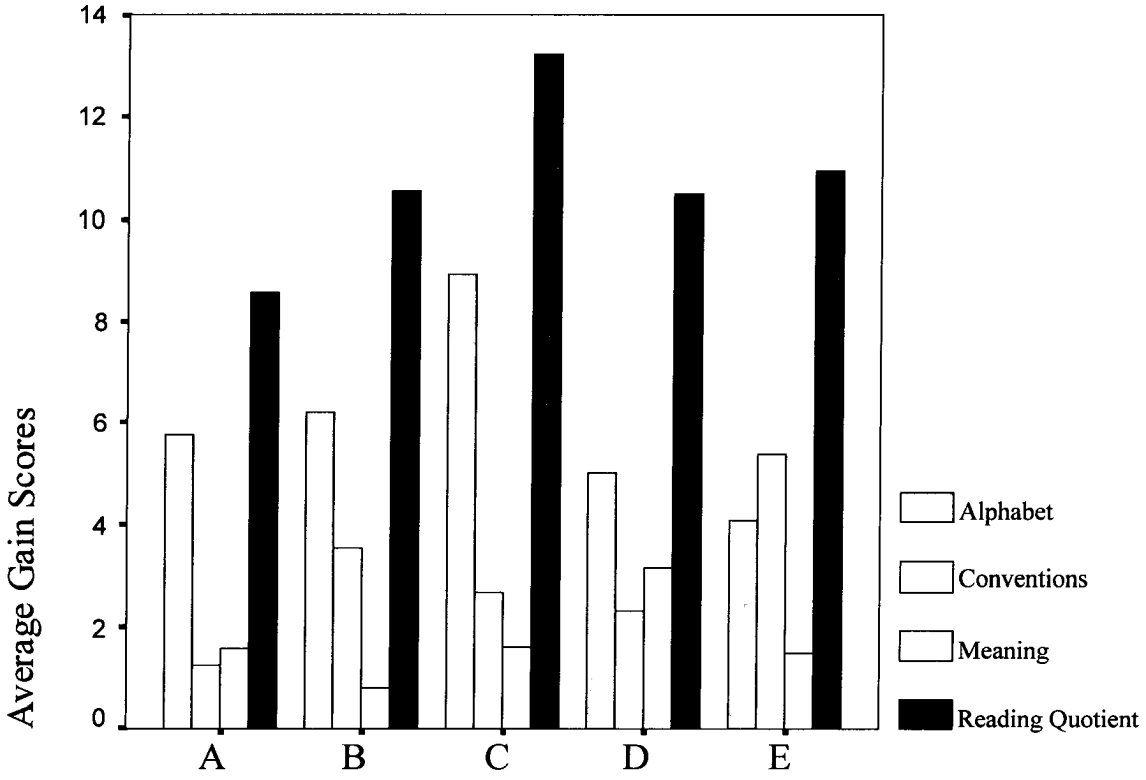

Figure 2. TERA-3 average gain scores by class with Class A, B, and D in the materials group and Class C and E in the no materials group.

gains and 4 children made no gain; on the Phoneme Segmentation Fluency, 30 children made negative gains and 3 children made no gains; and on the Nonsense Word Fluency, 14 children made negative gains and three children made no gain. The greatest gain was a gain of 51 on the Nonsense Word Fluency assessment. A bar graph comparing the literacy gains of the five classes (presented in Figure 3) indicates that the average gain was highest for class A on Initial Sound Fluency and Nonsense Word Fluency, class D on Letter Naming Fluency, and class C on Phoneme Segmentation Fluency. On the Initial

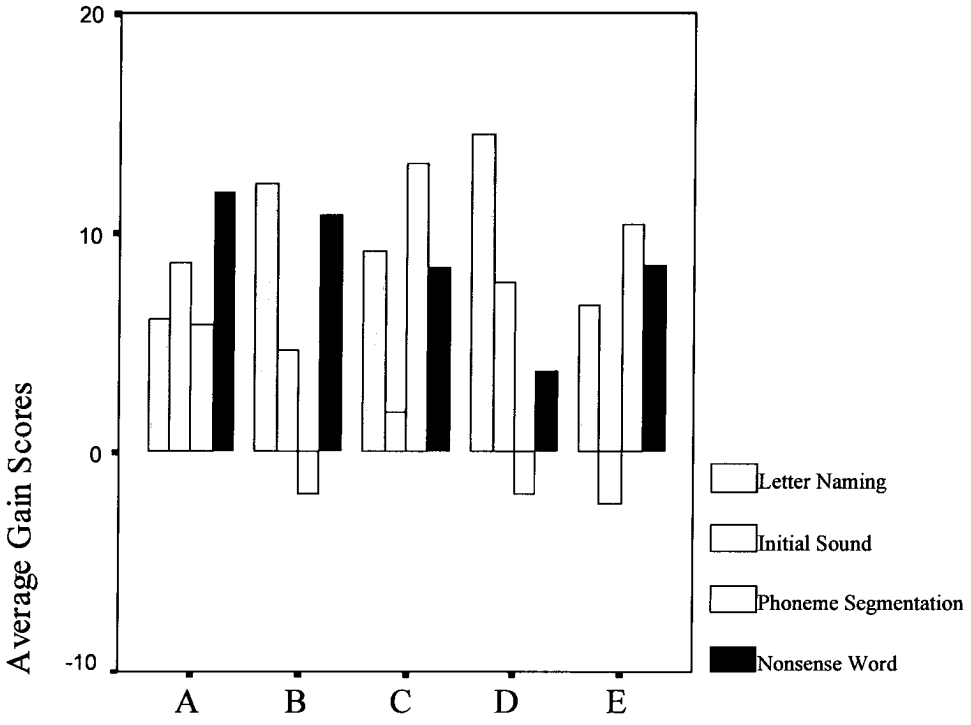

Figure 3. DIBELS average gain scores by class with Class A, B, and D in the materials group and Class C and E in the no materials group.

Sound Fluency, class E resulted in a negative average gain and the same was true for classes B and D on the Phoneme Segmentation Fluency assessment.

Other Variables of Interest

The research questions that guided this study do not take into consideration the age of the participating kindergarten children. However, out of interest, descriptive statistics comparing the average gain on the eight literacy assessments for five-, six-, and seven-year-olds were generated. Not surprisingly, as shown in Figures 4 and 5, the seven-year-old children had the smallest average gain on all of the eight literacy assessments. In fact,

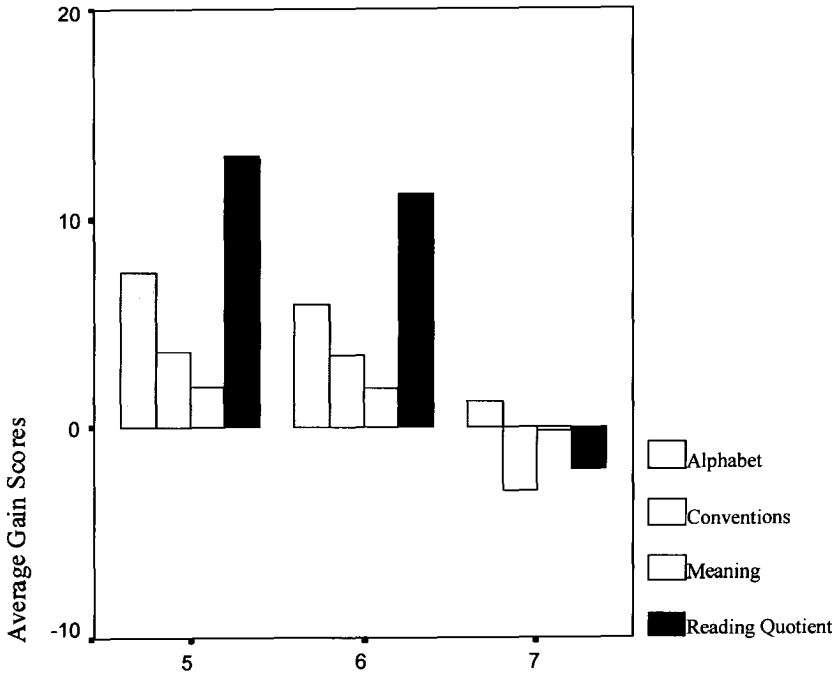

Figure 4. Average DIBELS gain scores by age.

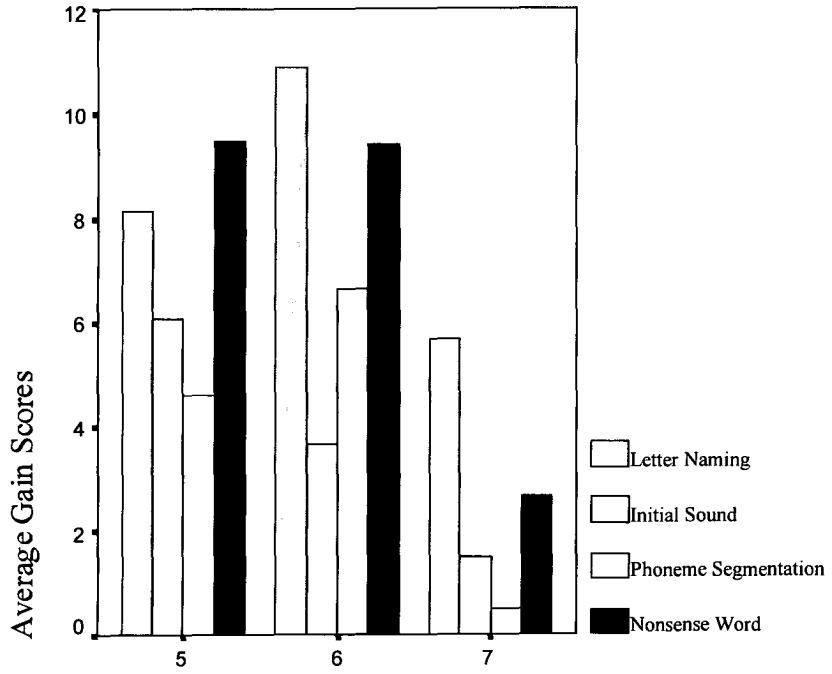

Figure 5. Average TERA-3 gain scores by age.

on the TERA-3 Conventions Subtest, Meaning Subtest, and Reading Quotient, the seven-year olds averaged a negative gain. The five-year-old children had the greatest gains on all four of the TERA-3 assessments and on the DIBELS Initial Sound Fluency and Nonsense Word Fluency assessments. The six-year-old children had the greatest gains on the DIBELS Letter Naming Fluency and Phoneme Segmentation Fluency.

The final variables taken into consideration that do not have a direct connection to the research questions are the total number of logs returned and the total number of logs returned with a response. As described in the research procedures section of chapter three, each family was asked to complete and return a literacy log to keep track of their time spent on the family involvement activities. Descriptive statistics presented in Table 7 show that in class A, 174 logs were returned; 169 included responses and 5 were returned blank. In class B, 120 logs were returned with 114 responded to and 6 left blank. Class D returned 111 logs with 105 including responses and 6 returned blank. Together, the materials group (classes A, B, and D) returned 405 logs with 388 completed and 17 blank. Class C returned 137 logs with 84 complete and 53 blank, while class E returned

Table 7

Literacy Log Response Rate

Class	Children in Class	Logs Returned	Logs with Response	Logs Left Blank
		Materials Group		
A	14	174	169	5
B	12	120	114	6
D	12	111	105	6
		No Materials Group		
C	16	137	84	53
E	12	126	64	62

126 logs with 64 complete and 62 left blank. The no materials group, classes C and E, returned 263 logs with 148 completed and 115 blank. As explained earlier, the materials group had literacy materials, activities, and a book to accompany their literacy logs each week while the no materials group was only given literacy activities.

Multiple Regression Analysis

Each research question will be addressed individually in this section. As previously noted, research question one was eliminated due to lack of variation in the Alphabet Letter Recognition Inventory (ALRI) scores. Additionally, applicable to the remaining four research questions, the family involvement variable of participating in literacy-related school events has also been removed due to lack of data.

Research questions two through five were investigated via multiple regression analysis. Prior to conducting these analyses, simple (i.e., bivariate) correlations were investigated. A multivariate procedure (e.g., canonical correlation) would have been appropriate for this study as it allows for simultaneous consideration of all dependent variables within a single analysis. However, a multivariate design was not feasible due to the limits of the sample (i.e., small sample size, lack of heterogeneity). Consequently, multiple regression (which allows for predictive modeling while simultaneously allowing for smaller sample sizes due to consideration of only one dependent variable at a time) was the most appropriate alternative.

Each regression analysis was followed up with analysis of regression structure coefficients (r_s) to determine individual variable contributions to the analysis (Thompson & Borrello, 1985). These coefficients, which are reported for each regression analysis, (a) express correlations between the predicted dependent variable scores and each predictor

variable and (b) serve as reliable indicators of variable contributions to the overall predictive model. The procedure for obtaining regression structure coefficients involves saving the unstandardized predicted values (y-hats) when running a regression analysis. The regression analysis is then followed up with a correlation analysis including all of the predictor variables from the regression as well as the unstandardized predicted values (y-hats). The correlations between each predictor variable and the y-hat variable are the regression structure coefficients (Thompson & Borrello, 1985).

Research Question Two

Research question two addressed the extent to which the TERA-3 gain scores can be explained by the collective set of family involvement variables (reading with children, engaging in literacy activities, and having literacy materials provided). The four TERA-3 scores, Alphabet, Conventions, Meaning, and Reading Quotient, served as the four dependent variables.

Correlations. Table 8 shows the results of the simple correlations between the three

Table 8

TERA-3 Correlations with Family Involvement Variables

		Alphabet	Conventions	Meaning	Reading Quotient
Reading with Children	Pearson Correlation	-.027	-.068	-.083	-.078
	N	64	64	64	64
Engaging in Activities	Pearson Correlation	.006	-.083	-.133	-.078
	N	64	64	64	64
Having Literacy Materials Provided	Pearson Correlation	-.078	-.185	.060	-.126
	N	64	64	64	64

family involvement variables and four TERA-3 literacy variables listed above. Based on these correlations, there are no appreciable relationships between any of the included variables.

Dependent variable of TERA-3 Alphabet. The regression analysis was performed with the family involvement activities of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. As presented in Table 9, the analysis yielded a p-value of .831, greater than .05, indicating a relationship that was not statistically significant. The R^2 value of .014 indicated an extremely negligible effect.

Table 9

Sum of Squares for TERA-3 Alphabet Subtest

	Sum of Squares	df	F	Sig.
Regression	34.54	3	.292	.831[a]
Residual	2363.21	60		
Total	2397.75	63		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, Having Literacy Materials Provided

The follow-up correlation analyses yielded structure coefficients (presented in Table 10 along with the beta weights) of -.222 for reading with children and an $r_s = .047$ for engaging in literacy activities. The structure coefficient (r_s) for the independent variable of having literacy materials provided was -.649. These analyses indicate that reading with children and engaging in literacy activities did not contribute to the variance in kindergarten children's gain scores on the TERA-3 Alphabet Subtest. Conversely, the results indicate that having literacy materials provided contributed negatively to the

Table 10

TERA-3 Assessment Beta Weights and Regression Structure Coefficients

Dependent Variable		Reading with Children	Engaging in Literacy Activities	Having Literacy Materials Provided
TERA-3 Alphabet Subtest $R^2 = .014$	β	-.268	.280	-.073
	r_s	-.222	.047	-.649
TERA-3 Conventions Subtest $R^2 = .038$	β	.176	-.197	-.184
	r_s	-.348	-.423	-.943
TERA-3 Meaning Subtest $R^2 = .042$	β	.360	-.499	.089
	r_s	-.408	-.652	.296
TERA-3 Reading Quotient $R^2 = .018$	β	.013	-.059	-.114
	r_s	-.583	-.586	-.944

explained variance in kindergarten children's Alphabet subtest gain scores. These findings should be interpreted cautiously as the overall R^2 was extremely negligible.

Dependent variable of TERA-3 Conventions. The regression analysis was run with the family involvement activities of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. As reported in Table 11, the analysis yielded a p-value of .501, greater than .05, indicating a relationship that was not statistically significant. The R^2 value of .038 indicated a negligible effect. The follow-up correlation analyses yielded an r_s of -.348 for reading with children, an r_s = -.423 for engaging in literacy activities, and an r_s = -.943 for having literacy materials provided (presented in Table 10 along with beta weights). These analyses indicate that all three predictor variables of reading with children, engaging in literacy activities, and having

Table 11

Sum of Squares for TERA-3 Conventions Subtest

	Sum of Squares	df	F	Sig.
Regression	46.92	3	.796	.501[a]
Residual	1179.68	60		
Total	1226.60	63		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, and Having Literacy Materials Provided

literacy materials provided contributed negatively to the variance in kindergarten children's gain scores on the TERA-3 Conventions Subtest, with the variable of having literacy materials provided contributing most appreciably to the explained variance. However, these findings should be interpreted with caution due to the overall negligible R^2 obtained in the analysis.

Dependent variable of TERA-3 Meaning. The regression analysis was run with the family involvement activities of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. As presented in Table 12, the analysis yielded a p-value of .461, greater than .05, indicating a relationship that was

Table 12

Sum of Squares for TERA-3 Meaning Subtest

	Sum of Squares	df	F	Sig.
Regression	20.24	3	.872	.461[a]
Residual	464.23	60		
Total	484.48	63		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, and Having Literacy Materials Provided

not statistically significant. The resulting R^2 value was only .042. The follow-up correlation analyses (presented in Table 10) yielded an r_s of -.408 for reading with children and an r_s = -.652 for engaging in literacy activities. The structure coefficient (r_s) for the independent variable of having literacy materials provided was = .296. These analyses indicate that reading with children and engaging in literacy activities contributed negatively to the variance in gain scores on the TERA-3 Meaning Subtest. Conversely, the variable of having literacy materials provided contributes positively to the explained variance in kindergarten children's Meaning subtest gain scores. However, these findings should be interpreted cautiously as the overall R^2 value was negligible.

Dependent variable of TERA-3 Reading Quotient. The regression analysis was conducted with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. The analysis yielded a p-value of .779, greater than .05 indicating a relationship that was not statistically significant (see Table 13). The resulting R^2 value was only .018.

Table 13

Sum of Squares for TERA-3 Reading Quotient

	Sum of Squares	df	F	Sig.
Regression	89.88	3	.365	.779[a]
Residual	4931.11	60		
Total	5021.00	63		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, and Having Literacy Materials Provided

As presented in Table 10 along with the beta weights, the follow-up correlation analyses yielded an r_s = -.583 for reading with children, an r_s = -.586 for engaging in

literacy activities, and an r_s = -.944 for having literacy materials provided. These analyses indicate that all three predictor variables of reading with children, engaging in literacy activities, and having literacy materials provided contributed negatively to the variance in kindergarten children's gain scores on the TERA-3 Research Quotient. The variable of having literacy materials provided most appreciably contributed to the variance. However, these findings should be interpreted with caution, as the R^2 value for this dependent variable was extremely negligible.

Overall TERA-3 gain scores. Results were relatively consistent across all four analyses associated with the second research question, with all effects small and statistically nonsignificant ($R^2 < .05$). Collectively, the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided yielded structure coefficients indicating appreciable negative contribution to explained variance in the literacy gain scores on the four TERA-3 subtests. The TERA-3 Meaning Subtest was the only assessment where a positive contribution was indicated and it was associated with the predictor variable of having literacy materials provided. Based on the statistically nonsignificant regression results, the answer to the second research question is no, there is not a statistically significant relationship between kindergarten children's TERA-3 gain scores and their participation in three family involvement activities.

Research Question Three

Research question three addressed the extent to which the DIBELS gain scores can be explained by the collective set of family involvement variables (reading with children, engaging in literacy activities, and having literacy materials provided). The four DIBELS

scores, Letter Naming Fluency, Initial Sound Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency served as the dependent variables.

Correlations. The results of the simple correlations between the three family involvement variables and four literacy variables listed above are presented in Table 14. Based on these correlations, the most appreciable relationship is between the variable of

Table 14

DIBELS Correlations with Family Involvement Variables

		Letter Naming	Initial Sound	Phoneme Segmentation	Nonsense Word
Reading with Children	Pearson Correlation	-.156	**.283**	-.088	-.057
	N	65	65	66	66
Engaging in Activities	Pearson Correlation	-.156	**.212**	-.141	-.107
	N	65	65	66	66
Having Literacy Materials Provided	Pearson Correlation	.095	**.304**	**-.297**	**.031**
	N	65	65	66	66

having literacy materials provided and gain scores on the DIBELS Initial Sound Fluency. The r-value of .304 (r^2 = .09) indicates a small but notable positive correlation between the two variables. The r^2 value indicates that 9% of the variance in a child's gain scores on the Initial Sound Fluency could be attributed to his/her having literacy materials provided.

The correlation results also demonstrate that the literacy variable of Initial Sound Fluency has an appreciable relationship with the family involvement variable of reading with children (r = .283, r^2 = .08) as well as with the family involvement variable of engaging in literacy activities (r = .212, r^2 = .04). The family involvement variable of

having literacy materials provided and the literacy variable of Phoneme Segmentation Fluency gain scores also resulted in an appreciable relationship. The r-value of -.297 (r^2 = .09) indicates a small negative relationship.

Dependent variable of DIBELS Letter Naming Fluency. The regression analysis was conducted with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. As shown in Table 15, the analysis yielded a p-value of .393, greater than .05, indicating a relationship that was not statistically significant. The resulting R^2 was negligible at .047.

Table 15

Sum of Squares for DIBELS Letter Naming Fluency

	Sum of Squares	df	F	Sig.
Regression	540.08	3	1.013	.393[a]
Residual	10840.77	61		
Total	11380.86	64		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, and Having Literacy Materials Provided

As presented in Table 16 along with the beta weights, the follow-up correlation analyses yielded structure coefficients of -.713 for reading with children and -.709 for engaging in literacy activities. The structure coefficient (r_s) for the independent variable of having literacy materials provided was .448. These analyses indicate that the predictor variables of reading with children and engaging in literacy activities contributed negatively to the variance in kindergarten children's gain scores on the DIBELS Letter Naming Fluency. The predictor variable of having literacy materials provided contributed appreciably to the variance in kindergarten children's gain scores on Letter Naming

Fluency. However, due to the negligible R^2 value, these findings should be interpreted with caution.

Table 16

DIBELS Assessment Beta Weights and Regression Structure Coefficients

Dependent Variable		Reading with Children	Engaging in Literacy Activities	Having Literacy Materials Provided
DIBELS Letter Naming Fluency $R^2 = .047$	β	-.144	-.064	.158
	r_s	-.713	-.709	**.448**
DIBELS Initial Sound Fluency $R^2 = .157$	β	**.655**	-.470	.232
	r_s	**.715**	**.535**	**.763**
DIBELS Phoneme Segmentation Fluency $R^2 = .120$	β	.502	-.530	-.302
	r_s	-.255	-.406	-.858
DIBELS Nonsense Word Fluency $R^2 = .031$	β	.374	-.473	.049
	r_s	-.324	-.610	**.174**

Dependent variable of DIBELS Initial Sound Fluency. The regression analysis was completed with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. The analysis, presented in Table 17, yielded a p-value of .015, less than .05, indicating a relationship that was statistically significant. The resulting R^2 was .157 indicating a modest relationship. Based on the regression results, 16% of the variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency can be attributed to the three predictor family involvement variables.

Table 17

Sum of Squares for DIBELS Initial Sound Fluency

	Sum of Squares	df	F	Sig.
Regression	1374.63	3	3.775	.015[a]
Residual	7404.38	61		
Total	8779.01	64		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, and Having Literacy Materials Provided

The follow-up correlation yielded an $r_s = .715$ for reading with children, an $r_s = .535$ for engaging in literacy activities, and an $r_s = .763$ for having literacy materials provided (as presented in Table 16 along with the beta weights). These analyses indicate that all three predictor variables of reading with children, engaging in literacy activities, and having literacy materials provided contributed appreciably to the variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency assessment.

Dependent variable of DIBELS Phoneme Segmentation Fluency. The regression analysis was conducted with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. As presented in Table 18, the analysis yielded a p-value of .046, less than .05,

Table 18

Sum of Squares for DIBELS Phoneme Segmentation Fluency

	Sum of Squares	df	F	Sig.
Regression	2150.96	3	2.821	.046[a]
Residual	15755.52	62		
Total	17906.48	65		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, Having Literacy Materials Provided

indicating a relationship that was statistically significant. The resulting R^2 value was .120. The regression results indicate that an appreciable amount (12%) of the variation in kindergarten children's gain scores on DIBELS Phoneme Segmentation Fluency can be associated with their involvement in reading with children, engaging in literacy activities, and having literacy materials provided.

The follow-up correlation analyses yielded structure coefficients of -.255 for reading with children, -.406 for engaging in literacy activities, and -.858 for having literacy materials provided. The beta weights and structure coefficients are reported in Table 16. These analyses results indicate that all three predictor variables of reading with children, engaging in literacy activities, and having literacy materials provided contributed negatively to the variance in kindergarten children's gain scores on the DIBELS Phoneme Segmentation Fluency assessment. The variable of having literacy materials provided most appreciably contributed to the explained variance.

Dependent variable of DIBELS Nonsense Word Fluency. The regression analysis was completed with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. As reported in Table 19, the analysis yielded a p-value of .579, greater than .05, indicating a relationship that is not statistically significant. The resulting R^2 value was .031, indicating a negligible relationship.

The follow-up correlation analyses (presented in Table 16) yielded structure coefficients of -.324 for reading with children, -.610 for engaging in literacy activities, and .174 for having literacy materials provided. These analyses indicate that the predictor variables of reading with children and engaging in literacy activities contributed

Table 19

Sum of Squares for DIBELS Nonsense Word Fluency

	Sum of Squares	df	F	Sig.
Regression	349.56	3	.662	.579[a]
Residual	10916.75	62		
Total	11266.31	65		

a. Predictors: (Constant), Reading with Children, Engaging in Activities, and Having Literacy Materials Provided

negatively to the variance in kindergarten children's gain scores on the DIBELS Nonsense Word Fluency while the variable of having literacy materials provided did not contribute appreciably to the variance in gain scores.

Overall DIBELS gain scores. Results of the four regression analyses provided mixed results relative to research question three. In two cases (Letter Naming Fluency and Nonsense Word Fluency), effect sizes were negligible and statistically nonsignificant. In the remaining two cases (Initial Sound Fluency and Phoneme Segmentation Fluency), the effect sizes were appreciable and statistically significant. Based on these results, the answer to the third research question is yes: there is a statistically significant relationship between family involvement variables and kindergarten children's DIBELS gain scores, but only for Initial Sound Fluency and Phoneme Segmentation Fluency.

Research Question Four

Research question four addressed the strength of each family involvement variable (reading with children, engaging in literacy activities, and having literacy materials provided) in predicting gain scores covering the literacy skill of letter and sound knowledge. The three measures of letter and sound knowledge serving as dependent

variables were the TERA-3 Alphabet Subtest, the DIBELS Letter Naming Fluency, and the DIBELS Initial Sound Fluency.

Correlations. The results of the simple correlations between the three family involvement variables and four literacy variables listed above are presented in Table 20. These three sets of correlations were included in the analyses responding to the two previous research questions. However, they are analyzed here together representing the overall skills of letter and sound knowledge. Judging by the correlation results, appreciable relationships exist between the gain scores on the Initial Sound Fluency and all three of the family involvement variables. Each of the three correlations is positive. The most appreciable relationship was with the having literacy materials provided variable ($r = .304$, $r^2 = .09$).

Table 20

Letter and Sound Correlations with Family Involvement Variables

		TERA-3 Alphabet	DIBELS Letter Naming	DIBELS Initial Sound
Reading with Children	Pearson Correlation	-.027	-.156	**.283**
	N	64	65	65
Engaging in Activities	Pearson Correlation	.006	-.156	**.212**
	N	64	65	65
Having Literacy Materials Provided	Pearson Correlation	-.078	.095	**.304**
	N	64	65	65

Dependent variable of TERA-3 Alphabet Subtest. A regression analysis was conducted with the family involvement variables of reading with children, engaging in literacy

activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question two, but is being revisited here in combination with two other dependent variables to represent the overall skills of letter and sound knowledge. As presented in Table 9, the analysis yielded a p-value of .831, greater than .05, indicating a relationship that was not statistically significant. The R^2 value of .014 indicated an extremely negligible effect.

The resulting structure coefficients (r_s) were -.222 for reading with children,.047 for engaging in literacy activities, and -.649 for having literacy materials provided. These results indicate that reading with children and engaging in literacy activities did not contribute to the variance in kindergarten children's gain scores on the TERA-3 Alphabet Subtest and, as a result, were not accurate predictors of the gains. Conversely, the results indicate that having literacy materials provided contributed negatively to the explained variance in kindergarten children's Alphabet subtest gain scores, therefore, serving as an accurate predictor of gains. These findings should be interpreted cautiously as the overall R^2 was extremely negligible.

Dependent variable of DIBELS Letter Naming Fluency. A regression analysis was conducted with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question three, but is being revisited here in combination with two other dependent variables to represent the overall skills of letter and sound knowledge. As shown in Table 16, the analysis yielded a p-value of .393, greater than .05, indicating a relationship that was not statistically significant. The resulting R^2 was negligible at .047.

The resulting structure coefficients (r_s) were -.713 for reading with children, -.709 for engaging in literacy activities, and .448 for having literacy materials provided. These results indicate that the predictor variables of reading with children and engaging in literacy activities contributed negatively to the variance in kindergarten children's gain scores on the DIBELS Letter Naming Fluency and were therefore accurate predictors of negative gains. The predictor variable of having literacy materials provided contributed appreciably to the variance in kindergarten children's gain scores on Letter Naming Fluency and served as an accurate predictor of these gains. However, due to the negligible R^2 value, these findings should be interpreted with caution.

Dependent variable of DIBELS Initial Sound Fluency. A regression analysis was conducted with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question three, but is being revisited here in combination with two other dependent variables to represent the overall skills of letter and sound knowledge. The analysis, presented in Table 17, yielded a p-value of .015, less than .05, indicating a relationship that was statistically significant. The resulting R^2 was .157 indicating a modest relationship. Based on the regression results, 16% of the variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency can be attributed to the three predictor family involvement variables.

The resulting structure coefficients were .715 for reading with children, .535 for engaging in literacy activities, and .763 with for having literacy materials provided. These results indicate that all three predictor variables of reading with children, engaging in literacy activities, and having literacy materials provided contributed appreciably to the

variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency assessment. Therefore, all three of the family involvement activities would lend themselves as accurate predictors of a child's gain scores on Initial Sound Fluency.

Overall letter and sound knowledge. Results of the three regression analyses provided mixed results relative to research question four. In two cases (TERA-3 Alphabet and DIBELS Letter Naming Fluency), effect sizes were negligible and statistically nonsignificant. In the remaining case (DIBELS Initial Sound Fluency), the effect size was appreciable and statistically significant. Based on these results, the answer to the third research question is yes: the collective set of family involvement variables can predict kindergarten children's letter and sound gain scores, but only for the DIBELS Initial Sound Fluency. The one family involvement variable with the strongest prediction power is having literacy materials provided ($r^2 = .09$, $r_s = .763$).

Research Question Five

Research question five addressed the strength of each family involvement variable (reading with children, engaging in literacy activities, and having literacy materials provided) in predicting gain scores covering the literacy skill of phonological awareness. The four measures of phonological awareness serving as dependent variables were the TERA-3 Alphabet Subtest, the DIBELS Initial Sound Fluency, the DIBELS Phoneme Segmentation Fluency, and the DIBELS Nonsense Word Fluency.

Correlations. The results of the simple correlations between the three family involvement variables and four literacy variables listed above are presented in Table 21. These four sets of correlations were included in the analysis responding to the two previous research questions. However, they are analyzed here together representing the

overall skills of phonological awareness. Judging by the correlation results, appreciable relationships exist between the gain scores on the Initial Sound Fluency and all three of the family involvement variables. Each of the three correlations is positive. The most

Table 21

Phonological Awareness Correlations with Family Involvement Variables

		TERA-3 Alphabet	DIBELS Initial Sound	DIBELS Phoneme Segmentation	DIBELS Nonsense Word
Reading with Children	Pearson Correlation	-.027	**.283**	-.088	-.057
	N	64	65	66	66
Engaging in Activities	Pearson Correlation	.006	**.212**	-.141	-.107
	N	64	65	66	66
Having Literacy Materials Provided	Pearson Correlation	-.078	**.304**	**-.297**	**.031**
	N	64	65	66	66

appreciable relationship is with the having literacy materials provided variable (r = .304, r^2 = .09). The family involvement variable of having literacy materials provided has an appreciable relationship with the DIBELS Phoneme Segmentation Fluency. The r-value of -.297 (r^2 = .09) indicates a small but appreciable negative correlation.

Dependent variable of TERA-3 Alphabet Subtest. A regression analysis was completed with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question two, but is being revisited here in combination with three other dependent variables to represent the overall skills of phonological awareness. As presented in Table 9, the analysis yielded a p-value of .831,

greater than .05, indicating a relationship that was not statistically significant. The R^2 value of .014 indicated an extremely negligible effect.

The resulting structure coefficients (r_s) were -.222 for reading with children, .047 for engaging in literacy activities, and -.649 for having literacy materials provided. These results indicate that reading with children and engaging in literacy activities did not contribute to the variance in kindergarten children's gain scores on the TERA-3 Alphabet Subtest and, as a result, are not accurate predictors of the gains. Conversely, the results indicate that having literacy materials provided contributed negatively to the explained variance in kindergarten children's Alphabet subtest gain scores, therefore, serving as an accurate predictor of gains. These findings should be interpreted cautiously as the overall R^2 was extremely negligible.

Dependent variable of DIBELS Initial Sound Fluency. A regression analysis was completed with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question three, but is being revisited here in combination with three other dependent variables to represent the overall skills of phonological awareness. The analysis, presented in Table 17, yielded a p-value of .015, less than .05, indicating a relationship that was statistically significant. The resulting R^2 was .157 indicating a modest relationship. Based on the regression results, 16% of the variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency can be attributed to the three predictor family involvement variables.

The resulting structure coefficients were .715 for reading with children, .535 for engaging in literacy activities, and .763 for having literacy materials provided. These

results indicate that all three predictor variables of reading with children, engaging in literacy activities, and having literacy materials provided contributed appreciably to the variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency assessment. Therefore, all three of the family involvement activities would lend themselves as accurate predictors of a child's gain scores on Initial Sound Fluency.

Dependent variable of DIBELS Phoneme Segmentation Fluency. A regression analysis was completed with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question three, but is being revisited here in combination with three other dependent variables to represent the overall skills of phonological awareness. As presented in Table 18, the analysis yielded a p-value of .046, less than .05, indicating a relationship that was statistically significant. The resulting R^2 value was of .120. The regression results indicate that an appreciable amount (12%) of the variation in kindergarten children's gain scores on DIBELS Phoneme Segmentation Fluency can be associated with their participation in the family involvement activities of reading with children, engaging in literacy activities, and having literacy materials provided.

The resulting structure coefficients were -.255 for reading with children, -.406 for engaging in literacy activities, and -.858 for having literacy materials provided. These results indicate that all three predictor variables of reading with children, engaging in literacy activities, and having literacy materials provided contributed negatively to the variance in kindergarten children's gain scores on the DIBELS Phoneme Segmentation

Fluency, and therefore serve as accurate predictors of gains. The variable of having literacy materials provided most appreciably contributed to the explained variance.

Dependent variable of DIBELS Nonsense Word Fluency. A regression analysis was completed with the family involvement variables of reading with children, engaging in literacy activities, and having literacy materials provided as the independent variables. This regression was addressed previously in research question three, but is being revisited here in combination with three other dependent variables to represent the overall skills of phonological awareness. As reported in Table 19, the analysis yielded a p-value of .579, greater than .05, indicating a relationship that was not statistically significant. The resulting R^2 value was .031, indicating a negligible relationship.

The resulting structure coefficients (r_s) were -.324 for reading with children, -.610 for engaging in literacy activities, and .174 for having literacy materials provided. These results indicate that the predictor variables of reading with children and engaging in literacy activities contributed negatively to the variance in kindergarten children's gain scores on the DIBELS Nonsense Word Fluency and would contribute as accurate predictors of gains. The variable of having literacy materials provided did not contribute appreciably to the variance and would not be an accurate predictor of gain scores.

Overall phonological awareness. Results of the four regression analyses provided mixed results relative to research question five. In two cases (TERA-3 Alphabet and DIBELS Letter Naming Fluency), effect sizes were negligible and statistically nonsignificant. In the two remaining cases (DIBELS Initial Sound Fluency and DIBELS Phoneme Segmentation Fluency), the effect size was appreciable and statistically significant. Based on these results, the answer to the fifth research question is yes: the

collective set of family involvement variables can predict kindergarten children's phonological awareness gain scores, but only for the DIBELS Initial Sound Fluency and Phoneme Segmentation Fluency. The one family involvement variable with the strongest prediction power is having literacy materials provided. However, it has positive prediction for Initial Sound Fluency ($r^2 = .09$, $r_s = .763$), and negative prediction for Phoneme Segmentation Fluency ($r^2 = .09$, $r_s = -.858$).

Subsequent Findings

The third family involvement variable, having literacy materials provided, was used as a dichotomous variable with participants coded as either having literacy materials provided or not having literacy materials provided. Therefore, due to the nature of the variable, the results indicated the relationship between the children's gain scores and the provision of materials instead of the use of materials. It is possible that the results of the analysis would be different if the actual usage of the materials were considered instead of only the provision of materials. Therefore, a subsequent analysis was done using only the children in the materials group (those who received materials) to look at the relationship between their time spent engaging in activities with the provided materials and their literacy gain scores.

First a regression was done with family involvement variables of reading with children and engaging in literacy activities with provided materials as the independent variables and the four TERA-3 subtests and then the four DIBELS assessments as the dependent variables for a total of eight assessments. Follow-up correlations were done using unstandardized predicted values (y-hats) in addition to all of the variables used in

the regression analysis to determine the regression structure coefficients (Thompson & Borrello, 1985).

In reference to research question two concerning the TERA-3, there were no statistically significant R^2 values. The follow-up correlations, however, yielded noteworthy regression structure coefficients (as seen in Table 22) for six of the eight analyses. The only negative results were with the TERA-3 Meaning subtest. Interestingly, the previous results of the dichotomous variable having literacy materials provided

Table 22

TERA-3 Assessment Beta Weights and Regression Structure Coefficients with only Materials Group

Dependent Variable		Reading with Children	Engaging in Literacy Activities with Provided Materials
TERA-3 Alphabet Subtest $R^2 = .010$	β	.136	-.040
	r_s	.991	.889
TERA-3 Conventions Subtest $R^2 = .014$	β	.018	.103
	r_s	.958	.999
TERA-3 Meaning Subtest $R^2 = .069$	β	.351	-.566
	r_s	-.692	-.894
TERA-3 Reading Quotient $R^2 = .007$	β	.209	-.156
	r_s	.764	.503

yielded three negative and one positive result with the TERA-3, while the analysis of only the materials group yielded mostly positive results. This leads to the belief that

although providing the materials did not result in positive results, the children who were provided the materials and did indeed spend time using them had higher gain scores.

In responding to research question three concerning DIBELS, there was one statistically significant R^2 value with the dependent variable of Initial Sound Fluency. The R^2 of .169 (reported in Table 23) indicates that an appreciable amount (17%) of the variation in kindergarten children's gain scores on DIBELS Initial Sound Fluency can be associated with their involvement in reading with children and engaging in literacy activities with provided materials. The follow-up correlation analyses yielded positive

Table 23

DIBELS Assessment Beta Weights and Regression Structure Coefficients with only Materials Group

Dependent Variable		Reading with Children	Engaging in Literacy Activities with Provided Materials
DIBELS Letter Naming Fluency $R^2 = .066$	β	**-.190**	**-.071**
	r_s	**-.996**	**-.967**
DIBELS Initial Sound Fluency $R^2 = .169$	β	**1.068**	**-.819**
	r_s	**.728**	**.447**
DIBELS Phoneme Segmentation Fluency $R^2 = .099$	β	**.912**	-.856
	r_s	**.344**	-.001
DIBELS Nonsense Word Fluency $R^2 = .020$	β	.384	**-.406**
	r_s	.021	**-.325**

statistically significant regression structure coefficients (as seen in Table 23) for three of the eight analyses. The positive results were with the Initial Sound Fluency (for both reading with children and engaging in literacy activities with provided materials) and Phoneme Segmentation Fluency (for reading with children). Interestingly, the previous results of the dichotomous variable having literacy materials provided yielded two positive and one negative result with the DIBELS.

Summary

In this chapter, interesting observations were mentioned, descriptive statistics were reported, findings were addressed, research questions were answered, and subsequent findings were considered. Each of these will now be revisited and summarized.

The research involved in this project was designed to study the variables of family involvement and literacy achievement. The family involvement variables were measured by reading with children, engaging in literacy activities, having literacy materials provided, and participating in literacy-related events at school and the literacy achievement variables were measured by gain scores on the ALRI, TERA-3, and DIBELS assessments. Interestingly, other variables emerged as contributors to the study's results.

The most noteworthy surprise variable was communication. As described earlier, families used the literacy logs to communicate information that they deemed necessary but was not requested, such as which parent engaged in the activities with the child. In addition, three families chose to attach a written correspondence to the literacy log to share their opinion about the project. While the researcher provided a phone number to provide assistance with activities as needed, only one family chose to call and it was for a

purpose other than intended. The original intent of the project included more communication than became reality, and the communication that did occur was not what was expected.

When considering the family involvement and literacy variables that were identified as potential contributors to the study, two of the variables were removed due to lack of data. The first, ALRI gain scores, was removed due to the high pretest scores of the kindergarten children leaving small opportunity for gains to occur. The second, participation in literacy-related events at school, was removed due to a lack of attendance at the meetings.

Before comparing the variables for analysis of their relationships, each variable was inspected individually. It was shown that the materials group (children who received books, literacy activities, and literacy materials) spent more time reading and spent more time engaged in literacy activities than the no materials group (children who received only literacy activities). These same children in the materials group returned more logs and more often had responses on the logs than the children in the no materials group. As for the literacy variables, the children in the no materials group scored higher on three of the four TERA-3 assessments, while the children in the materials group scored higher on three of the four DIBELS assessments. When literacy scores were compared by the age of the children, the seven-year-old children had significantly smaller gains than did the five- and six-year olds on all eight assessments, three of which were negative gains. Ironically, all of the seven-year-old children were in the materials group.

To answer the present study's research questions, the family involvement variables and literacy variables were analyzed to determine any existing relationships. The

relationships were first considered using simple correlations, followed by regression analyses and analyses of regression structure coefficients (r_s). Based solely on the results of the simple correlations, the literacy variable of DIBELS Initial Sound Fluency had a small but notable positive relationship with all three family involvement variables (r^2 = .08 for reading with children, r^2 = .04 for engaging in literacy activities, and r^2 = .09 for having literacy materials provided). No other variable set indicated a significant relationship.

Based on the regression analyses, only two literacy variables can be explained by time spent on the family involvement activities. The first was DIBELS Initial Sound Fluency (R^2 = .157). These results indicate that 16% of the variation in a kindergarten child's DIBELS Initial Sound Fluency scores can be explained by participation in reading, engaging in literacy activities, and having literacy materials provided. Further analysis of the regression structure coefficients suggested that the variable of having literacy materials provided made the greatest contribution (r_s = .763). The second literacy variable with a statistically significant relationship was DIBELS Phoneme Segmentation Fluency (R^2 = .120). Once again, the variable of having literacy materials provided made the greatest contribution, however, it was a negative contribution (r_s = -.858).

Of the four TERA-3 assessments, none of their variances can be explained by participation in the family involvement activities of reading with children, engaging in literacy activities, or having literacy materials provided. The analyses of regression structure coefficients comparing the TERA-3 scores with the family involvement variables produced 12 coefficients (r_s), 10 of which were negative.

Of the four DIBELS assessments, two of their variances can be explained by participation in the family involvement activities. The Initial Sound Fluency and the Phoneme Segmentation Fluency both resulted in statistically significant R-values. The two remaining subtests, Letter Naming Fluency and Nonsense Word Fluency, resulted in six regression structure coefficients (r_s), four of which were negative. The two that were not negative came from the family involvement variable of having literacy materials provided.

Research Questions four and five directed the focus back to the analyses already conducted but with different variable sets. Question four focused on the letter and sound assessments and question five focused on the phonological awareness assessments. The DIBELS Initial Sound Fluency, mentioned previously as having a statistically significant regression result, was also included in both of these literacy topics. The only other literacy variable with statistically significant results was the DIBELS Phoneme Segmentation Fluency, which is a second variable in the phonological awareness set. However, based on the results of analyzing the regression structure coefficients (r_s), the family involvement variables contribute negatively to the variance on the Phoneme Segmentation Fluency assessment.

Subsequent findings were considered with the family involvement variable of having literacy materials provided being analyzed as time spent engaged in the activities with materials instead of as a dichotomous variable of materials or no materials. The findings were overall positive for the results of the TERA-3 assessment with six of the eight analyses resulting in positive regression structure coefficients. However, the overall R^2 value was negligible so the results should be considered cautiously. The findings for the

DIBELS assessment were inconclusive with three of the eight analyses resulting in negative coefficients, three of the eight analyses resulting in positive coefficients, and two of the eight resulting as not statistically significant.

The majority of the findings from this study suggest that time spent participating in the family involvement activities of reading with children, engaging in literacy activities, and having literacy materials provided have little to no effect on literacy gain scores. Even still, when there is an effect it is often negative. These findings are troublesome and will be addressed more purposefully in the following chapter.

Chapter Five: Summary, Conclusions, and Recommendations

The purpose of this study was to determine the strength of different family involvement activities in predicting kindergarten students' gain scores on three different literacy assessments. The family involvement variables included reading with children, engaging in literacy activities, and having literacy materials provided. The literacy assessment variables included eight gain scores, which came from four subtests of the Test of Early Reading Ability-3 (TERA-3) and four subtests of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

This chapter provides a brief review of the methodology used for this study. In addition, a summary of the findings is provided along with an explanation of how these findings relate to other research. A discussion of the conclusions drawn and a description of the recommendations made for both instruction and research are also included. Finally, details about the contributions the study has made to the field of education are presented.

Review of the Methodology

One hundred one kindergarten children and their families from five different classrooms in two inner-city urban elementary schools were invited to participate in the "Learning the ABCs" project. A total of 68 families signed consent forms granting permission for involvement. Participation in the "Learning the ABCs" project included receiving 15 weeks (January 21 – May 6) of ELLM Home Literacy Bags. The 68 participating children were randomly assigned into two intervention groups using cluster sampling of the five classes. The first intervention group received literacy bags with four

literacy activities each week (no materials group). The second intervention group received literacy bags with four literacy activities, a variety of literacy materials, and one children's book each week (materials group).

Family members were asked to complete a weekly ELLM Home Literacy Log to keep track of time spent reading aloud to their children each day and time spent engaging in literacy activities each day. The weekly log totals were input into an Excel worksheet so the totals for the 15-week project could be calculated and used as the family involvement variables for purpose of data analysis. The researcher coded the variable of having literacy materials provided using a 0 for the no materials group and a 1 for the materials group.

The literacy assessments were implemented using a pre/post test design. The pretest assessments took place in October, November, and January, and the posttest assessments took place in late April and early May. The eight literacy gain scores served as the dependent variables and the three family involvement activities served as the independent variables. Each variable set was included in a regression analysis. The regression analyses were followed up with an analysis of regression structure coefficients (r_s) to determine the individual variable contributions to the analysis (Thompson & Borrello, 1985).

Prior to implementation of the project, the Institutional Review Boards of both The University of North Florida and Duval County Public Schools provided their approval. Additionally, consent was requested and received from the two school principals and five classroom teachers where implementation took place.

Summary of the Results

In this section, the results of the study will be overviewed, including the overall descriptive results and the results relative to each research question.

Descriptive Results

Overall, the findings indicated that the children and families who were provided with books and materials (materials group) spent more time reading together and more time interacting with the provided materials than did the children who were provided only literacy activities (no materials group). In fact, the 38 children and families in the materials group read almost three times the number of minutes as the 28 children and families in the no materials group. The 38 children in the materials group interacted with the provided literacy materials that accompanied their activities for more than three times the number of minutes than the 28 no materials group families engaged in literacy activities.

The literacy gains on the eight different assessments were highest for children in the no materials group on four assessments, three of which were on the TERA-3 test. The literacy gains were highest for the children in the materials group on four assessments, three of which were on the DIBELS test. The literacy gains were the lowest for those children in the study who were seven years old. On three of the eight assessments, the seven-year-old children averaged negative gains. All of the seven-year-old participants were in the materials group, causing the group's average gains to be lower.

Finally, an interesting finding emerged when comparing the number of returned logs from the no materials and materials groups. The materials group, whose literacy bags included literacy logs accompanied with literacy activities and materials, returned 405

logs during the 15-week project. Of these 405 logs, only 17 were returned blank, leaving 388 with responses. The no materials group, whose literacy bags included literacy logs accompanied by only literacy activities, returned 263 literacy logs during the 15-week project. Of these 263 logs, 115 were returned blank, leaving 148 with responses. When the literacy log was attached to a book and/or materials, it was returned and responded to more often than the logs attached to only literacy activities. Specific findings for each research question will now be addressed.

Findings Relative to Research Questions

The first research question stated: What is the extent to which kindergarten students' ALRI (Alphabet Letter Recognition Inventory) gain scores can be explained by participation in family involvement activities? This research question was removed from consideration due to the kindergarten children's high level of letter recognition on the pretest. It was discovered that 89.5% of the participating children already recognized at least 48 of the 52 letters, leaving little chance for significant gains to result from participation in the study.

The second research question stated: What is the extent to which kindergarten students' TERA-3 gain scores can be explained by participation in family involvement activities? Multiple regression analyses were conducted to determine the relationships between the four TERA-3 gain scores and the three family involvement activities. Results were relatively consistent across all four analyses with all statistical effects small and statistically nonsignificant ($R^2 < .05$). The three family involvement variables yielded structure coefficients (r_s) indicating appreciable negative contribution to the literacy gain score variances on the four TERA-3 subtests. The TERA-3 Meaning Subtest was the only

assessment where a positive contribution was indicated, and it was associated with the predictor variable of having literacy materials provided. Based on the regression results, the answer to this research question is that kindergarten students' TERA-3 gain scores cannot be accurately explained by participation in family involvement activities.

The third research question stated: What is the extent to which kindergarten students' DIBELS gain scores can be explained by participation in family involvement activities? Multiple regression analyses were conducted to determine the relationships between the four DIBELS gain scores and the three family involvement activities. Results were inconsistent, with two subscales (Letter Naming Fluency and Nonsense Word Fluency) yielding statistically nonsignificant results with negligible effect sizes and the remaining two subscales (Initial Sound Fluency and Phoneme Segmentation Fluency) yielding results that were statistically significant with appreciable effect sizes. The three family involvement variables yielded structure coefficients (r_s) indicating negative contributions to the literacy gain scores variances on three of the four DIBELS assessments. However, the results did indicate an appreciable contribution to the variance in kindergarten children's gain scores on the DIBELS Initial Sound Fluency subtest. Based on the regression results, the answer to this research question is that kindergarten students' DIBELS gain scores on the Initial Sound Fluency and Phoneme Segmentation Fluency can be accurately predicted by participation in family involvement activities.

The fourth research question stated: Which family involvement activities are the strongest predictors of gains in kindergarten students' letter and sound knowledge? Three regression analyses were conducted to determine the relationships between the three letter and sound knowledge assessments and the three family involvement activities.

Results were inconsistent, with two subscales, TERA-3 Alphabet and DIBELS Letter Naming Fluency, yielding negligible effect sizes and results that were statistically nonsignificant, while the third, DIBELS Initial Sound Fluency, yielded an appreciable effect size and was statistically significant. Based on these results, the answer to this research question is that kindergarten students' DIBELS Initial Sound Fluency gain scores can be predicted by the collective set of family involvement variables. Based on the correlation ($r^2 = .09$) and regression structure coefficients ($r_s = .763$), the variable of having literacy materials provided has the strongest prediction power.

The fifth research question stated: Which family involvement activities are the strongest predictors of gains in kindergarten students' phonological awareness? Four regression analyses were conducted to determine the relationships between the four phonological awareness assessments and the three family involvement activities. Results were inconsistent, with two subscales, TERA-3 Alphabet and DIBELS Letter Naming Fluency, yielding negligible effect sizes and results that were statistically nonsignificant, while the remaining two, DIBELS Initial Sound Fluency and Phoneme Segmentation Fluency, yielded appreciable effect sizes and were statistically significant. Based on these results, the answer to this research question is that kindergarten students' DIBELS Initial Sound Fluency and Phoneme Segmentation Fluency gain scores can be predicted by the collective set of family involvement variables. Based on the correlation ($r^2 = .09$ for both Initial Sound Fluency and Phoneme Segmentation Fluency) and regression structure coefficients ($r_s = .763$ for Initial Sound Fluency and $r_s = -.858$ for Phoneme Segmentation Fluency), the variable of having literacy materials provided has the strongest prediction

power. However, it had positive predictive power for Initial Sound Fluency and negative predictive power for Phoneme Segmentation Fluency.

Discussion of the Results

In this section, the findings of the present study will be presented in relation to similar and/or contrasting findings in past research. Plausible explanations are proffered for findings that defy conventional wisdom (e.g., that greater exposure to learning activities could be linked to diminished reading performance). Limitations to the study's research design will also be addressed.

Relationship of the Present Study to Previous Research

One of the family involvement activities that participants were exposed to during the "Learning the ABCs" project was reading of books. Numerous literacy studies have found that reading to children is one of the most important activities for building skills needed for their future success as a reader (Hiebert, Pearson, Taylor, Richardson, & Paris, 1998; Morrow, 1997; Neuman et al., 2000; Sulzby, 1985). A study by Scarborough and Dobrich (1994) concluded that children who are read to frequently score higher on standardized tests that measure reading ability. Surprisingly, the findings of the present study did not lead to a positive relationship between reading aloud and kindergarten children's literacy achievement. In fact, as mentioned previously, the two cases where the relationships between reading aloud and literacy gain scores were statistically significant had negative r_s values, indicating that time spent reading contributed negatively to the variance in children's literacy gain scores.

Interestingly, Meyer, Stahl, Wardrop, and Linn (1994) suggested similar findings in a study concerning the role of reading aloud in curriculum. They found negative

correlations between achievement and the amount of time adults spent reading to children in kindergarten classes. The questions they addressed were (a) What is being read? and (b) How is the reading being done? To some extent, the researcher controlled the books being read in the present study by providing books for the no materials group's lending library and by sending home the selection of 14 ELLM books with the children in the materials group. However, additional material being read and the manner through which the reading was shared were out of the control of the researcher, possibly leading to the negative variance in gain scores. For example, a family member could have read a book and identified words inaccurately, causing the child to learn an incorrect word or sound.

Similar to not controlling the read aloud experiences, the researcher also had no control of how the activities were implemented. Once again, much thought and consideration went into the language used in creating the activity cards with step-by-step directions to be followed. Additionally, the activities were created with the hope that the interactions between children and their families would be enjoyable. However, the way families chose to use the activity cards was completely in their realm of control. Seeing school-related activities as enjoyable is not the norm for lower-income families, such as those served in the present study (Lancy & Bergin, 1992). Instead, according to Lancy and Bergin, lower-income families tend to focus on the set of skills to be acquired and not the potential enjoyment. If this occurred in the present study, it is possible that the children did not acquire the anticipated knowledge due to the lack of enjoyment in being involved. If children saw the activity as another assignment to complete instead of an enjoyable experience to share with their families, they might not have had a willing attitude towards learning. The potentially negative experience due to attitude of the

family might have eventually led to diminished academic performance on the child's part.

The activity cards were provided to all children in the study, and in addition, the 38 children in the materials group were given a variety of literacy materials to use in their home. While the results of the present study suggested that the families who were given the materials did indeed spend more time interacting with one another, there were not consistent gains in the children's literacy skills to indicate that the additional time spent together made a difference for the child academically. One possible explanation for this could be in how the materials were used. Although the researcher created the activity with specific instructions for families to follow when using the materials, it is not certain that the materials were used properly. Goldenberg (1992) shared similar concerns in a study that involved providing materials as a way to impact parent involvement. Goldenberg learned that parents used the materials regularly and with enjoyment; however, the way the materials were used was consistent with the parents' understanding of what it means to learn to read, instead of the way the materials were suggested to be used. In turn, the impact of the parent involvement might not turn out the way it was intended. The present study's findings may have had the same infusion of parental preconceptions. For example, some of the activities in the present study were created for practicing the sounds of different letters of the alphabet. However, when the family members engaged their children in the activities, they might have focused on the letter name instead. As a result, the letter sounds, which were the original intent of the activity, might not have been reviewed at all.

At the onset of this study, it was the intent of the researcher to maintain regular communication with family members to alleviate some of the problems mentioned above due to inappropriate use of the activities and/or materials. Similar research studies shared the same intent for ongoing communication. Tracey (2000) stressed the importance of enhancing literacy growth through home-school connections. She described four successful family reading projects being implemented around the country. All four of these programs included an infused system of consistent, ongoing communication with the families. The programs used similar approaches to the present study in that books and/or materials were sent home to be used by children and families, but not until family members came to meetings that were set up using a workshop atmosphere where families learned how to use the materials provided. In the present study, family meetings were planned and held for the purpose of sharing ideas and strategies with family members that would improve their effectiveness in implementing the activities in the literacy bags. Unfortunately, the attendance at the meetings was minimal resulting in much less communication with families than was desired.

The five teachers chosen to participate in the present study had varying degrees of experience in the classroom. As a result, they each responded to the project in a different way. The discrepancies in teacher response made a difference among the children that was not foreseen by the researcher. For example, two of the five teachers provided incentives to their students for returning their completed log each week. One teacher went as far as allowing the return of the log on Friday to be the only homework given to the children on Thursday night. Not surprisingly, this class had the greatest response rate throughout the 15-week study. Another teacher effect came when teachers changed or

cancelled home-related routines they had implemented from the beginning of the school year through the beginning of the project. Instead of allowing the project to be a supplement to what was already taking place, the teachers chose to use it as a replacement. Children and families' reactions to the change might not have been automatic, and some of the families may have never adapted to the change.

Overall, the findings to the present study are troublesome. Based on the majority of past research findings (Brady, 1999; Bempechat, 1990; Epstein & Becker, 1982), it would be expected that family involvement in literacy-related reading and activities would have a positive effect on children's literacy gains or, at minimum, no effect at all. The consistent findings throughout this research suggested that participation in the three family involvement activities either had no effect or contributed negatively to literacy gains. Possible reasons for these results were previously addressed, and now possible explanations for the results will be connected to limitations of the research design.

Limitations of the Research Design

In measuring and tracking the time families spent on family involvement activities, the researcher relied on the self-reporting of the families. As reported by Baker and Soden (1998), the data reported are what families say they did and might not be an accurate representation of what actually took place. In close inspection of the ELLM Home Literacy Logs returned during this study, it was discovered that a few families reported the same number of minutes for each activity every week throughout the study. While this may seem suspect, the researcher did not remove the data from the analysis, instead choosing to accept the data as accurate.

Additionally, the families were asked to keep track of the number of minutes spent on each activity. A stopwatch was provided to each participant to increase the chances of accurate reporting. However, as noticed on the returned weekly literacy logs, some of the participating families used the stopwatch and reported their time to the tenth of a second while other families reported only minutes. To attain consistent data, the researcher rounded each reported time including seconds and tenths of seconds to the closest minute value. As a result, seconds were lost, which could have accounted for significant variations in time across participants.

Another limitation associated with the literacy logs came in the logs being returned to school blank or not returned at all. It was the decision of the researcher to accept the blank and missing literacy logs as a reported number of zero minutes spent on the family involvement activities. While the researcher had justifiable reasons for maintaining the legitimacy of these logs, the possibility exists that these blank logs resulted in inaccurate data, which brings another limitation to the study.

Another limitation to the present study was in the sample size. While the study started with a potential sample size of 101 children and families, the availability of informed consent forms along with both pre- and posttest results dwindled the sample size down to only 68 children and their families. Even still, when the five classes (68 children) were randomly assigned to one of two intervention groups, the sample size for the materials group became 38. Similar studies have been conducted with a great range in sample sizes. Robinson, Larsen, and Haupt (1996) investigated the effects of a take-home book project with 75 kindergarten children, while in another study Storch and Whitehurst (2001) included 367 four-year-old children whose language and literacy skills were assessed and

related to home and literacy measures. Examples of other research done in the area included different numbers in their sample sizes, but not many are as small as 38, as in the materials group for the present study. Had the sample been larger, the findings would likely be more trustworthy.

Using gain scores as a variable might have created an additional limitation to the present study. As mentioned previously, the seven-year-old children included in the study averaged negative gains on three of the eight assessments. In a kindergarten classroom, a seven-year-old student is most often in his/her second year of kindergarten. Needing to repeat a year in school could be the result of a being a struggling learner. The specific learning abilities of the children were not taken into consideration as a variable in the data analysis, but could have played a role in the results. Additionally, children in their second year of kindergarten might be expected to score higher on the pretest and have little chance for significant gains on the posttest.

Finally, the length of the study brings another potential limitation. Due to the small time lapse between pre- and posttest assessments, the gains made by children were not as great as they could have been if the study had occurred over a more extended time period. However, it was interesting to consider the attrition that took place in the overall involvement in the project. The final four weeks of the project had significantly lower minute totals reported for reading, engaging in activities, and interacting with materials. Had the project been extended, the attrition rate may have negated the benefits of the extra time.

Conclusions and Recommendations

A concluding statement is provided here along with recommendations for educators and future research endeavors. In closing, the contributions this study has made to the field will be considered.

Conclusions

The findings of the present study indicate that participation in family involvement activities are not extremely strong predictors of kindergarten children's literacy gain scores. Of the eight literacy assessments measured, only two had statistically significant relationships with the family involvement variables, and only one of those relationships was positive. A few sources have been found that share similar findings with the present study, but the majority of the research indicates that a strong positive relationship should have been evident between participation in family involvement activities and literacy gain scores. The fact that positive relationships did not emerge is bothersome, but, as has been concluded, there are many possibilities for why this is the case.

Recommendations for Instruction

Considering that the 38 children in the study who received books in their ELLM Home Literacy Bags read for three times the amount of time as the 28 children who were not given books, it is recommended that educators find ways to provide books to children and families that can be kept in their homes. In addition, these same 38 children who were also provided with literacy materials each week spent three times the amount of time engaging in literacy activities with their families as the 28 children who were not provided with literacy materials. Therefore, the same result is evident, that if educators provide literacy materials for children to use at home with their families they will be

more likely to engage in the activities together. However, to ensure a greater likelihood of the provided books and materials leading to academic gains, educators are strongly encouraged to initiate and maintain ongoing communication with families about how the materials should be used.

Strategies employed throughout this project that were successful included the choice of books used for the materials group. The 14 books were chosen from a list of books that the children were already familiar with from classroom readings. The familiarity with the piece of literature in the bag helped to make the bags more appealing and interesting to the children. A classroom practice where this could be practiced is in the books chosen for a Classroom Lending Library. Any book that is read to the class by the teacher and then placed into the lending library will be one of the most popular books chosen for check out. Further, the children's familiarity with the book will make the at-home reading of the book more pleasurable.

Recommendations for Further Research

Throughout the implementation of the "Learning the ABCs" project, the most distinct piece found to be missing was in ongoing contact with families. Future replications of the present study including providing books and activities for families to do together are needed; however, these studies should place more emphasis on the family meetings/workshops. The findings of the present study are suspect due to the lack of contact with families. The researcher did not gain enough knowledge about the implementation of the activities nor share enough about proper use of the materials.

Future replication in this area might also focus on observation of how students and their family members interact with learning activities and materials with the goal of

determining the level of quality of the experiences and their effects on students. A smaller sample size could be used in a qualitative study where family members participate in reading with children and engaging in literacy activities with or without provided literacy materials. Close observation of the interactions between adult family members and children could be done. The observer could see first hand if the skill or strategy to be learned from the activity and/or materials is actually what is shared with the child. Being able to watch how the family members interpret the activities would help make future activities more effective. The activities could be created with the end-user in mind based on lessons learned from the observations of activity implementation.

Additionally, through ongoing contact and communication with the families, a strand of research could be initiated with the intent of finding out what teachers and schools could do to enable families to become more effectively involved. Focus groups, interviews, and questionnaires could be used to gather valuable information from family members to be used in developing a more family-friendly involvement plan.

In communicating with families, important sociological variables that were missing from the present study could be taken into consideration. Information concerning the make-up of the family, the educational background of the family members, and the current literacy environment in the home could be gathered and used in developing more appropriate suggestions for activities to be implemented in the home.

The age group used for the present study was kindergarten. The impact of family involvement does not need to be held off until children enter formal schooling. Perhaps a population of three- and four-year-old children could be used with the same idea of

providing activities, books, and materials for use in the home to impact children's literacy knowledge.

Contributions of the Study

The "Learning the ABCs" project placed an emphasis on the literacy skills of letter and sound knowledge and phonological awareness. Much of the previous research had focused instead on the skills of oral language and print concepts (Hart & Risley, 1995; Owocki, 2001; Whitehurst, 2001). The findings of the present study indicated that time spent on family involvement activities can positively impact kindergarten children's gain scores on Initial Sound Fluency, which is a skill that could be considered both letter and sound knowledge and phonological awareness.

The findings of the present study also demonstrated a need for ongoing contact with family members engaged in a family literacy program. The findings from other research studies indicated the same importance (e.g., Tracey, 2000). The present study adds to the growing body of research substantiating the importance of communicating often with families.

As noted previously in the review of literature, the definitions of family involvement found in the research are varied. However, it seems that there is a slight consistency across definitions that involvement normally refers to activities that take place in the classroom, the school, or at a school function. By contrast, the definition of family involvement used for the purpose of the present study shifted the venue of family involvement from the school to the home. The academic focus used in the activities to be done at home served as the connection from home to school, but the involvement

variables were measures of time spent reading with children and engaging in literacy activities along with having literacy materials provided for use in the home. One hundred percent of the family involvement experiences used for data analysis in the present study occurred in the children's homes. The suggested shift in defining family involvement as primarily an at-home activity is a major contribution of the present study.

Overall, the present study's findings suggest that time spent participating in the chosen family involvement activities would either have no influence or a negative influence on kindergarten children's gain scores. While these findings are perplexing, the processes involved in the present study have raised potential issues that should be considered with future implementation of such a project.

ELLM
Early Literacy & Learning Model

Appendix A: ELLM Home Literacy Log

ELLM Home Literacy Log

Week Ten

Dear Family Member,
Thank you for helping us keep track of literacy activities you do with your child each week.
Each Friday, your child will bring home (1) a new **ELLM Home Literacy Bag** with activities, and (2) a new **ELLM Home Literacy Log** in a yellow folder.
STEP 1: Each day, read aloud to your child and/or engage in literacy activities with your child.
STEP 2: Keep track of your time spent daily on each activity using the stopwatch provided.
STEP 3: In the space provided, write in the number of minutes you spend each day (1) reading aloud to your child, and (2) doing literacy activities with your child. **IF YOU SPEND ZERO MINUTES READING OR DOING AN ACTIVITY, PLEASE WRITE A ZERO IN THE SPACE PROVIDED INSTEAD OF LEAVING IT BLANK. PLEASE RETURN THE FORM REGARDLESS OF THE NUMBER OF MINUTES RECORDED.**
STEP 4: Initial in the space provided at the bottom of the form.
STEP 5: Please have your child bring the completed **ELLM Home Literacy Log** in the yellow folder to his/her teacher this **FRIDAY, April 8th**.

Day of Week	(1) Read Aloud to your Child	(2) Literacy Activities
Friday April 1	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today: _____
Saturday April 2	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today: _____
Sunday April 3	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today:
Monday April 4	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today:
Tuesday April 5	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today:
Wednesday April 6	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today:
Thursday April 7	Total number of minutes you read to your child today: _____	Total number of minutes you spent doing a literacy activity with your child today: _____

Student Code: E___ **Initials:** _____ **Week of:** April 1st - April 8th

Appendix B: Table of Specifications

ELLM Home Literacy Bag Activities with Books and Materials (Letter and Sound)

	Children's Literature Selection	**Material**	**Letter and Sound Activity One**	**Letter and Sound Activity Two**
Week One: January 21	*Chicka Chicka Boom Boom*	*Chicka Chicka Boom Boom* Storytelling kit	**Title**: Where is the Letter? **Goal**: Connects sounds to letters.	**Title**: Letters in the Bag **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.
Week Two: January 28	*Kipper's Snowy Day*	Manipulative letters; wood road sign puzzle	**Title**: Soft, Wooly Crump **Goal**: Connects sounds to letters.	**Title**: Paw Print Sounds **Goal**: Recognizes and "reads" print in the environment.
Week Three: February 4	*My Tooth Is About to Fall Out*	Ball; manipulative letters	**Title**: Letter Ball **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.	**Title**: Something for Me to Find **Goal**: Manipulates letters to make words.
Week Four: February 11	*Clifford's First Valentine's Day*	Bag of alphabet pasting pieces; pointer	**Title**: Valentines **Goal**: Manipulates letters to make words.	**Title**: Environmental Print **Goal**: Recognizes and "reads" print in the environment.
Week Five: February 18	*Silly Sally*	Manipulative letters	**Title**: Path to Town **Goal**: Connects sounds to letters.	**Title**: Meeting Letters **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.
Week Six: February 25	*Brown Bear, Brown Bear, What Do You See?*	Bag of alphabet pasting pieces; glasses	**Title**: Animal Collage **Goal**: Manipulates letters to make sounds.	**Title**: I Spy **Goal**: Recognizes and "reads" print in the environment.
Week Seven: March 4	*Mouse Paint*	Chalkboard; chalk; eraser; wood road sign puzzle; puppet	**Title**: Painting Letters **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.	**Title**: Cat and Mouse **Goal**: Recognizes and "reads" print in the environment.

Week Eight: March 11	*The Farm Concert*	Chalkboard; chalk; eraser; manipulative letters; barn patterns	**Title**: Animal Language **Goal**: Manipulates letters to make words.	**Title**: In the Barn **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.
Week Nine: March 25	*The Little Yellow Chicken*	Alphabet ring; manipulative letters; paper plates	**Title**: E-I-E-I-O **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.	**Title**: Party Words **Goal**: Manipulates letters to make words.
Week Ten: April 1	*The Very Hungry Caterpillar*	Manipulative letters; cut-out circles	**Title**: Feed the Caterpillar **Goal**: Connects sounds to letters.	**Title**: Build a Caterpillar **Goal**: Manipulates letters to make words.
Week Eleven: April 8	*Pretend You're a Cat*	Alphabet ring; pointer	**Title**: Animal Letters **Goal**: Connects sounds to letters.	**Title**: Pretend You're a Spy **Goal**: Recognizes and "reads" print in the environment.
Week Twelve: April 15	*Mrs. Wishy-Washy*	Chalkboard; brown chalk; manipulative letters	**Title**: Mud Letters **Goal**: Recognizes and names all upper- and lowercase letters of the alphabet.	**Title**: In the Tub You Go **Goal**: Connects sounds to letters.
Week Thirteen: April 22	*Chester's Way*	Manipulative letters; pointer; glasses	**Title**: All in the Family **Goal**: Connects sounds to letters.	**Title**: Ride and Read **Goal**: Recognizes and "reads" print in the environment.
Week Fourteen: April 28	*Bailey Goes Camping*	Manipulative letters; flashlight	**Title**: ABC Camp Song **Goal**: Manipulates letters to make words.	**Title**: Flashlight Fun **Goal**: Recognizes and "reads" print in the environment.

ELLM Home Literacy Bag Activities with Books and Materials (Phonological Awareness)

	Children's Literature Selection	**Material**	**Phonological Awareness Activity One**	**Phonological Awareness Activity Two**
Week One: January 21	*Chicka Chicka Boom Boom*	*Chicka Chicka Boom Boom* Storytelling kit	**Title**: The Letter Tree **Goal**: Produces two words that begin with the same sound.	**Title**: What Is in the Tree? **Goal**: Blends phonemes to form words to read.
Week Two: January 28	*Kipper's Snowy Day*	Manipulative letters	**Title**: What Will You Wear? **Goal**: Produces two words that begin with the same sound.	**Title**: I Know a Word **Goal**: Blends phonemes to form words to read.
Week Three: February 4	*My Tooth Is About to Fall Out*	Pointer; manipulative letters	**Title**: Point Here and There **Goal**: Blends phonemes to form words to read.	**Title**: Tooth Fairy Talk **Goal**: Counts phonemes by segmenting phonemes to read and write words.
Week Four: February 11	*Clifford's First Valentine's Day*	Candy hearts; puppet	**Title**: Candy Counting **Goal**: Segments syllables in words.	**Title**: How Many Sounds? **Goal**: Counts phonemes by segmenting phonemes to read and write words.
Week Five: February 18	*Silly Sally*	Manipulative letters; alphabet flashcards; frog prop	**Title**: Syllable March **Goal**: Segments syllables in words.	**Title**: Leapfrog **Goal**: Counts phonemes by segmenting phonemes to read and write words.
Week Six: February 25	*Brown Bear, Brown Bear, What Do You See?*	Alphabet flashcards	**Title**: What Has This Sound? **Goal**: Recognizes beginning sounds and identifies whether two words begin with the same sound.	**Title**: Shout It Out! **Goal**: Produces two words that begin with the same sound.
Week Seven: March 4	*Mouse Paint*	Crayons	**Title**: Name That Color **Goal**: Produces two words that begin with the same sound.	**Title**: Color Blends **Goal**: Blends phonemes to form words to read.

Week Eight: March 11	*The Farm Concert*	Pointer; index cards; barn patterns	**Title**: Added Illustrations **Goal**: Blends phonemes to form words to read.	**Title**: Number Barns **Goal**: Counts phonemes by segmenting phonemes to read and write words.
Week Nine: March 25	*The Little Yellow Chicken*	Alphabet flashcards (food pictures; frog prop	**Title**: Treats for the Chicken **Goal**: Recognizes beginning sounds and identifies whether two words begin with the same sound.	**Title**: Hop It! **Goal**: Counts phonemes by segmenting phonemes to read and write words.
Week Ten: April 1	*The Very Hungry Caterpillar*	Alphabet flashcards	**Title**: Spin a Chrysalis **Goal**: Segments syllables in words.	**Title**: Caterpillar Treats **Goal**: Blends phonemes to form words to read.
Week Eleven: April 8	*Pretend You're a Cat*	Alphabet flashcards; pointer	**Title**: Guess Which Animal? **Goal**: Recognizes beginning sounds and identifies whether two words begin with the same sound.	**Title**: Body Segmentation **Goal**: Counts phonemes by segmenting phonemes to read and write words.
Week Twelve: April 15	*Mrs. Wishy-Washy*	Alphabet flashcards; manipulative letters	**Title**: Animal Sounds **Goal**: Recognizes beginning sounds and identifies whether two words begin with the same sound.	**Title**: Wishy-Washy **Goal**: Produces two words that begin with the same sound.
Week Thirteen: April 22	*Chester's Way*	Manipulative letters; alphabet ring	**Title**: Ring around the Characters **Goal**: Produces two words that begin with the same sound.	**Title**: That's the Way It Is **Goal**: Recognizes beginning sounds and identifies whether two words begin with the same sound.
Week Fourteen: April 28	*Bailey Goes Camping*	Bunny prop	**Title**: /B/ for Bailey **Goal**: Recognizes beginning sounds and identifies whether two words begin with the same sound.	**Title**: Bunny Hop **Goal**: Segments syllables in words.

Appendix C: School-Based Letters of Consent

ELLM
Early Literacy & Learning Model

January 2005

Dear (Principal's Name),

As the principal of a school involved in the ELLM program, you are already aware of the valuable information provided to us by our research efforts. As a doctoral candidate, I am interested in adding to the wealth of knowledge available to us through the use of research.

I would very much appreciate you allowing me to use the kindergarten students of (School Name) Elementary and their families for the research in my doctoral dissertation. I will be doing a study with the primary purpose of determining the strength of varying levels of family involvement in predicting kindergarten students' gain scores on literacy assessments. I would like to engage your kindergarten families in a variety of family literacy activities and measure their effect on the children's literacy development. I will explain the details of my project to you during our meeting on January 10th, 2005.

Your confidentiality and that of your school families will be protected, as no names will be used in the study. After gaining your permission for conducting my study in your kindergarten classes, I will then send a similar letter to your kindergarten teachers. The kindergarten students and their families will also receive a letter of invitation to participate in the study. I will respect the desire of your (School Name) families to be involved or uninvolved in the study.

The study is planned to begin in January and be completed in April. Please feel free to contact me should you have any comments, questions, or concerns about the study (904-620-1483). I look forward to working closely with you for the benefit of children. Thank you for your time.

Sincerely,

Rebecca England
Early Literacy and Learning Model Literacy Coach

Please indicate your willingness to participate in the study by signing below.

Signature: _____ Date: _____

ELLM
Early Literacy & Learning Model

January 2005

Dear (Teacher's Name),

As a teacher in an ELLM classroom, you are well aware of the valuable information provided to us by our research efforts. As a doctoral candidate, I am interested in adding to the wealth of knowledge available to us through the use of research.

I would very much appreciate you allowing me to use your kindergarten classroom, students, and families for the research in my doctoral dissertation. I will be doing a study with the primary purpose of determining the strength of varying levels of family involvement in predicting kindergarten students' gain scores on literacy assessments. I would like to engage your kindergarten families in a variety of family literacy activities and measure their effect on the children's literacy development. I have planned a meeting with you and your principal on Thursday, January 13th, 2005. At this meeting, I will explain the procedures for the project and answer any questions you might have.

Your confidentiality and that of your school families will be protected, as no names will be used in the study. After gaining your permission for conducting my study in your kindergarten classes, I will then send a letter of invitation to your students and their families. I will respect the desire of the (School Name) Elementary families to be involved or uninvolved in the study.

The study is planned to begin in January and be completed in April. Please feel free to contact me should you have any comments, questions, or concerns about the study (904-620-1483). I look forward to working closely with you for the benefit of children. Thank you for your time.

Sincerely,

Rebecca England
Early Literacy and Learning Model Literacy Coach

Please indicate your willingness to participate in the study by signing below.

Signature: _____ Date: _____

Appendix D: Family Letter of Consent

Learning the ABCs:
Family Involvement in Kindergarten Literacy
January 2005

PARENT INFORMED CONSENT FOR KINDERGARTEN PARENT AND CHILD PARTICIPATION

Dear Family Members,

My name is Rebecca England and I am the Early Literacy and Learning Model (ELLM) coach in your child's kindergarten classroom. As a part of my job, I visit your child's kindergarten class each week to help the children and teacher implement ELLM literacy activities. In addition to being a Literacy Coach, I am also a doctoral candidate at The University of North Florida. During the present school year, I will be doing a project called, "**Learning the ABCs: Family Involvement in Kindergarten Literacy**."

PURPOSE OF THE PROJECT
The **Learning the ABCs** project will help us learn how family involvement helps children's literacy achievement. The study will also help us learn which family involvement activities are the most effective.

PROCEDURES

- As a part of the **Learning the ABCs** project, you and your child are invited to participate in three types of literacy-related activities to take place from January 21st – May 6th:
  (1) Reading books to your child;
  (2) Engaging in literacy activities with your child using the activities provided in the **ELLM Home Literacy Bag** that will come home each Friday; and
  (3) Participating in literacy-related school events with your child.

- You will be asked to keep track of the number of minutes you spend each day reading to your child and the number of minutes you spend each day doing literacy activities with your child. A form, the **ELLM Home Literacy Log**, will be provided. You will be asked to return the completed **ELLM Home Literacy Log** each Friday. A stopwatch will be provided to help you keep track of your time.

- In order to measure the literacy achievement, participating kindergarten children will be given three literacy assessments. One of the assessments measures a child's letter recognition; one measures a child's knowledge of letters, sounds, print conventions, and word/text meanings; and one measures a child's ability to name letters, recognize sounds, blend sounds, and segment words.

PAYMENT FOR PARTICIPATION
Participants will receive a $25.00 gift certificate to Wal-Mart in appreciation for their time and efforts participating in literacy activities and completing the **ELLM Home Literacy Log**. You will be asked to complete and return the **ELLM Home Literacy Log** each Friday.

POTENTIAL RISKS AND DISCOMFORTS
We do not feel there are any potential risks to you or your child participating in the project.

POTENTIAL BENEFITS TO PARTICIPANTS
There are no direct benefits to you or your child participating in the project. However, your child's participation and your participation will help us learn more about how family involvement can impact student achievement.

CONFIDENTIALITY
The Florida Institute of Education and The University of North Florida will keep all information completely private. We will not identify any children or parents by name. We will use a number to identify you instead of your name. The only exception to our keeping your information private is when the law requires the researcher to report situations where there may be danger or harm to you, your child, or others.

PARTICIPATION AND WITHDRAWAL
Your participation and your child's participation in this study are voluntary. You may stop participating anytime without penalty. Your child can remain in his/her classroom without being a part of this study.

IDENTIFICATION OF INVESTIGATOR
If you have any questions or concerns about the study, please call Rebecca England (Principal Investigator) or Dr. Cheryl Fountain (FIE Director) at the Florida Institute of Education at The University of North Florida at (904) 620-2496. You may also call Dr. Larry Daniel (College of Education Dean) at (904) 620-2520.

RIGHTS OF RESEARCH PARTICIPANTS
You may get more information about UNF policies, the conduct of this study, and your rights as a participant from Dr. Kathaleen Bloom, chair of the UNF Institutional Review Board (IRB) at 1-904-620-2455.

STATEMENT OF INFORMED CONSENT
I have read (or someone has read to me) the information above. By signing this form, I willingly agree for my child and me to take part in the project by:

_____ providing access to my child's assessment records from The Florida Institute of Education (TERA-3 and ALRI) and Duval County Schools (DIBELS)
participating in three literacy activities; **and**
keeping track of time spent on literacy activities using the **ELLM Home Literacy Log**.

Child's Name: _____

Name of Parent (Legal Guardian): _____

Signature of Parent (Legal Guardian): _____

Address: _____

Contact Telephone: _____

Site: _____ Teacher: _____

Appendix E: Weekly Reminders Concerning Literacy Log

ELLM
Early Literacy & Learning Model

If you have not returned any home literacy logs yet – **IT IS NOT TOO LATE TO START!!** Please return your completed log this Friday and you will be eligible for a gift certificate.

*******REMINDER******

Please return your **completed ELLM Home Literacy Log** tomorrow (Friday, May 6th).

You will receive a $25.00 Wal-Mart gift certificate for your participation in returning the **completed ELLM Home Literacy Log** each week.

*******REMINDER*******

- Please return your completed **ELLM HOME LITERACY LOG** tomorrow (Friday, May 6th).
- You will receive a $25.00 Wal-Mart gift certificate for your participation in returning the completed **ELLM Home Literacy Log** each week.

*******REMINDER*******

- Please return your completed **ELLM HOME LITERACY LOG** tomorrow (Friday, May 6th).
- You will receive a $25.00 Wal-Mart gift certificate for your participation in returning the completed **ELLM Home Literacy Log** each week.

Appendix F: Institutional Review Board Approval

UNIVERSITY OF NORTH FLORIDA
ACADEMIC AFFAIRS
4567 St. Johns Bluff Road, South
Jacksonville, Florida 32224-2665
(904) 620-2455 FAX (904) 620-2457
Division of Sponsored Research and Training

MEMORANDUM

TO: Rebecca L. England
College of Education

VIA: Dr. Larry Daniel
College of Education

FROM: Kathaleen Bloom, Chair
Institutional Review Board

DATE: January 10, 2005

RE: Review by the Institutional Review Board #05-001
"Learning the ABCs: Family Involvement in Kindergarten Literacy"

This is to advise you that your project "Learning the ABCs: Family Involvement in Kindergarten Literacy", has been reviewed on behalf of the IRB and has been declared exempt from further IRB review.

This approval applies to your project in the form and content as submitted to the IRB for review. Any variations or modifications to the approved protocol and/or informed consent forms as they relate to dealing with human subjects must be cleared with the IRB prior to implementing such changes.

If you have any questions or problems regarding your project or any other IRB issues, please contact this office at 620-2498.

sah

Attachments

England, Rebecca

From: Carley, Patricia L.
Sent: Thursday, January 20, 2005 1:39 PM
To: England, Rebecca
Subject: R.England's proposal

Pat
Coordinator, Program Evaluation
Duval County Public Schools
1701 Prudential Dr.
Jacksonville, Florida 32207
904-390-2976
Ms. England,

You truly weren't kidding when you said you had included everything. This is probably the most complete proposal I have read since I assumed these duties.

The only concerns I have, and I think you have addressed them, are keeping the students anonymous and making sure that all participants have given active consent to be a part of the study. When it comes to gathering the demographic data, it is imperative that the parents know that you will be collecting it and that you will be using those data anonymously also.

If you have any questions or concerns, please feel free to either email or call.

Good luck.

Pat

Appendix G

Table G1

Number of Minutes Reported Reading with Children Weekly by Each Class

n=66	A (14)	B (12)	C (16)	D (12)	E (12)	TOTAL
Week One	988	518	868	**1159**	293	3826
Week Two	**1207**	1119	851	1037	525	4739
Week Three	**1176**	612	907	825	399	3919
Week Four	990	887	**1111**	945	607	4540
Week Five	**1537**	659	809	648	217	3870
Week Six	**1335**	947	604	607	431	3924
Week Seven	**1272**	625	305	634	495	3331
Week Eight	**1421**	393	616	517	494	3441
Week Nine A	**1195**	981	443	477	850	3946
Week Nine B	**1112**	787	567	454	407	3327
Week Ten	**1220**	891	595	554	431	3691
Week Eleven	**1282**	665	220	846	225	3238
Week Twelve	**1248**	699	397	770	156	3270
Week Thirteen	**1524**	1079	209	456	127	3395
Week Fourteen	**1485**	599	107	499	125	2815
TOTAL	18992	11461	8609	10428	5782	55272

Appendix H

Table H2

Number of Minutes Reported Engaging in Literacy Activities Weekly by Each Class

n=66	*A (14)*	B (12)	C (16)	*D (12)*	E (12)	TOTAL
Week One	1106	348	637	992	236	3319
Week Two	1526	1297	1163	1294	390	5670
Week Three	1306	413	913	1037	469	4138
Week Four	1565	890	906	942	598	4901
Week Five	1652	837	928	755	265	4437
Week Six	1709	745	577	742	337	4110
Week Seven	1707	641	345	677	544	3914
Week Eight	1619	409	711	590	578	3907
Week Nine A	1591	723	360	523	765	3962
Week Nine B	1152	638	364	358	457	2969
Week Ten	1506	682	510	514	778	3990
Week Eleven	1265	961	222	840	498	3786
Week Twelve	1424	585	400	572	135	3116
Week Thirteen	1596	889	172	404	120	3181
Week Fourteen	1394	358	142	526	122	2542
TOTAL	22118	10416	8350	10766	6292	57942

Appendix I

Table I3 and I4

Frequency Tables for TERA-3 Gain Scores for Alphabet and Conventions Subtest

Alphabet Subtest	
Gains	Frequency
-5	1
-2	1
-1	2
0	4
1	7
2	4
3	8
4	7
5	7
6	3
7	2
8	2
9	1
10	1
12	1
13	3
15	2
16	1
17	2
18	1
19	2
20	1
21	1
Total	64

Conventions Subtest	
Gains	Frequency
-9	1
-5	1
-4	1
-3	3
-2	6
-1	2
0	3
1	5
2	5
3	10
4	7
5	2
6	1
7	3
8	6
9	4
10	2
11	1
13	1
Total	64

Table I5 and I6

Frequency Tables for TERA-3 Gain Scores for Meaning Subtest and Reading Quotient

Meaning Subtest	
Gains	Frequency
-8	1
-3	1
-2	1
-1	6
0	9
1	16
2	10
3	8
4	3
5	5
6	1
7	1
8	1
12	1
Total	64

Reading Quotient	
Gains	Frequency
-7	1
-6	1
-5	1
-3	2
-2	1
0	1
1	2
2	1
3	3
4	1
5	5
6	3
7	3
8	2
9	2
10	4
11	2
12	3
13	4
14	2
15	2
17	2
18	1
19	3
20	3
21	1
23	1
24	1
25	3
26	1
29	1
32	1
Total	64

Appendix J

Table J7 and J8

Frequency Tables for DIBELS Gain Scores for Letter Naming Fluency and Initial Sound Fluency

Letter Naming Fluency	
Gains	Frequency
-14	1
-12	2
-11	1
-10	1
-9	3
-8, -7, -6, -5, -2	1 each
-1	3
0	1
1	1
2	2
3	2
4	1
5	3
6	1
7	2
8	2
9	1
10	4
11	2
13	3
15	2
16	1
17	4
19	1
20	2
21	1
22	4
27	1
28	1
29	3
32, 24, 25, 43	1 each
Total	65

Initial Sound Fluency	
Gains	Frequency
-23	1
-22	1
-20	1
-19	1
-14	1
-10	1
-9	2
-8	1
-6	2
-5	2
-4	1
-3	1
-2	1
-1	4
0	4
2	4
3	3
4	3
5	5
6, 7, 8, 9, 11, 12	2 each
14	1
15	3
16	1
17	1
18	2
19	2
20	1
23	1
24	1
44	1
Total	65

Table J9 and J10

Frequency Tables for DIBELS Gain Scores for Phoneme Segmentation Fluency and Nonsense Word Fluency

Phoneme Segmentation Fluency	
Gains	Frequency
-38	1
-32	1
-19	1
-17	1
-16	1
-13	1
-11	1
-10	1
-9	4
-8	3
-7	4
-6	2
-5	3
-3	3
-2	3
0	3
4, 5, 7	1 each
8	3
9	3
10	1
11	1
12	1
16	1
17	2
19	1
20	2
21	1
22	1
23	1
24	1
25	3
26	1
28	4
33	1
37	1
44	1
Total	66

Nonsense Word Fluency	
Gains	Frequency
-24	1
-21	1
-18	1
-10	1
-9	1
-7	1
-4	1
-3	1
-2	2
-1	4
0	3
1	3
3	2
5	4
6	1
7	2
8	4
9	4
11	6
12	1
13	4
14	2
16	2
17	1
18	1
19	1
20	1
21	2
22	1
23	2
24	1
28	1
33	1
50	1
51	1
Total	66

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1. Academic Degrees

D. Ed. University of North Florida, 2005. Major: Educational Leadership.
M. Ed. University of Florida 1995. Major: Elementary Education.
B. A. University of Florida 1994. Major: Elementary Education.

2. Professional Experience

2005 – present Senior Family Involvement Specialist, Florida Institute of Education
2002-2005 Visiting Instructor, College of Education and Human Services, University of North Florida.
Literacy Coach, Early Literacy and Learning Model, Florida Institute of Education.
1996-2002 First Grade Teacher, Windy Hill Elementary, Duval County Public Schools, Jacksonville, Florida.
1995-1996 Third/Fourth Grade Teacher, Christian Heritage Academy, Jacksonville, Florida.

3. Courses Taught

Fall 2006: LAE 3210 Foundations of Literacy, 3 credits
Spring 2005: EEC 3731 Health, Safety, and Nutrition for the Young Child, 2 credits
Fall 2004: EEC 3408 Forming Family, School, and Community Partnerships, 3 credits
Spring 2004: LAE 3210 Foundations of Literacy, 3 credits
Fall 2003: EEC 3408 Forming Family, School, and Community Partnerships, 3 credits

4. Current Professional and Academic Association Membership

1999-present National Board for Professional Teaching Standards – earned National Board Certification – Early Childhood Generalist in 1999; certificate valid 1999-2009.

5. Current External Service Activities

2007 Open Books Open Minds: Family Literacy Conference – presented a one-hour session on the implementation of an interactive family literacy workshop model
2006 Family Support America Conference – co-presented one hour session on a family involvement project that partnered a local elementary school and a state university
2002-2005 Early Literacy and Learning Model Literacy Coach – coach fifteen teachers on the literacy environment and implementation in their classroom. I model and observe literacy lessons, conference with teachers, and provide training and professional development opportunities to elicit positive change.
2003 Southeast International Reading Association – co-presented a one-hour session on the use of word walls in the primary classroom.