

EFFECTS OF A PROGRAM OF FATHER-CHILD
AND MOTHER-CHILD READING
ON CHILDREN'S READING READINESS

By

TARANEH MAVADDAT DARABI

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"Bend your minds and wills to the education of the peoples and
kindreds of the earth, that haply. . . all mankind may become the
upholders of one order, and the inhabitants of one city. . ."

Baha'u'llah

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TARANEH MAVADDAT DARABI

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The major purpose of this study was to examine the effects of workshops intended to train parents in behaviors appropriate for reading a story book to their children. Those variables expected to be affected were a) the behaviors emphasized in the workshops and b) the reading readiness of the children whose parents attended the workshops. Other objectives of this study were to determine whether mothers and fathers interact differently with their children when reading a story book and to study the relationship between parents' reading behaviors and (1) their educational background and (2) the child's sex. The relationship between the children's reading readiness and their parents' reading behavior prior to the workshops was examined. Also examined was the

relationship between children's reading readiness prior to the workshops and (1) parents' educational background and (2) parents' frequency of story book reading at home.

The study included 37 sets of parents and preschool children. There were 17 female (2 black) and 20 male (1 black) children, ages three to five years. This sample was recruited from a larger pool of 250 middle-class parents from three nursery schools. The experimental group of 19 couples and their children was randomly selected out of 37 couples who had volunteered to participate in this study.

Two training workshops were provided for the experimental group parents in which handouts were distributed and discussed and videotaped models, especially prepared for this study, were shown depicting the behaviors discussed in the handouts as well as in the workshops. The handouts distributed in the workshops included suggestions for a more effective parent-child book reading episode (e.g., asking questions that spur thinking; pointing to words and pictures; encouraging child's participation; praising the child's efforts and additional processes too numerous to list here).

Each parent-child was videotaped reading a story book twice (once before and once after the treatment, ten weeks later), and the children were tested before and after the treatment using the Reading Readiness Subtest of the Basic School Skills Inventory (BSSI). Two story books (Ask Mr. Bear and The Gingerbread Boy) were randomly assigned to mothers and fathers in each treatment group at the first taping session. At the second taping session, mothers and fathers were assigned the book not

previously read. Half of the mothers in the two groups received one book at each session and the second half received the other, while their husbands received the book not assigned to the mothers.

Parent-child reading interchange on the videotapes was coded according to the Parent-Child Reading Interaction (PCRI) Observation System, which was developed by the investigator.

The results of this study indicate that it is possible to alter parents' story book reading behaviors through two workshop meetings. There is some evidence that mothers' behaviors were more amenable to change than fathers'. Also, parents' participation in workshops resulted in higher reading readiness gain scores for their children, especially on items pertaining to word discrimination, ability to draw inferences, and ability to recall factual content.

Additionally, fathers' use of thought questions after the story and factual questions before the story was found to be predictive of their children's reading readiness. The amount of time fathers spent reading a story book with their daughters was related to their daughter's reading readiness. Also, fathers showed the tendency to ask more thought questions of their sons as compared with their daughters. Mothers' educational background was predictive of their son's reading readiness, and mothers' criticism and negative reinforcement tended to be inversely related to their children's reading readiness. Finally, the mothers' story book reading behaviors, namely their tendency to ask thought questions and give praise, predicted their children's reading readiness.

Implications for parents, parent educators, and early childhood teachers were discussed, as well as topics for future research.

CHAPTER I INTRODUCTION

Educators have paid increasing attention to the home as a learning environment and to parents as teachers of their own children during the past ten to fifteen years. Researchers have devoted much time to identifying the specific parental characteristics that lead to children's cognitive development. For example, research studies of Hess, Shipman, Brophy and Bear, 1968; Levenstein and Sunley, 1968; Olmsted, Webb and Ware, 1977; Streissguth and Bee, 1972, have supported the hypothesis that parental teaching behavior influences the cognitive development of the child.

In most parent education programs the evaluation of the program consists solely of administering intelligence or achievement tests to children who are participants and the scores from these tests have been used to evaluate the effectiveness of the program (e.g., Hanhan and Dunstan, 1975; Karnes, Studley, Wright and Hodgins, 1968; Schaefer, 1969). Only a few of the parent-child studies have used observation procedures to assess the teaching behavior of parents with children three years of age or older (Barbrack, 1970; Kuipers, Boger and Beery, 1969; Olmsted, Webb and Ware, 1977).

Most of parent education research has been limited to the study of the mother-child dyad. The father-child relationship has been severely neglected (Lamb, 1975). In the past few years, however, a number of investigators have included fathers in their research,

From these studies, a recognition of the significance of the role of the father in child development has emerged, but the majority of these studies solely involved interaction of fathers with their infants. There is only one study that has involved fathers in reading with their preschool age children. In that study, they were asked to read story books at home, with their children(Henry, 1974).

There are several reasons, then, why this study is important. First, finding that it is possible to modify parental teaching behavior through a parent program is a noteworthy addition to the research in the area. Second, having data on both parental teaching/reading behaviors and child academic performance enables researchers to examine the relationship between these two variables. It is also possible to assess the amount of variation in achievement scores accounted for by the use of these particular teaching behaviors. Finally, such an investigation provides an insight into father-child interactive behaviors and expands the knowledge of mother-child interactions.

Statement of the Problem

The concept of parents as teachers has been approached in two ways. First, there has been increased interest in the home as a learning environment, particularly during the child's early years. The main analytic technique in studies of this nature has been correlation, that is, data on parent behavior at one point in time correlated with data on child performance at a later point in time.

A number of reading researchers have looked at children's learning experiences at home, prior to school entrance. A common finding in this area of research has been that children who learn to read

easily in school are the same children whose parents have read to them at home (Durkin, 1961; Milner, 1951). The classic studies of Dave (1963) and Wolf (1964) support the previous findings that the quality of home environment and parental interest in children's intellectual development are critical, particularly in the development of verbal skills.

The second way researchers have approached the study of parents as teachers has been through laboratory and field situations. For example, studies of Flood (1977) and Olmsted, Webb and Ware (1977) have used book-reading as the instructional task to investigate, under standard conditions, what parents actually do when they interact with their children. Flood (1977) studied parent-child reading behavior of 36 mother-child dyads. Flood found six story book reading behaviors that were correlated with children's prereading score. These six behaviors were

1. warm-up questions asked by the mother
2. positive reinforcement
3. number of words spoken by the child
4. postevaluative questions asked by the parent
5. number of questions asked by the child
6. number of questions answered by the child

These findings indicate that the way a parent reads with a child has an impact upon the child's acquisition of reading readiness skills.

Olmsted, Webb and Ware (1977) studied the teaching behaviors of two groups of parents, one group which had participated in the Florida Parent Education Program and a second group which had not participated

in the program. Twenty-two low-income parent-child dyads participating in the program and 22 low-income parent-child dyads who had never been involved in a home visitation program were videotaped while reading a book. A significant difference between program and nonprogram parents was found in four parental teaching behaviors:

1. asking questions which have more than one correct answer
2. asking questions which require more than one word as an answer
3. encouraging the child to enlarge upon his response
4. giving the learner time to think about the problem

Also within the group of program parents a significant relationship was found between the use of these specific teaching behaviors and both the reading and mathematics achievement scores of the children. The results indicate that parents can be taught appropriate teaching behaviors and such behaviors have been shown to be related to cognitive growth in their children.

Experimental evidence from studies of children at age one (Irwin, 1960), two (Fodor, 1966), and three (Boroughs, 1970) has also demonstrated the positive effect on speech and language development of reading aloud to children. For example, Irwin (1960) instructed 24 mothers to read aloud to their one-year-old children for a total of about 15 to 20 minutes each day, pointing out and talking about the pictures, and in general providing a rich verbal environment. It was found that the speech development of the experimental infants at the end of the study, 18 months later, was advanced in phonetic production beyond that of the control group children. Although the three previously mentioned studies

did not use laboratory and field situations for evaluation of mothers' teaching behaviors, they provided further evidence that parents can be taught to improve their children's verbal skills through the medium of story books.

In summary, the preceding research studies have named the home environment and frequency of parents' reading to their children as factors related to children's success in school. Other studies have shown not only that parents can be taught appropriate teaching behaviors but also that changed parental behavior affects children's cognitive development. Most researchers, however, have studied mother's behavior through an intervention program in mother-child interaction and its subsequent effect upon the child's cognitive development. Both parents have rarely been included in these studies.

Bronfenbrenner (1974b) stated that 45 percent of the nation's mothers work outside the home. One in every three mothers with children under six is working today. As more mothers go to work, a greater number of fathers are spending more time with their children. We need more information on the way fathers behave and affect their children's cognitive development.

This study was designed not only to expand the knowledge of mothers' behavior but also to examine the fathers' behavior in interaction with their preschool age children, as a result of the program participation.

Considerable research evidence indicating that mothers and fathers differ in their interactions with their children necessitates the examination of the effect of parent sex in the present study.

Lamb (1976) found that mothers held their infants more often to engage in caregiving activities, while fathers held them most often to play. Kotelchuck (1976) also found that fathers spent a larger percentage of their time in playful behavior with their infants than did mothers.

Cunningham (1973) compared the interactive behaviors of mothers and fathers with their preschool age children. Each mother-child pair was observed in a toy-sorting situation, while each father-child pair was observed in a block-sorting task. Cunningham found that mothers were more verbal than fathers and also tended to use greater specificity. However, interaction sequences were somewhat shorter with mothers than with fathers. In general, mothers tended to introduce new concepts more often, while fathers used a more general orientation, new approaches, demonstrations and teaching methods.

In an investigation of the differences between mothers and fathers Gordon, Soar and Huitt (1979) found that mothers were more verbal and engaged in more teaching transactions than fathers when interacting with their infants. The tasks used in this study fell into two categories, one involving activities with an object such as a mirror, a toy on a string, blocks and buttons, and the other purely social, as in dialogue. In this study both mothers and fathers and their infants were observed at seven different sessions when the infant was 13, 19, 25, 31, 37, 43 and 49 weeks of age.

In summary, research in the field reports differential instructional behaviors for mothers and fathers. However, the difference in the tasks assigned to mothers and fathers (as in Cunningham's study) and either the changes in the task or the child's age during each session (as in Gordon,

Soar and Huitt's study) may have resulted in differential behaviors for mothers and fathers. Further research on this question is needed.

This study investigated the differential behavior for mothers and fathers assigned the same task--reading a story book to their preschool age children.

To summarize, the central purposes of this study were to investigate whether parents who are trained in the behaviors found to be effective in story reading can, in fact, demonstrate those behaviors when reading with their children; to investigate the effect of this program for parents on their children's reading readiness; and to compare the pattern of father-child and mother-child interactions during the reading of children's books. There were four subproblems. The first was to study the relationship between children's reading test scores and their mothers' and fathers' educational background, and their mothers' and fathers' frequency of story book reading at home. The second was to study the relationship between children's reading test scores and their mothers' and fathers' reading behavior. The third was to study the relationship between mothers' reading behaviors and (1) their educational background and (2) the child's sex. The fourth subproblem was to study the relationship between fathers' reading behavior and (1) their educational background and (2) the child's sex.

Definition of Terms

The term program in this study refers to two training workshops in which ways of reading a story book aloud were discussed with the parents. Details of this program are given in Chapter 3.

Parents' reading behavior is defined in terms of scores on the Parent-Child Reading Interaction (PCRI) Observation System which includes reading behaviors such as questions with more than one word and/or one correct answer; factual questions; parent comments on or points to pictures, words or sentences or discusses pictures; and additional processes too numerous to list here.

Hypotheses

This study was designed to test the following major hypotheses:

1. While reading story books to their preschoolers, mothers and fathers will engage in different types of interaction, as measured by their performance recorded by systematic observation.
2. Mothers and fathers who attend workshops on reading readiness will exhibit different story book reading behaviors from mothers and fathers not exposed to the treatment workshops.
3. Preschoolers whose parents have attended workshops on reading readiness will score higher on the reading readiness measure than preschoolers whose parents have not.

The following additional hypotheses were also examined in the present study:

4. There will be a relationship between preschool children's performance on the reading readiness measure and (a) the education of mothers, (b) the education of fathers, (c) the frequency of mother-child story book reading at home, (d) the frequency of father-child story book reading at home.
5. There will be a relationship between preschool children's performance on the reading readiness measure and (a) mother's reading behavior, (b) fathers' reading behavior.

6. There will be a relationship between mothers' reading behavior and (a) the education of mothers, (b) the sex of children.

7. There will be a relationship between fathers' reading behavior and (a) the education of fathers, (b) the sex of children.

Limitations

1. Each mother-child and father-child pair in this study was videotaped in a laboratory setting. Videotaping, as well as the laboratory setting, may have altered the behavior of the parents and their children to some degree. Researchers provide conflicting reports of the degree to which a laboratory setting affects people's behavior (Belsky, 1977; Peterson, 1975). However, efforts were made to make the studio setting more comfortable by explaining the videotape equipment to the children to satisfy their curiosity and allowing them to watch themselves and their parents on the television monitor.

2. Participants in this study were those who indicated a willingness to get involved in this project by volunteering from a sample pool of 250 parents via a letter sent to the parents whose children were attending three different nursery schools in Gainesville, Florida. This sampling is considered to be representative of the middle- to upper-middle class families in the area. Further research is needed to investigate the behavior of low income families in a story book reading situation.

3. Eleven out of 19 couples in the experimental group did not attend the second workshop in which the materials from the first workshop were reviewed and expanded. The poor attendance was in part due to a schedule conflict between this workshop and the Annual Spring Arts Festival in the city of Gainesville. In the analysis of data no

differentiation was made between the couples who had participated in both workshops and those who had only participated in the first. This was done because the second workshop was essentially a review and expansion of the first; so to assure an adequate sample size, all couples were included in the analysis.

CHAPTER II REVIEW OF LITERATURE

This chapter will provide a review of literature related to this study. First, the influences of home environment and parents' story book reading on children's reading readiness will be discussed. Following this, findings on the relationship between parental teaching/reading behavior and children's performance will be examined. Then, research identifying the differences between mothers and fathers when interacting with their children will be considered. Finally, parent education programs aimed at modifying the teaching behavior of parents affecting their children's development of language and reading skills will be discussed.

Effects of Home Environment and Reading Aloud on Children's Reading Readiness

A child's readiness for beginning reading instruction is a combination of many factors, including heredity, maturation, experiential background, and learning. Heredity and maturation are not of primary interest to this study, only experiential background and learning will be emphasized here. A child's readiness to read can be developed, extended and nurtured by the child's home environment as well as by his/her parents' attitudes, behaviors, and instructional practices.

The early literature on child rearing practices and home environment (Dave, 1963; Miller, 1969a; Milner, 1951; Wolf, 1964) suggested that the

techniques of discipline employed and the stimulating material available in the home affect the child's ability to respond to an educational program. Milner (1951) conducted a study to ascertain what particular patterns of parent-child interaction were associated with reading ability of first graders, especially when they were correspondingly related to family social status. One hundred and eight first graders, ages 6 years to 7 years 11 months, were selected to allow for a broad representation of social class (upper middle-class to lower lower-class). Out of the 108 first graders, 21 children that scored highest and 21 children that scored lowest on the California Test of Mental Maturity constituted the experimental groups. The children were each interviewed individually, to assess the children's feelings and perceptions of their family interactions. (Children expressed appreciation for the time their mothers spent taking them places and reading to them.) Mothers were interviewed to get information on the kinds of pastimes parents and children engage in together, the usual home routines, child-rearing practices and daily activities. Milner found that by the time children enter school, their reading readiness has already been significantly affected by factors in the home environment. Specifically, the middle-class child has a verbal advantage over a lower-class child due to the above component of his/her home environment.

Similarly, in a study of 55 kindergarten children, Miller (1969a) found that home prereading experiences, such as field trips, discussions, manipulative materials, library usage, and alphabet learning, were related to children's attainment of reading readiness but not to their later reading achievement.

Durkin (1961, 1963) studied 49 children from upper-lower to lower-middle class home environments. These children were given the Gates Primary Word Recognition Test and the Gates Primary Paragraph Reading Test. The two tests were administered within the first two weeks of first grade, before instruction in reading began. The group was also given the revised Stanford-Binet Scale at this time. The same testing procedure was followed every six months for two years. The parents, teachers and children were interviewed to determine factors other than intelligence that might have accounted for the children's preschool reading ability. Durkin found that mothers of early readers had a higher educational level than the mothers of non-early readers. However, the educational level of the father was not found to be a significant factor on the child's reading readiness. Also, more of the mothers of early readers pointed out words and discussed pictures when reading aloud to children; however, they said they did this in response to questions from the child. Durkin also found that the early readers had been read to regularly, with related discussions of the pictures and stories, and had been given help in learning to read at home by their parents.

The earlier work of Dave (1963) and Wolf (1964) examined the influence of the home upon children's intelligence and academic achievement. The two researchers used the same sample of 60 fifth grade children in collecting data; then each analyzed the data to answer their particular questions. Each researcher defined several home environment process characteristics as significant. Dave identified six characteristics as significant factors of the home environment's influence on children's

educational achievement. These characteristics were achievement press, language models, academic guidance, activeness of family, intellectuality in the home, and family work habits. The sum of the scores on the six environmental process variables was used as the "Index of Educational Environment" (IEE). Of particular relevance to the present review is the finding that the highest correlations with IEE were obtained on word knowledge (0.77), reading (0.73) and language (0.68) (subtests of the Metropolitan Achievement Battery).

In a study of father-to-son reading, Henry (1974) found that boys who were read to by their fathers ($N=13$) two to three times a week for six months immediately preceding entrance into first grade had significantly higher mean scores on the Words in the Context test than boys who were read to by their mothers ($N=13$). The dependent variables were Letter Naming and Word Recognition (Isolated Words and Words in Context). There was no significant difference among the group means on the Isolated Word or the Letter Naming measures. Although father-read-to boys experienced a mean of 16 weeks in treatment while mother-read-to boys showed a mean of 22 weeks in treatment, during the same six-month period, the higher scores of the father-read-to boys point out the important contribution fathers can make for later reading. (This study's significance is limited, however, because a non standardized measure was used to evaluate word recognition as well as a small sample.)

In summary, the most significant contribution of these studies is the clear indication that certain characteristics of the home, such as a rich verbal environment, are related to children's reading readiness.

The present study includes in addition to such above-described techniques as parents' questionnaire and child measures, the assessment of specific parental teaching behaviors which may contribute to a child's reading readiness.

Mother's Teaching/Interactive Style
and Child's Performance

This section of the review of literature is restricted to those studies which used direct observation of mother-child interaction focusing on language development and reading skills. There are no father-child interaction studies in this area.

Hess, Shipman, Brophy and Bear (1968, 1969) did a landmark study of parent-child interaction using direct observation in a structured setting. This longitudinal study dealt with a sample of 163 black mothers and their four-year-old children. Four different social class levels were represented, ranging from welfare families to families at the professional level. Each mother was taught three different simple tasks--toy-sort; block-sort; and etch-a-sketch. She was then asked to teach her four-year-old child each of the activities. Live observations and audio-tape recordings were made of each activity. The results indicated that the following aspects of maternal teaching style correlated with children's performance, reading readiness and subsequent reading achievement:

1. number of models mother shows child (etch-a-sketch task)
2. number of specific instructions (etch-a-sketch task)
3. orientation (block-sorting task)
4. praise and encouragement (block-sorting task)
5. specificity of feedback (block-sorting task)
6. affectionateness (etch-a-sketch and block-sorting task)

During the next ten years several other investigators utilized these same three instructional tasks in their studies. For example, Miller (1967, 1969b) patterned her study directly on the work of Hess et al., using a single rating of maternal teaching behavior. Fifty-five mother-child dyads were observed working on a jigsaw puzzle. The dyads consisted of three socioeconomic levels--middle-class, upper-lower class, and lower-lower class. The mother-child observation sessions occurred near the end of the kindergarten year. Reading readiness test scores were obtained for the sample at the end of kindergarten and reading achievement scores were obtained at the end of the first grade. Differences in teaching style were found to correlate with social class. The middle-class mothers were significantly more precise and specific in their teaching than were the lower-lower class mothers. The upper-lower class mothers, as a group, fall between the other two groups, not significantly different from either one. The results relating maternal teaching style and child reading behavior were analyzed within each socioeconomic level. For the two higher levels, there was a significant correlation between maternal teaching style and reading readiness at the end of kindergarten. Only for the middle-class sample was a significant correlation found between maternal teaching style and children's reading achievement. (Rating procedures have been very little used in the study of parental teaching behavior, due to the tremendous data reduction which occurs. Use of this procedure may have obscured many components of mother-child interactive behaviors in this study.)

An adaptation of the block sort developed by Hess et al. was used by Santin and Garber (1974) in their study of the relationship between

parental teaching behavior and child performance. For this study, 33 mother-child dyads residing in low-income housing projects were observed in their homes. The children, ranging in age from 53 to 76 months, were administered the Peabody Picture Vocabulary Test (PPVT). The Mother as Teacher Task (MATT) was used here to examine the relationship between parental teaching style and children's language development. Mother as Teacher Task is a revised version of the eight-block sort task developed by Hess and his associates. A stepwise multiple regression analysis was done using 19 parental teaching variables to predict PPVT scores. Five of the 19 variables were significant predictors of PPVT scores:

1. amount of praise
2. use of an introductory statement
3. specificity of introduction
4. use of open questions
5. nondirective teaching strategies

These results should be interpreted with caution because of the large number of variables and the small number of subjects in the data analysis.

In another study of mother-child interaction and child's language performance, Leier (1970) found that mother's

1. affectionateness
2. acceptance
3. praise
4. rewarding of independence
5. reasoning
6. encouragement of verbalization

and the child's ratings on independence and verbal initiative were positively correlated with the children's Peabody Picture Vocabulary Test score.

In this study, a language sample which was secured at home and analyzed for Mean Length of Utterance in morphemes was used to analyze mother-child verbal interaction. Each mother-child interaction session was observed in the home. These structured sessions consisted of telephone conversation, jigsaw puzzle, toy dog, matching animals and homes, wild animal pictures. Subjects in this study were 53 disadvantaged black children, ages 2 1/2 to 3 1/2, and their mothers. Leier's study, then, suggested that the most powerful variables associated with the language performance of black disadvantaged children were the mother's encouragement, reasoning and use of positive affect.

Evidence has been gathered which supports the assumption that the way a mother teaches and interacts with her child influences the language development of that child.

Reading Aloud and Children's Performance

Several studies have examined mother-child story book reading in a structured setting. The first two were descriptive studies (Hertzman, 1973, and Flood, 1977), while the third was an evaluative study of a parent education program (Olmsted, Webb and Ware, 1977). The last study (Guinagh and Jester, 1972) focuses on the quality of the parental teaching/reading skills.

Hertzman videotaped mothers and their three-year-old sons reading a book together in a semi-structured laboratory setting. The sample consisted of 11 middle-class and 11 lower-class dyads. Both verbal and nonverbal behaviors were observed. The videotapes were analyzed using a detailed rating scale which was constructed for this study. The results indicated that "middle-class mothers spent significantly more time reading to their children, and also engaged in longer verbal interactions

with them about one subject than did lower-class mothers" (p. 1615-A). Also, middle-class mothers' length of interaction sequence, use of explanation, and praise for child's self-expression were correlated with higher IQ scores for the children. In contrast, lower class mothers used significantly more control, especially control without explanation. This study indicates that the frequency with which mothers engage their children in relevant interaction, their encouragement of their children's self-expression, and the use of control during story book reading are class related.

Flood (1977) observed parent-child reading behavior in 36 mother-child dyads and examined the relationship between parental story book reading behavior and child's scores on prereading measures. The major data analysis was done using four ethnic groups and three socioeconomic levels. Ten prereading tasks were administered to each 3 1/2 and 4 1/2 year-old child and a single prereading score was obtained using factor analysis. Fourteen separate parent-child reading behaviors, 9 maternal and 5 child, were observed during the book reading situation. A combination of six of the fourteen behaviors correlated significantly with the child's prereading score. These six were

1. questions asked by the parent before the story was read
2. positive reinforcement
3. number of words spoken by the child
4. poststory evaluative questions asked by the parent
5. number of questions answered by the child
6. number of questions asked by the child

The third study, conducted by Olmsted, Webb and Ware (1977), used book reading as the activity to involve the mother-child dyad in the task. The teaching behaviors of two groups of parents, a group which

had participated in the Florida Parent Education Program, and a group which has not participated in the program, were assessed in two program sites. In each site, 44 low-income parent-child dyads were videotaped reading a book together, twenty-two of which had participated in a home visitation program and 22 of which had never been involved. According to these researchers, four parental teaching behaviors contributed to the differences between program and nonprogram parents. These four teaching behaviors were

1. asking questions which require more than one word as an answer
2. asking questions which have more than one correct answer
3. encouraging the child to enlarge upon his/her response
4. giving the learner time to think about the problem

Also within the group of program parents, a significant relationship was found between the use of these specific teaching behaviors and both the reading and mathematics achievement scores of the children.

In another study, Guinagh and Jester (1972) studied 33 black and 17 white mothers in Appalachia in an effort to investigate the validity of the parental teaching/reading skills. The mothers were given a book and asked to show it to their child. (The average age of children in this study was two years 11 months.) The interaction between parent and child was rated, using the Parent as Reader Scale (PARS), while the mother was showing the book to her child. This rating scale included some of the items from Hess et al. research. The PARS had ten items, each of which had a scale of five points. The book used to study the interaction between parent and child was What Do I Hear?, which linked different objects with their corresponding sounds. The majority of parents spent less than two minutes reading the book. It was found that

mothers rarely did anything with the possibilities of the sounds, e.g., imitating a cow's moo, the ring of a telephone, etc. The quality of the interaction suggested that many mothers had little experience reading to their children and did not utilize the book to maximize their children's learning and enjoyment.

In summary, evidence suggests that many parents do not capitalize on opportunities that may arise in a book reading situation to help their children learn. However, it was found that parents with training read to their children better than parents without training. This quality of parental reading relates to their children's reading readiness. Overall, the language learned from the stories, as well as the parent-child reading behavior and the quality of interaction and discussion of stories, makes it easier for children to learn to read. (A summary of mothers' teaching and interactive behaviors, shown to relate to children's performance, is presented in Table 1.)

It was the intent of this study to enhance parents' book reading behaviors through training workshops, thus providing richer reading related experiences for their children.

Mother-Child/Father-Child Interactive Differences

Most of the research studies of parent-child interaction have been limited to the study of the mother-child dyad. The mass of data about maternal influence on the child's development tends to deemphasize the influence that fathers exert, and thus research on father-child interaction has been neglected (Lamb, 1975). However, recent literature in the field points out that fathers are important to their children's development. These studies also report differential instructional/interactive behaviors for mothers and fathers.

Table 1
Parental Teaching and Interactive Behavior Shown to Relate to Child's Performance

Studies	Mother's Behaviors	Task
Hess, Shipman, Brophy and Bear (1968, 1969)	Number of models mother shows child Number of specific instructions Orientation Praise and encouragement Specificity of feedback Affectionateness	Toy sort, block sort and etch-a-sketch
Miller (1967, 1969b)	Number of specific instructions	Jigsaw puzzle
Santin and Garber (1974)	Praise Use of an introductory statement Specificity of introduction Use of open questions Nondirective teaching strategies	Block sort
Leier (1970)	Affectionateness Acceptance Praise Rewarding of independence Reasoning	Telephone conversation, Jigsaw puzzle, toy dog, Matching animals and homes and Wild animal pictures
Hertzman (1973)	Praise of child's self-expression Use of explanation Length of interaction	Book reading

Table 1 (Continued)

Studies	Mother's Behaviors	Task
Flood (1977)	Warm-up questions Positive reinforcement Poststory evaluative questions Number of words spoken by the child Number of questions answered by the child Number of questions asked by the child	Book reading
Olmsted, Webb and Ware (1977)	Asking questions which require more than one word as an answer Asking questions which have more than one correct answer Encouraging the child to enlarge upon his/her response Giving learner time to think about the problem	Book reading

Studies which investigated parental interactive differences with infants will be discussed first. Lamb (1976) observed 20 low- to middle-class fathers and mothers interacting with their infant at home when the children were 7 and 8 months of age. This study was conducted to ascertain if there is a difference between father-infant and mother-infant attachment (defined as proximity, touching, approaching, seeking to be held, fussing, and reaching) and affiliative (defined as smiling, vocalizing, looking, and laughing) behaviors. Lamb found that infants have no distinct preference for either parent in terms of attachment behavior. This might indicate that infants during the early months are equally attached to both parents. However, Lamb reported that as early as 8 months of age, infants preferred to play with their fathers rather than with their mothers. Lamb has suggested that children's preference for their fathers in play is due to qualitative differences in the way mothers and fathers relate to their children. For example, fathers are more likely to hold their infants in order to play with them, while mothers are more likely to hold their infants for caretaking purposes. It should be noted that fathers did not play more often with their infants than mothers. However, the type of play in which they engaged differed. Fathers engaged in idiosyncratic and rough-and-tumble type of play. Lamb concluded that infants appear to relate to their mothers primarily as attachment figures (source of security); their fathers, however, are not only attachment figures but are preferred over the mothers for affiliative interaction, especially play.

Supporting Lamb's findings, Clarke-Stewart (1978) suggested that children's proximal attachment behavior with mothers and fathers is highly similar. (The data indicated that the child attaches to the father as

well as to the mother in the early childhood.) This conclusion was drawn from observations of 14 children with their parents when they were 14, 20 and 30 months of age in natural and seminatural settings. The families were white and included various socioeconomic levels from working class to professional level. Clarke-Stewart has suggested that infant's affiliative behavior is a function of parental behavior; i.e., the way mothers and fathers relate to their children. For example, in the natural observations, mothers were more interactive than fathers in amount of verbalization, physical contact and play with toys. In highlighting the differences between mothers and fathers, Clarke-Stewart suggested that the type of play which fathers are more likely to engage in is social-physical and occurs in briefer episodes. This finding corroborates the results of Lamb (1976) who has noted the physical and physically stimulating, nonintellectual nature of paternal play. In contrast, Clarke-Stewart has suggested that mothers are more likely to engage in intellectually stimulating play activities (e.g., reading a story book, building blocks).

The study of Weinraub and Frankel (1977) gives further support to the idea that mothers and fathers behave differently when interacting with their infants, ranging from 15 to 21 months, during a free play situation. In this study mothers were found to be more likely to look, vocalize, touch, encourage, nurture, sit on the floor and share play with their child than fathers. Fathers were found to be more passive and uninvolved (but responded to requests for help from the child), and to engage in proximal interaction (roughhousing) more frequently than mothers.

Gordon, Soar and Huitt (1979) videotaped 40 white middle-class parents interacting with their first born infant in a structured teaching situation, teaching a task corresponding to the child's age. The videotaping sessions began when infants were 13 weeks of age and terminated at 49 weeks of age, taking place at six weeks intervals. The pattern of a parent showing or demonstrating nonverbally and the baby warming and responding was observed more frequently for the fathers, while explicit verbal teaching was observed more frequently for the mothers. It should be noted that either the task or the child's age could have influenced the parent-child interactive behaviors during each session.

This finding (which indicated that mothers were more verbal than fathers) supports the Rebelsky and Hanks (1977) study, which found that fathers' verbal interaction with their infants is minimal. Rebelsky and Hanks studied verbal interaction of 10 fathers and their infants by means of audiotaping all verbal interactions for a 24 hour period once every two weeks, from three months beginning at the second week of each child's life. They found that fathers spent an average of 37.7 seconds per day talking with their infants in the first three months of life. Fathers also tended to spend less time vocalizing to their infants during the last half of this study (8-12 weeks) than in the first half (2-6 weeks); this decrease was especially evident for fathers of girls.

The findings of the Rebelsky and Hanks study and the Clarke-Stewart study were based on small samples; and therefore do not justify the drawing of any strong empirical conclusions. However, the results of these studies have been supported by other studies in the field (e.g., Lamb, 1976 and Gordon et al., 1979).

Differential behaviors for mothers and fathers have been established by these studies. The type of activities mothers and fathers become involved in, and the amount and kind of verbalizations they use, are distinct and provide unique experiences for their infants.

Fewer studies have investigated the interactive differences between mothers and fathers with older children. Cunningham (1973) compared the interactive behavior of mothers and fathers with their preschool age children in an unstructured setting. Thirty-two children between the ages of 2 years 10 months and 3 years 9 months were videotaped separately with their fathers and mothers. The sample consisted of both black and white, low and middle income families. Each mother-child pair was observed in a toy-sorting situation, while each father-child pair was observed in a block-sorting task. Cunningham found that mothers were more verbal than fathers and tended to use greater specificity. However, interaction sequences were somewhat shorter with mothers than with fathers. In general, mothers tended to introduce new concepts more often, while fathers tended to use general orientations, new approaches and demonstrations as teaching methods. Since the differences found in the mothers' and fathers' interactive behaviors could have been due to the difference in the task materials assigned to mothers and fathers, the results should be interpreted with this weakness in mind.

Osofsky and O'Connell (1972) examined the effects of child behavior upon parental behavior in a structured laboratory setting. Forty-one five-year-old girls from white middle-class families were observed interacting in two separate situations with the mother and the father. Task materials were two sets of hard and easy puzzles, thus permitting the study of parental reaction to independent and dependent child

behaviors. Parent and child behavior were videotaped and coded every 15 seconds. The authors concluded that "the child's behavior had an effect upon the parents, with mothers and fathers interacting more and being more controlling when the children were dependent. . . . Mothers more often encouraged the child's efforts while fathers were more likely to help them with the task" (1972, p. 157).

This study and that of Cunningham (1973) have also reported instructional behavior differences between mothers and fathers when interacting with their preschool age children. Due to changing life styles, fathers are increasing their participation in childrearing activities; emphasizing the need for further research in this area. (A summary of mother-child and father-child teaching and interactive differences is shown in Table 2.)

In the present study, of three to five year old children, both father-child and mother-child dyads were observed reading/interacting, with a storybook as the task material, in a structured laboratory setting.

Parent Education Studies Pertinent to Reading Readiness

During the past fifteen years there has been a tremendous increase in the number of parent education programs. These parent education programs have utilized a variety of implementation procedures, have involved families with children of different ages, and have operated for varying lengths of time. This review is limited to those parent education programs that have dealt directly with language development and reading; through home visits, workshops and other means. These programs have established the fact that, regardless of implementation procedures, parents are important teachers of their children. For example, some programs have reached families with infants, toddlers, and/or preschoolers

Table 2

Mother-Child and Father-Child Teaching and Interactive Differences

Studies	Mother's Behaviors	Father's Behaviors	Child's Age
Lamb (1976)	Holding infant for caregiving	Holding infant for playing	7 and 8 months
Clarke-Stewart (1978)	Nonsocial and intellectual interaction with objects during play	Social-physical interaction and briefer episodes during play	15, 20 and 30 months
Weinraub and Franke (1977)	Looking, vocalizing, touching, encouraging, nurturing and sharing	Passive, uninvolved, but responded to requests for help; more proximal interactions (roughhousing)	15 to 21 months
Gordon, Soar and Huitt (1979)	More explicit teaching More verbal	Showing or demonstrating nonverbally	3 to 13 months
Rebelsky and Hanks (1971)		Less Verbal	2 to 13 weeks
Cunningham, (1973)	More verbal specificity Short interaction sequences Introduction of new concepts more often	Using general orientations new approaches and demonstrations as teaching methods	34 to 45 months
Osofsky and O'Connell (1972)	Encouraging the child's efforts	Helping child with the task	5 years

while utilizing a home visit approach (e.g., Boroughs, 1970; Fodor, 1966; Gordon and Jester, 1972; Irwin, 1969; Klaus and Gray, 1968; Levenstein and Sunley, 1968; Schaefer, 1969); still others have reached families with preschool age children through group meetings and workshops (e.g., Karnes, Studley, Wright and Hodgins, 1968; O'Neil, 1976; Stern, Marshall and Edwards, 1971; Wood, Barnard and TeSelle, 1974).

The following studies have administered intelligence or achievement tests to children and have used the data as an indication of program effect and indirect evidence of improvement in parental teaching behavior.

Several studies (Boroughs, 1970; Fodor, 1966; Irwin, 1960) have investigated the effects of programs of parental reading to very young children and have found that reading aloud affects language development. In a study of 24 low income mothers who were instructed to read aloud to their one-year-old children for a total of about 15 to 20 minutes each day, Irwin (1960) found that, 18 months later, the experimental group children were advanced in phonetic production compared to the control group children. In other studies, daily book reading was done with two year olds (Fodor, 1966) and three year olds (Boroughs, 1970). Boroughs and Fodor had similar results; they found that low income children benefit from oral story reading by their parents.

Levenstein and Sunley (1968) sought to determine the effects of a weekly home visit intervention program on maternal teaching behavior and their children's reading readiness. In this program, called the Verbal Interaction Project, the researchers compared the verbal intelligence of two matched groups of a culturally disadvantaged preschoolers. The experimental group was exposed for four months to stimulation of verbal

interaction with their mothers through play materials (toys and books) supplied to the mother and through home visits. The mother-child dyad was visited for half an hour 15 times during the four month period. By the end of the four months the experimental group children had received 16 toys and 7 books. The two-year-olds in this research program were tested using the Peabody Picture Vocabulary Test. The results indicated that the verbal intelligence of the experimental group children had increased. This outcome suggests not only that environmental enrichment can raise the verbal intelligence of two-year-old children but that children's mothers can be effective agents of such intervention.

The following programs have concentrated on families with school age children, involving these families in a school-based program. The research studies conducted by Wood, Barnard and TeSelle (1974) and O'Neil (1976) have focused on the influence of parental participation in a school-based program on their children's reading skills. Forty kindergarten children whose parents participated in the program and 40 children whose parents did not participate comprised the sample in the Wood, Barnard and TeSelle Study. The children in this program were attending Title I schools. Parents attended workshops where they received instructions in working with their children on reading skills and in making games twice a week. At the end of the program the Murphy-Durrell Reading Readiness test on letter names and phonemes was administered to the children. The results indicated that the children whose parents attended the program learned more letter sounds than the children whose parents did not attend. In another program, O'Neil (1976) found that reading skills of primary school-age children who had been a year below

grade level, were improved by specific weekly instructional workshops with parents and supervisions for a ten week period during the summer.

In spite of the fact that parent education programs are based on the assumption that parents are valuable teachers of their children, very few have included assessment of parental teaching behaviors as part of their program evaluation. Only three programs involving parents and children three years of age or older (i.e., Barbrack, 1970; Kuipers, Boger and Beery, 1969; Olmsted, Webb and Ware, 1977) have used observation procedures to assess the teaching behavior of the parents involved in the program. For example, the Olmsted, Webb and Ware (1977) study found significant effects of a parent education program. Data analysis indicated that four parental teaching behaviors contributed to the differences found between those parents who had participated in the program and those who had not. The participants were taught specific teaching behaviors. To assess the effectiveness of this program, the parents and their pre-schoolers were videotaped while reading a story book. These four significant teaching behaviors were

1. asking questions which require more than one word
as an answer
2. asking questions which have more than one correct answer
3. encouraging the child to enlarge upon his/her response
4. giving the learner time to think about the problem

A significant correlation was also found between the use of these four teaching behaviors by the experimental group parents and their children's reading and mathematics achievement scores. Overall, this program emphasized a small number of specific parental teaching behaviors which were stressed during the home visits and the evaluation was focused on these same specific behaviors.

The preceding parent education research studies have clearly shown that parents can facilitate the development of intellectual and academic competence of their children; that is, substantial learning can result from parent participation. It should be noted, however, that of the many parent education programs few have included direct assessment of parental teaching behavior as part of their program evaluation.

In this study, then, the focus was not only on the development of parental skills, through workshop meetings, and its subsequent effect on children's reading skills, but also on direct assessment of parental teaching behavior.

The research cited in this chapter revealed that home environment, as well as certain parental attitudes and behaviors, influence children's reading readiness, that parents can be taught how to modify their teaching behaviors to assist their children's language development, and that mothers and fathers are unique and contribute differentially to their children's development.

CHAPTER III DESIGN AND PROCEDURES

The purposes of this study were to provide workshops in order to train parents in behaviors appropriate for reading a story book and to examine the relationship between these behaviors learned and their effect on children's reading readiness. Other objectives of this study were to determine whether mothers and fathers interact differently with their children when reading a story book and to study the relationship between parents' reading behaviors and (1) their educational background, and (2) the child's sex. The relationship between the children's reading readiness prior to the workshops and their parents' reading behavior prior to the workshops was examined. There was too, as a purpose, the interest in examining the possible relationship between children's reading readiness prior to the workshops and (1) parents' educational background and (2) parents' frequency of story book reading at home.

The objectives of this study were investigated through the videotaping of each parent-child pair twice (once before and again, once after the treatment), and testing children before and after the treatment; using the Basic School Skills Inventory (BSSI). The experimental group of 19 couples and their children were randomly selected out of 37 couples who had volunteered to participate in this study. Different types of data analyses were employed to test the objectives of this study; namely, univariate and multivariate analysis of variance, analysis of covariance, correlation and stepwise regression procedures.

Hypotheses

This study was designed to test the following major hypotheses:

1. While reading story books to their preschoolers, mothers and fathers will engage in different types of interaction, as measured by their performance recorded by systematic observation.
2. Mothers and fathers who attend workshops on reading readiness will exhibit different story book reading behaviors from mothers and fathers not exposed to the treatment workshops.
3. Preschoolers whose parents have attended workshops on reading readiness will score higher on the reading readiness measure than preschoolers whose parents have not.

The following additional hypotheses were also examined in the present study:

4. There will be a relationship between preschool children's performance on the reading readiness measure and (a) the education of mothers, (b) the education of fathers, (c) the frequency of mother-child story book reading at home and (d) the frequency of father-child story book reading at home.
5. There will be a relationship between preschool children's performance on the reading readiness measure and (a) mother's reading behavior and (b) fathers' reading behavior.
6. There will be a relationship between mothers' reading behavior and (a) the education of mothers and (b) the sex of children.
7. There will be a relationship between fathers' reading behavior and (a) the education of fathers and (b) the sex of children.

Subjects

The subjects in this study included 37 sets of parents and preschool children from the Baby Gator, St. Michael, and Millhopper nursery schools in Gainesville, Florida. The sample consisted of 34 white and three black families. There were 17 female (2 black) and 20 male (1 black) children. This sample was recruited from a sample pool of 250 parents via a letter sent to the parents with an attached brief questionnaire (See Appendix A for letter and questionnaire). The volunteer parents were randomly assigned to two treatment groups; 19 experimental, 18 control. The preschool children were three-four- and five-year-olds from upwardly mobile families from middle-class backgrounds, or from middle to upper-middle class backgrounds, as determined by using the Warner Index of Status Characteristics (Warner, Meeker and Eells, 1949). Number of children in each age category is shown in Table 3.

Treatment

Two workshops were provided for the experimental group parents to help them learn and understand the underlying factors involved in a successful story book reading, thus enabling the investigator to assess not only parental teaching behaviors but also children's performance in the evaluation of this parent education program. Only two workshops were structured primarily because (1) of the father's busy schedule and fear of attrition if the time period was expanded beyond ten weeks, and (2) it was hypothesized by the investigator that two workshops were adequate in order to introduce the materials relevant to the topic while concomitantly allowing time for parents to practice behaviors necessary for story book reading, with the second workshop providing feedback, further discussion and clarification of the materials.

Table 3
Number of Children in Each Age Category^a

Age (years)	Experimental Group	Control Group
3	10	7
4	8	10
5	1	1

^aN = 37

In these workshops handouts were distributed and discussed, and videotaped models were shown depicting the behaviors discussed in the handouts as well as in the workshops (See Appendix E for the two workshop handout materials). The handouts distributed in the workshops included suggestions for a more effective teaching/reading parent-child book reading episode (e.g., asking questions that spur thinking; praising; pointing to words and pictures; and additional processes too numerous to list here). These suggestions were identified in and extracted from the available literature as effective behaviors which would provide a rich book reading experience for parents and their children.

The videotaped models that were especially taped for this study showed a parent reading a story book to his/her child in a neutral manner and a parent exhibiting techniques discussed in the workshop as being necessary for a successful and educative story book reading period. The experimental group mothers and fathers were asked to read separately to their preschoolers at least three nights a week. The previously cited research was in support of reading to preschool age children on a regular basis to ensure success in learning to read. To encourage consistency, parents were asked to fill out a reading chart calendar provided for them at the first workshop and to audiotape one of their reading sessions at home. The reading charts were collected at the second taping session and the audio tapes were collected at the second workshop. Fifteen out of 19 couples in the experimental group turned in their reading chart calendar. The charts indicated that mothers read as often as they had previously done (which was often) and fathers read more often than they had initially reported on the

questionnaire (which was seldom), which the investigator hypothesizes was due to program participation.

Data Collection

The parent-child reading interactions were videotaped twice, once at the beginning and once at the end of the study for both the control and experimental groups. The two taping sessions were ten weeks apart. (However, the actual length of time from the first workshop to the final taping was seven weeks.) At each videotaping session, the parent was presented with a story book and standard instructions which asked them to read and become familiar with the story book before taping began (See Appendix C for instructions). The two books selected were Ask Mr. Bear (Flack, 1932), which Flood (1977) had used in his study and The Gingerbread Boy (1962). These two particular books were chosen because each reached a unique climax which encouraged the child to guess and anticipate the outcome, while maintaining interest in that outcome. Also, these stories were cumulative, having a number of phrases that were repeated often throughout the story allowing for child involvement.

The two story books were randomly assigned to mothers and fathers in each treatment group at the first taping session. At the second taping, mothers and fathers were assigned the book not previously read. Half of the mothers in the two groups received one book at each session and the second half received the other, while their husbands received the book not assigned to the mothers.

Before beginning the taping, parents and children took a brief look at the videotape equipment to satisfy their curiosity. The videotaping took place in a studio on the University of Florida campus that

had been temporarily set up for this purpose. It consisted of a 12' x 12' enclosure with two small holes cut into a panel, two cameras, three monitors, a camera mixer, and a reel-to-reel recorder. The participants sat inside this enclosure on a chair (child was sitting on parents' lap). At the conclusion of the book reading activity, the parent and the child were given the opportunity to view a portion of their own videotape. At that time the parent was asked to sign the consent form to give permission to test the child and to use the videotape for educational purposes (See Appendix D for the consent form).

The data on education and reading frequency of parents were collected via a questionnaire at the beginning of the study (See Appendix A).

Tests and Instruments

Test Materials

The achievement test data for the preschool children consisted of a score for the Reading Readiness Subtest of the Basic School Skills Inventory (BSSI) (1975). (The KR 20 reliability coefficients for the Reading Readiness Subtest of the BSSI are reported to be 0.88 for four-year-old and 0.86 for five-year-old children.) The Peabody Picture Vocabulary Test (PPVT) was also administered to the children and the raw score was used as the covariate for the data analysis. The analysis of covariance was used to control statistically any initial differences among the preschool children. The reliability coefficients for raw scores are reported to be 0.75 for three-year-old, 0.81 for three and a half year old, 0.77 for four-year-old, 0.72 for four and a half year old and 0.73 for five-year-old children. The reliability coefficients for PPVT were obtained by calculating Pearson Product-moment Correlations.

Parent-Child Reading Interaction Observation System

The Parent-Child Reading Interaction (PCRI) Observation System, which was developed by the investigator, was used for observation and coding of the videotapes. The PCRI Observation System employed a number of items from previously published instruments; i.e., Mother-Child Verbal Interaction (Olmsted and Jester, 1972); Parent as Reader Scale (Guinagh and Jester, 1972); Desirable Teaching Behaviors (Olmsted, Webb and Ware, 1977); Parent and Child Reading Episode (Flood, 1977); and Parent-Child Reading Observation Schedule (Lamme and Olmsted, 1977). Olmsted, Webb and Ware (1977) reported that Desirable Teaching Behaviors used by the parents in their study correlated both with reading ($r = .50$, $p < .001$) and math ($r = .35$, $p < .05$) subtests of Stanford Achievement tests. In addition, Guinagh and Jester (1972) indicated that the correlation coefficient of Parent as Reader Scale with the child's IQ was $.30$, $p < .05$. The items from these scales were modified to reflect dimensions of parent-child reading behavior assumed to be related to children's reading readiness development. For the present study, there were 17 categories for the parent and 16 categories for the child with 7 additional categories for miscellaneous behaviors and 1 category for the overall rating of the quality of interaction shown on the videotape. Each parent-child reading interaction session was divided into three sections (before, during, and after reading the story book) where the same categories were repeated for parent and child (See Appendix B for the PCRI Observation System and the coding manual). The means and standard deviations of behaviors shown on the posttapes coded by the PCRI Observation System are presented in Table 4.

Table 4

Means and Standard Deviations of the Items for the Three Sections of PCRI Observation System^a

Item description	Section 1		Section 2		Section 3	
	Means	S.D.	Means	S.D.	Means	S.D.
Questions with more than a single word answer	0.35	0.82	1.95	3.25	0.18	0.48
Questions with more than one correct answer	0.35	0.82	1.89	3.16	0.15	0.43
Child's response to above questions	0.22	0.61	1.27	2.47	0.12	0.37
Other questions	2.34	3.17	9.54	8.62	1.37	1.82
Child's response to other questions	0.88	1.36	3.18	3.50	0.32	0.84
Child's other responses	a. b. c. d.		0.16 0.46 0.41 0.46	0.47 1.00 1.12 1.00	0.54 1.58 2.17 1.81	1.18 2.65 2.10 2.52
Child's questions	0.13	0.47	1.20	2.11	0.06	0.30
Parent fails to respond to child's question	0.01	0.11	0.14	0.65	0.00	0.00
Parent answers the child's questions	0.16	0.57	1.00	1.73	0.05	0.28
Parent comments	1.16	1.63	4.73	4.45	0.47	0.96
Child comments	0.28	0.73	2.55	3.21	0.15	0.45
Parent points to pictures	0.70	1.68	6.10	7.35	0.06	0.38
Child points to pictures	0.31	0.70	2.93	4.10	0.04	0.20
Parent points to pictures and discusses them	0.03	0.16	1.80	7.40	0.00	0.00
Child points to pictures and discusses them	0.00	0.00	0.22	0.65	0.00	0.00
Parent points to words	1.36	2.52	6.05	10.22	0.04	0.20
Child points to words	0.53	1.49	0.58	2.05	0.03	0.16
Parent points to words and discusses them	0.05	0.46	0.04	0.20	0.00	0.00
Child points to words and discusses them	0.03	0.16	0.01	0.12	0.00	0.00
Parent points to sentences	0.01	0.12	9.64	19.30	0.00	0.00
Child points to sentences	0.00	0.00	0.32	1.38	0.00	0.00
Negative reinforcement (parent)	0.03	0.23	0.27	0.75	0.01	0.11
Negative reinforcement (child)	0.00	0.00	0.19	0.97	0.01	0.11

^aN = 74

Table 4 (Continued)

Item description	Section 1			Section 2			Section 3		
	Means	S.D.	Means	S.D.	Means	S.D.	Means	S.D.	Means
Positive reinforcement (parent)	0.77	1.54	3.82	4.00	0.23	0.45			
Positive reinforcement (child)	0.21	0.80	0.43	1.00	0.05	0.23			
Negative reinforcement with explanation (parent)	0.03	0.16	0.27	0.82	0.04	0.20			
Negative reinforcement with explanation (child)	0.00	0.00	0.12	0.48	0.00	0.00			
Positive reinforcement with explanation (parent)	0.03	0.16	0.32	0.68	0.01	0.11			
Positive reinforcement with explanation (child)	0.00	0.00	0.00	0.00	0.00	0.00			
Parent encourages child to enlarge upon his/her answer	0.00	0.00	0.03	0.23	0.00	0.00			
Parent encourages child to participate in the story	0.12	0.39	7.40	10.31	0.01	0.11			
Child participates in the story as a result of parent's encouragement	0.08	0.27	5.84	8.96	0.01	0.11			
Child participates spontaneously	0.27	0.67	1.67	2.60	0.01	0.11			
Item description	<u>Miscellaneous Items</u>			Means	<u>S.D.</u>				
	Parent mentions title and reads from cover or title pages			4.00	0.00				
Parent retells story				0.85	0.36				
Child retells story				0.03	0.16				
Parent and child retell story				0.01	0.11				
Miscellaneous tallies									
a. Parent touches child				0.01	0.11				
b. Child looks away, bored				0.61	1.14				
c. Parent looks at child				3.47	10.30				
d. Mutual glances				4.11	6.23				
e. Child looks at parent				0.91	1.59				
Who turns pages?									
a. Parent				0.47	0.81				
b. Child				0.77	0.42				
c. Both				0.05	0.23				

Coder Training and Agreement

Two graduate students, one with a background in early childhood education and the other with training in reading education, acted as observers. They were given 40 hours of intensive training by the investigator. During the training sessions, the two observers made independent viewings of a videotape and then made frequency counts for PCRI items. The two observers then compared their counts and resolved differences by observing the videotapes a third time. Periodic checking, once at the beginning and at another time during the coding of the actual videotapes, was done to insure that the coders did not drift from their agreement regarding the coded items of the various behaviors. The videotapes were randomly assigned to the two observers.

Twenty-one parent child reading interaction videotape segments were randomly selected and used to establish intercoder agreement. (These 21 videotape segments are the tapes that both of the coders observed.) Intercoder agreement was calculated using correlation analysis to obtain Pearson Product-moment Correlation Coefficients (r). This analysis reflects the degree of reliability between each coded item or item composites as observed by the two coders. The reliability coefficients for the Parent-Child Reading Interaction (PCRI) Observation System are given in Table 5.

The measures of observer agreement reported are not those of percent agreement which are usually reported in observational studies. As Medley and Mitzel (1963) point out, it is possible to have 100 percent agreement where there is no discrimination between the subjects

Table 5

Intercoder Reliability for PCRI Observation System^a

Variable	Number	Name	r	Coder A		Coder B	
				Mean	SD	Mean	SD
1. Questions with more than one word and/or one correct answer	Before reading story	.71*	1.09	0.31	1.21	0.37	
	While reading story	.90*	2.00	1.07	1.80	1.14	
	After reading story	.84*	1.14	0.37	1.21	0.46	
2. Other questions	Before reading story	.85*	1.48	0.71	1.37	0.68	
	While reading story	.87*	2.53	0.89	2.22	0.93	
	After reading story	.71*	1.62	0.83	1.58	0.77	
3. Child's response to variable 1	Before reading story	.41	1.02	0.09	1.08	0.18	
	While reading story	.91*	1.43	0.64	1.53	0.76	
	After reading story	.80*	1.08	0.30	1.12	0.30	
4. Child's other responses	Before reading story	.83*	1.31	0.48	1.26	0.43	
	While reading story	.90*	2.26	0.74	2.00	0.71	
	After reading story	.62*	1.48	0.72	1.51	0.60	
5. Child's responses to variable 2	Before reading story	.91*	1.25	0.45	1.21	0.41	
	While reading story	.68*	1.60	0.71	1.50	0.54	
	After reading story	.83*	1.24	0.61	1.21	0.41	
6. Child comments or points to sentences, words or pictures and discusses pictures	Before reading story	.91*	1.25	0.38	1.20	0.40	
	While reading story	.76*	1.72	0.74	1.76	0.78	
	After reading story	.92*	1.30	0.83	1.38	0.94	

^aN = 21

* p < .001

Table 5 (Continued)

Number	Variable	Name	r	Coder		
				A	B	Mean SD SII
7.	Positive reinforcement with/ without explanation	Before reading story	.86*	1.28	0.51	1.16 0.36
		While reading story	.75*	2.00	0.80	1.65 0.68
		After reading story	.85*	1.28	0.68	1.14 0.30
8.	Parent comments or points to pictures, words or sentences and discusses pictures or words	Before reading story	.97*	1.74	0.96	1.60 0.95
		While reading story	.98*	4.36	2.56	4.30 2.73
		After reading story	.95*	1.41	0.95	1.65 1.13
9.	Parent encourages child to participate in story	Before reading story	.20	1.04	0.12	1.08 0.24
		While reading story	.88*	1.85	0.91	1.67 0.75
		After reading story	.70*	1.02	0.09	1.04 0.12
10.	Child participates in story as a result of variable 9	Before reading story	.22	1.04	0.12	1.07 0.20
		While reading story	.95*	1.72	0.86	1.56 0.74
		After reading story	.00	1.00	0.00	1.04 0.12
11.	Child participates spontaneously	Before reading story	.73*	1.10	0.25	1.10 0.25
		While reading story	.70*	1.42	0.60	1.45 0.58
		After reading story	-.07	1.04	0.12	1.02 0.10
12.	Negative reinforcement with/ without explanation	Before reading story	-.05	1.02	0.10	1.02 0.10
		While reading story	.75*	1.20	0.30	1.36 0.46
		After reading story	.84*	1.10	0.35	1.14 0.28
13.	Parent looks at child, child looks at parent or parent- child mutual glances		.84*	2.95	1.34	3.20 1.29

observed; e.g., as when all or none of the subjects display the behavior being observed. The data reported here, in contrast, are correlations which reflect the extent to which the two observers agreed on the discriminations they made between parents.

As may be seen in Table 5, some reliability coefficients for reading story segments of variables 3, 9, 10, 11 and 12 were not significant. This probably occurred because all of the parents exhibited about the same level of behavior and, therefore, their reliabilities would be low. Thus, these variables were omitted from further analysis. Several variables in Table 5 were obtained by combining categories either because the categories were conceptually similar or because the incidence of behavior in two or more categories was correlated. Their intercorrelations are shown in Appendix F.

Data Analysis

Hypothesis 1 was tested by t-test analysis, which provided for the comparison of the mothers' and fathers' reading behaviors. The independent variable for this hypothesis was the sex of the parents with the dependent variable being their behavior. This analysis was carried for each item or item composite of PCRI Observation System.

Hypothesis 2 was tested by using the General Linear Model (GLM) procedure of the Statistical Analysis System (SAS) to conduct both univariate and multivariate analysis of variance. There were five types of dependent variables for Hypothesis 2: (a) the behavior of mothers while reading a story book with their children, (b) the behavior of children while reading a story book with their mothers, (c) the behavior of fathers while reading a story book with their children,

(d) the behavior of children while reading a story book with their fathers, and (e) the difference between the variables describing the mothers' and fathers' reading styles. In each case a measure of raw gain scores (post-pre) was used. The independent variables for this hypothesis were treatment and the sex of the child.

Hypothesis 3 was tested by using the SAS GLM procedure to carry out an analysis of covariance. The dependent variable for this hypothesis was the child's posttest score on the BSSI. There were two independent variables, the sex of the child and the treatment variable. The independent variables also included three covariates: (a) children's pretest scores on the BSSI, (b) raw score on the PPVT, and (c) age of the child.

Hypothesis 4 was tested by using the SAS GLM to carry out analysis of variance (ANOVA) and the SAS correlation procedure (CORR). The dependent variable for Hypothesis 4 was the children's pretest score. In the ANOVA the independent variables were mothers' education (MED), fathers' education (FED), Mothers' story book reading frequency (MREAD) and Fathers' story book reading frequency (FREAD). The interactions were also investigated. Correlation analysis was used to measure the strength of relationship between MED, FED, MREAD, FREAD and the children's pretest score. Correlations were computed for the boys and the girls separately.

Hypothesis 5 was tested by using the SAS CORR, GLM and stepwise regression procedures. The sum of squares for multiple regression procedure represents unique variance. The stepwise regression procedure recalculates weights at each step so that the results for each variable do not depend on the order of entry. The dependent variable was the

children's pretest score on the BSSI, while the parents' reading style was the independent variable.

Hypothesis 6 was tested by using the SAS GLM procedure. The dependent variable was mothers' reading behavior and the independent variables were the education of mothers and the sex of children.

Hypothesis 7 was tested by using the SAS GLM procedure. The dependent variable was fathers' reading behavior and the independent variables were the education of fathers and the sex of children.

Type IV sum of squares which reflects unique variance was used in all of the analyses of variance and covariance.

For all hypotheses the .05 level of significance was used.

CHAPTER IV RESULTS

The results of the statistical tests (for the previously stated hypotheses) are presented in this chapter. The results of the hypotheses tested are organized into two segments: the data from the children and the data from the parents.

Children's Data

Treatment Effect

Hypothesis 3: Preschoolers whose parents have attended workshops on reading readiness will score higher on the reading readiness measure than preschoolers whose parents have not.

Hypothesis 3 was tested using the analysis of covariance. The three covariates were child's age, raw score on the Peabody Picture Vocabulary Test and pretest score on the Basic School Skills Inventory (BSSI). As part of the analysis of covariance assumption of homogeneity of regression was tested. This assumption requires the slope of the regression line be the same within each population under study (i.e., the experimental and control groups). It was found that the slopes of the regression line were equal (i.e., there was no slope-treatment interaction). The results of this analysis are shown in Table 6. A significant main effect was found for the treatment. The tests for the main effect for sex and the interaction of treatment and child's sex did not result in significant F values. Thus the

Table 6

Reading Readiness Achievement Scores as a
Function of Treatment and Child's Sex^a

Variable	df	MS	F
Treatment (TRT)	1	85.30	4.21*
Sex	1	24.35	1.20
Sex*TRT	1	28.51	1.41
Pretest	1	233.77	11.54**
Peabody	1	93.66	4.62*
Age	1	8.05	0.40
Error	30	20.25	
<u>Groups</u>		<u>Adjusted Means</u>	
Experimental		23.75	
Control		20.63	

^aN = 37

*p < .05

**p < .01

hypothesis concerning the contribution of the parents who participated in the program to their preschoolers' reading readiness was supported. The adjusted means for the two treatment groups were calculated and are shown in Table 6. The difference between these two numbers is an estimate of the mean difference between the experimental and control groups. An examination of the standard deviation with a value of 4.50 (the square root of the error MS) indicates that the treatment effect was approximately 0.7 standard deviation.

The Chi square test of independence was used to determine whether the distribution of the BSSI Reading Readiness Subtest items (12) was the same for the children in the two treatment groups after intervention. The Chi square test was only used for analysis of those items in the Reading Readiness Subtest which had only two possible outcomes. Item One (word discrimination) on the Reading Readiness Subtest was significant using the Chi square test of independence ($\chi^2 = 4.1$, $p < .05$). The analysis of covariance was used for the analysis of those items on the Reading Readiness Subtest which had more than two possible outcomes. A significant main effect for Item Four (ability to draw inferences) was found $F [1,36] = 4.05$, $p < .05$. The interaction of treatment and child's sex resulted in a significant F value $F [1,36] = 4.37$, $p < .05$ for Item Three (ability to recall factual content). The experimental group boys scored higher than the control group boys on Item Three of the Reading Readiness Subtest.

Correlates of Children's Pretests

Hypothesis 4: There will be a relationship between preschool children's performance on the reading readiness measure and a) the education of mothers, b) the education of fathers, c) the frequency of mother-child story book reading at home, d) the frequency of father-child story book reading at home.

Hypothesis 4 was tested using analysis of variance. The results of this analysis are presented in Table 7. The main effects as well as the interactions among the child's sex, parental education and parental reading frequency did not result in significant F values. Thus Hypothesis 4, concerning the children's performance on the BSSI Reading Readiness Subtest as a function of their parents' education and story book reading frequency, was not supported. Table 8 reports the educational background of mothers and fathers who participated in this study.

The correlation analysis was then employed to test and discover which variable was related to children's reading readiness, while controlling for child's sex. Table 9, for example, reports the test results of father's education in relation to the child's reading readiness, partialling out the child's sex. Table 9 shows that there is a significant correlation between the mothers' education and their male child's reading readiness performance. The amount of time fathers spent reading to their preschool age daughters narrowly missed reaching five percent statistical significance.

Table 7

Children's Pretest Score as a Function of
 Parents' Education, Frequency of Story Book Reading and
 Child's Sex^a

Variable	df	MS	F
A. Father's Education	1	0.50	0.02
B. Mother's Education	1	55.56	1.96
C. Mother's Frequency of Story Book Reading	1	0.50	0.02
D. Father's Frequency of Story Book Reading	1	10.00	0.35
E. Sex	1	0.30	0.01
F. E * D	1	26.24	0.92
G. E * C	1	1.00	0.03
H. E * B	1	3.16	0.11
I. E * A	1	15.00	0.53
J. B * C	1	0.10	0.00
Error	28	28.40	

^aN = 39

Table 8
Education Level of Mothers and Fathers^a

Education Level	Experimental Group		Control Group	
	Mother	Father	Mother	Father
<u>Baccalaureate and Below:</u>				
High School	3		3	
Junior College	3		4	
College	9	7	6	10
<u>Graduate:</u>				
Master's	5	3	4	2
Ph.D./M.D./J.D.		8		7

^aN = 37

Table 9

Correlation of Parents' Education and
Reading Frequencies with Child's Pretest Score^a

	Child's Sex	
	Male (N = 20)	Female (N = 17)
Father's Education	-0.05	0.16
Mother's Education	0.48**	0.02
Mother's Reading	-0.08	-0.25
Father's Reading	0.05	0.43*

^aN = 37

*.05 < p < .1

**p < .05

Parent's DataTreatment Effect

Hypothesis 2: Mothers and fathers who attend workshops on reading readiness will exhibit different story book reading behaviors from mothers and fathers not exposed to the treatment workshops.

In this hypothesis, there were 24 dependent variables in a breakdown of 13 parent behaviors and 11 child behaviors. With these many dependent variables there was a large probability of obtaining a small number of significant results by chance alone. To allow for this in the interpretation of the data, the following strategy was devised. The dependent variables were divided into two sets. One set included 13 measurements of parental behaviors that, in theory, should be affected by the treatment. These 13 behaviors could have occurred anywhere in the three sections of the story book reading. For example, a behavior such as asking "thought questions" is counted three times, one before, one during and one after reading a story. The second set included all other variables (11) pertaining to children's behaviors as a result of their parents' participation in this study. A series of univariate gain score analyses (post-pre) was then conducted. The alpha level was set at .05 for all analyses. If there was no treatment effect for Hypothesis 2, then one would expect to find .05 x 13 (approximately a half) significant treatment main effects in set one for each of the mothers and the fathers, and .05 x 11 (a half) significant treatment main effects in set two for the children. In addition, the same number of significant sex by treatment interactions would be expected for each set.

Table 10

Mothers' Reading Behavior as a Function of
Treatment and Child's Sex^a

Variable	df	MS	F
<hr/>			
Questions with more than one word and/or one correct answer (before reading story)			
Treatment (TRT)	1	2.30	11.36*
Sex	1	0.36	1.82
TRT*Sex	1	0.30	1.51
Error	33	1.66	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	0.43		
Control	-0.08		
<hr/>			
Questions with more than one word and/or one correct answer (while reading story)			
Treatment (TRT)	1	17.15	10.34*
Sex	1	0.98	0.60
TRT*Sex	1	0.31	0.91
Error	33	0.20	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	0.89		
Control	-0.50		
<hr/>			
Other questions (before reading story)			
Treatment (TRT)	1	3.73	11.27*
Sex	1	0.05	0.17
TRT*Sex	1	0.68	2.07
Error	33	0.33	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	0.70		
Control	0.05		

Table 10 (Continued)

Variable	df	MS	F
<u>Other questions (while reading story)</u>			
Treatment (TRT)	1	20.72	16.54**
Sex	1	0.37	0.30
TRT*Sex	1	2.90	2.30
Error	33	1.25	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	1.46		
Control	-0.06		
<u>Parent comments or points to words, sentences or pictures and discusses pictures or words (before reading story)</u>			
Treatment (TRT)	1	6.23	17.33*
Sex	1	0.36	1.02
TRT*Sex	1	0.07	0.21
Error	33	0.36	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	1.02		
Control	0.18		
<u>Parent comments or points to words, sentences or pictures and discusses pictures or words (while reading story)</u>			
Treatment (TRT)	1	52.82	12.35*
Sex	1	4.40	1.03
TRT*Sex	1	1.40	0.33
Error	33	4.30	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	2.44		
Control	-0.00		

Table 10 (Continued)

Variable	df	MS	F
Parent encourages child to participate in story (while reading story)			
Treatment (TRT)	1	12.05	9.00*
Sex	1	0.01	0.01
TRT*Sex	1	0.05	0.04
Error	33	1.34	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental		1.17	
Control		0.00	

^aN = 37^{*}p < .01^{**}p < .001

Table 10 reports the analysis which yielded significant results for mothers. Seven significant main effects from set one (for mothers who participated in the program) were found which exceeded the number expected by chance. This finding indicates a significant treatment effect for mothers who participated in the program. Two significant main effects from set two (for children while reading with their mother) were found (See Table 11). This is about the number expected by chance. Table 12 reports the analysis that yielded significant results for fathers from set one. Three significant main effects for treatment and two significant sex by treatment interactions were found, which are approximately the number expected by chance. Five significant treatment main effects from set two (for children while reading with their father) were found which exceeded the number expected by chance. This finding is reported in Table 13, which indicates significant treatment effect for children reading with their fathers. Following the gain score analysis multivariate analysis of variance was employed, for those variables that did not show significance for either the mother or father. A significant multivariate test indicates the variable was affected for the mother or father, or for both parents. The overall multivariate F values for the variables of child's commenting on or pointing to pictures or words or discussing pictures, and child's responses to other questions using Criterion method Hotelling-Lawley Trace, were F [2,32] = 3.27, $p < .05$ and F [2,32] = 4.61, $p < .05$. Since only two significant results of multivariate analysis of variance were found, no table is reported. Overall, there were nine child reading behaviors out of a total of 22 possible behaviors (when children were reading with both their mother and father) that were

Table 11

Child's Reading Behavior While Reading With the Mother
as a Function of Treatment and Child's Sex^a

Variable	df	MS	F
<u>Child's Other responses (before reading story)</u>			
Treatment (TRT)	1	2.06	8.23*
Sex	1	0.05	0.21
TRT*Sex	1	0.37	1.47
Error	33	0.25	
<u>Groups</u> <u>Adjusted Means</u>			
Experimental	0.50		
Control	0.01		
<u>Child's Other responses (while reading story)</u>			
Treatment (TRT)	1	14.82	15.74**
Sex	1	0.07	0.07
TRT*Sex	1	0.08	0.09
Error	33	0.94	
<u>Groups</u> <u>Adjusted Means</u>			
Experimental	1.08		
Control	-0.22		

^aN = 37

*p < .01

**p < .001

Table 12

Fathers' Reading Behavior as a Function of
Treatment and Child's Sex^a

Variable	df	MS	F
<hr/>			
Questions with more than one word and/or one correct answer (before reading story)			
Treatment (TRT)	1	1.62	7.57*
Sex	1	0.01	0.05
TRT*Sex	1	0.19	0.89
Error	33	0.21	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	0.33		
Control	-0.09		
<hr/>			
Other questions (while reading story)			
Treatment (TRT)	1	11.83	11.13*
Sex	1	0.06	0.06
TRT*Sex	1	0.05	0.05
Error	33	1.06	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental	1.40		
Control	0.24		
<hr/>			
Other questions (after reading story)			
Treatment (TRT)	1	0.02	0.81
Sex	1	0.05	0.14
TRT*Sex	1	4.71	11.46*
Error	33	0.41	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental- Female	0.44		
- Male	-0.33		
Control - Female	-0.36		
- Male	0.31		
<hr/>			

Table 12 (Continued)

Variable	df	MS	F
Positive reinforcement with/without explanation (after reading story)			
Treatment (TRT)	1	0.20	4.03
Sex	1	0.02	0.54
TRT*Sex	1	0.39	7.79*
Error	33	0.05	
Groups Adjusted Means			
Experimental- Female	0.06		
- Male	-0.21		
Control - Female	0.00		
- Male	0.15		
Parent comments or points to words, sentences or pictures and discusses pictures or words (while reading story)			
Treatment (TRT)	1	60.48	7.70*
Sex	1	0.30	0.04
TRT*Sex	1	4.82	0.61
Error	33	7.86	
Groups Adjusted Means			
Experimental	2.85		
Control	0.24		

^aN = 37

*p < .01

Table 13

Child's Reading Behavior While Reading With the Father
as a Function of Treatment and Child's Sex^a

Variable	df	MS	F
Child's response to questions with more than one word and/or one correct answer (while reading story)			
Treatment (TRT)	1	2.13	5.02*
Sex	1	0.04	0.11
TRT*Sex	1	1.65	3.89
Error	33	0.42	
<u>Groups</u>		<u>Adjusted Means</u>	
Experimental	0.38		
Control	-0.11		
Child's response to <u>Other</u> questions (before reading story)			
Treatment (TRT)	1	1.61	8.38**
Sex	1	0.71	0.91
TRT*Sex	1	0.02	0.11
Error	33	0.20	
<u>Groups</u>		<u>Adjusted Means</u>	
Experimental	0.50		
Control	0.04		
Child comments or points to words or pictures and discusses pictures (while reading story)			
Treatment (TRT)	1	6.25	8.62**
Sex	1	0.25	0.35
TRT*Sex	1	0.13	0.18
Error	33	0.72	
<u>Groups</u>		<u>Adjusted Means</u>	
Experimental	1.08		
Control	0.25		

Table 13 (Continued)

Variable	df	MS	F
Child's Other responses (while reading story)			
Treatment (TRT)	1	12.84	17.69***
Sex	1	0.00	0.00
TRT*Sex	1	0.03	0.04
Error	33	0.72	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental		1.05	
Control		-0.15	
Child participates spontaneously (before reading story)			
Treatment (TRT)	1	0.16	2.81
Sex	1	0.28	4.78
TRT*Sex	1	0.31	5.35*
Error	33	0.05	
<u>Groups</u>	<u>Adjusted Means</u>		
Experimental- Female		0.36	
- Male		0.00	
Control - Female		0.04	
- Male		0.05	

^aN = 37

*p < .05

**p < .01

***p < .001

affected, before, during and after reading a story, for children as a result of what the parents learned through the program workshops, utilizing both univariate and multivariate analyses of variance.

A summary of the results from set one, given in Tables 10 and 12, is presented in Table 14. A corresponding summary of the results from set two, given in Tables 11 and 13, is presented in Table 15.

With regard to the dependent variable of the difference between mothers' and fathers' gain scores, there were no significant treatment main effects and only one significant treatment by sex interaction. The resulted significant F value was $F(1,33) = 7.10$, $p < .05$. This result was for the variable "parent comments on or points to sentences, words or pictures and discusses pictures or words." Since there were a large number of significance tests, the latter result could well be due to chance. The former result supports the hypothesis that the treatment effect is the same for both mothers and fathers. It might be noted that the data analysis which treated the parents separately seemed to give stronger evidence for a treatment effect on the mothers than for an effect on the fathers. The results of these two analyses then are not entirely consistent.

Thus, Hypothesis 2 concerning program participation effects and consequent parent-child book reading behavior change was supported, especially for mothers, and for children reading with their fathers.

Table 14

Summary of Behaviors Changed as a Result of
Mothers' and Fathers' Program Participation

Variable	Mothers	Fathers
Questions with more than one word and/or one correct answer		
Before reading story	x	x
While reading story	x	
Other questions		
Before reading story	x	
While reading story	x	x
After reading story		x ^a
Parent comments or points to words, sentences or pictures and discusses pictures or words		
Before reading story	x	
While reading story	x	x
Parent encourages child to participate in story		
While reading story	x	
Positive reinforcement with/without explanation		
After reading story		x ^a

^aSignificant interaction for girls

Table 15

Summary of Child's Reading Behaviors

Variable	Child's Behavior		
	Mother	Father	Mother or Father or Both
Child's <u>Other</u> responses			
Before Reading Story	x		
While Reading Story	x	x	
Child's responses to questions with more than one word and/or one correct answer			
While Reading Story	x		
Child responses to Other questions			
Before Reading Story	x		
While Reading Story	x	x	
Child comments or points to words or pictures and discusses pictures			
Before Reading Story		x	
While Reading Story	x		
Child participates spontaneously			
Before Reading Story	x ^a	x ^a	

^aSignificant interaction for girls

Parent's Sex

Hypothesis 1: While reading story books to their preschoolers, mothers and fathers will engage in different types of interaction, as measured by their performance recorded by systematic observation,

Hypothesis 1 was tested statistically by t-test analysis. The results of this analysis are presented in Table 16. Positive results show that the behavior was more frequent for mothers and negative results indicate that the behavior was more frequent for fathers. For the two behaviors indicated in Table 16, the difference between mothers' and fathers' reading behaviors approached statistical significance. The two behaviors were commenting, or pointing to the pictures, words or sentences, or discussing the pictures or words, and encouraging the child to participate in the story. Mothers tend to emit these behaviors more frequently than do fathers. However, there is little support for Hypothesis 1.

Correlates of Parent-Child Reading BehaviorPreschoolers' Performance on the BSSI. Hypothesis 5:

There will be a relationship between preschool children's performance on the reading readiness measure and a) mothers' reading behavior, b) fathers' reading behavior.

The analysis for Hypothesis 5 had numerous variables which could have been entered into a multiple regression equation. Consequently, correlation analysis was used to suggest variables for inclusion in a multiple regression analysis. The correlation data are reported in Table 17. The significant variables from the correlation analysis as reported in Table 17 were then used in a multiple regression analysis. The multiple correlation coefficient squared for mothers was $R^2 = 0.30$, $\alpha = 0.23$ and for

Table 16

Comparison of Mothers' and Fathers' Reading Behavior Before Treatment Workshops^a

Variable	t
Questions with more than one word and/or one correct answer	
Before reading story	0.52
While reading story	1.26
After reading story	1.61
Other questions	
Before reading story	-0.17
While reading story	-0.25
After reading story	1.02
Positive reinforcement with/without explanation	
Before reading story	0.46
While reading story	-0.03
After reading story	1.31
Parent comments or points to pictures, words or sentences and discusses pictures or words	
Before reading story	-1.34
While reading story	-0.21
After reading story	1.85*
Parent encourages child to participate in story	
Before reading story	-1.00
While reading story	1.84*
After reading story	1.00
Negative reinforcement with/without explanation	
Before reading story	-0.37
While reading story	-0.04
After reading story	1.68
Parent looks at child, child looks at parent or parent-child mutual glances	0.68

^aN = 37

*.10 < p < .05

-t - fathers behavior more frequent

+t - mothers behavior more frequent

Table 17

Correlation of Parents' Reading Behaviors
with Children's Pretest Score^a

Variable Name	Mother	Father
Questions with more than one word and/or one correct answer (after reading story)	-0.32**	0.35**
<u>Other</u> questions (after reading story)	-0.37**	-0.48***
Child's response to <u>Other</u> questions (after reading story)	-0.36**	-0.31*
Positive reinforcement with/without explanation (after reading story)	-0.35**	-0.08
Parent comments or points to pictures, words, or sentences and discusses pictures and words (after reading story)	-0.33**	-0.38**
Negative reinforcement with/without explanation (after reading story)	-0.41***	0.00
Child's <u>Other</u> responses While reading story	0.15	-0.33**
Child comments or points to pictures or words and discusses pictures (after reading story)	-0.33	-0.31*

^aN = 37

*.10 < p < .05

**p < .05

***p < .01

fathers it was $R^2 = 0.50$, $\alpha = 0.003$. The results of multiple regression analysis for individual variables are shown in Tables 18 for mothers and 19 for fathers. None of the mothers' story book reading behaviors and only four of the fathers' resulted in a significant F value. The results indicate that mothers' story book reading behaviors account for 30 percent of the variance in their children's performance on the Reading Readiness Subtest. The results seen in Table 18 indicate that there was a negligible relationship between the way mothers read a story book and their preschoolers' performance on the Reading Readiness Subtest. However, as may be seen in Table 19, the number of thought questions asked by fathers after the story (i.e., questions with more than one possible correct answer or requiring more than one word answer) and children's commenting on or pointing to pictures or words in the story after its completion had a positive relationship to reading readiness. In contrast to the above, the number of factual questions asked by fathers after the story (i.e., any questions other than thought questions), the number of comments made by fathers regarding the story or its pictures after the story, and the number of factual questions answered by children did have a negative relationship to reading readiness. Through all these behaviors, fathers' story book reading behaviors accounted for 50 percent of the variance in their children's reading readiness scores.

Stepwise regression was used to select variables when there were too many to be used in a single regression equation. The use of a stepwise regression indicated the importance of two reading behaviors for mothers and one reading behavior for fathers in predicting readiness. The results of stepwise regression are shown in Tables 20 and 21. The

Table 18

Children's Pretest Performance as a Function of Mothers' Reading Behavior^a

Variable	df	Regression Coefficient	Standard Error	MS	F
Intercept		20.44	7.20		
Questions with more than one word and/or one correct answer (after reading story)	1	0.49	4.33	0.32	0.01
<u>Other</u> questions (after reading story)	1	-0.17	2.51	0.12	0.00
Child comments or points to words or pictures and discusses pictures (after reading story)	1	-1.07	3.03	3.14	-.12
Child's <u>Other</u> responses (while reading story)	1	2.82	1.66	71.94	2.86
Child's response to <u>Other</u> questions (after reading story)	1	-3.57	3.04	34.80	1.38
Positive reinforcement with/without explanation (after reading story)	1	-0.99	2.51	3.92	0.16
Parent comments or points to words, sentences or pictures and discusses pictures or words (after reading story)	1	2.66	2.50	28.68	1.14
Negative reinforcement with/without explanation (after reading story)	1	-11.76	10.21	33.37	1.33
Error	28			25.16	

^aN = 37

Table 19

Children's Pretest Performance as a Function of Fathers' Reading Behavior^a

Variable	df	Regression Coefficient	Standard Error	MS	F
Intercept		10.21	8.54		
Questions with more than one word and/or one correct answer (after reading story)	1	13.00	5.60	93.39	5.40**
<u>Other</u> questions (after reading story)	1	-4.03	1.94	74.36	4.30**
Child comments or points to words or pictures and discusses pictures (after reading story)	1	7.18	3.31	81.48	4.71**
Child's response to <u>Other</u> questions (after reading story)	1	-7.47	5.31	34.30	1.98
Child's <u>Other</u> responses (while reading story)	1	-0.39	0.93	3.02	0.17
Positive reinforcement with/without explanation (after reading story)	1	3.36	4.93	8.05	0.47
Parent comments or points to words, sentences or pictures and discusses pictures or words (after reading story)	1	-7.99	2.75	145.83	8.44*
Error	29			17.28	

^aN = 37
 *p < .05
 **p < .01

Table 20

Children's Pretest Performance as a Function of Mothers' Reading Behavior^a

Variable	df	Regression Coefficient	Standard Error	MS	F
Negative reinforcement with/without explanation(while reading story)	1	- 5.12	2.57	87.81	3.96*
Negative reinforcement with/without explanation (after reading story)	1	-11.06	3.76	192.00	8.66**
Error	34			22.15	

^aN = 37
 *p < .05
 **p < .01

Table 21

Children's Pretest Performance as a Function of Fathers' Reading Behavior^a

Variable	df	Regression Coefficient	Standard Error	MS	F
Questions with more than one word and/or one correct answer (after reading story)	1	16.46	4.93	174.65	11.13**
Child's <u>Other</u> responses (before reading story)	1	5.92	1.46	112.98	7.20*
Child's response to <u>Other</u> questions (after reading story)	1	-12.11	4.07	138.66	8.84**
Parent comments or points to words, sentences, or pictures and discusses pictures or words (after reading story)	1	- 6.86	1.77	234.05	14.92**
Error	32			15.68	

^aN = 37

*p < .01

**p < .001

variables are reported as they entered the regression equation. The results in Table 20 indicate that criticism and disagreement (with or without corrective feedback) as voiced by mothers had a negative relationship to their children's reading readiness. The results in Tables 19 and 21 indicate that children's "other responses" after the story had a negative relationship to their reading readiness (Table 19). In contrast, children's "other responses" before the story had a positive relationship to their reading readiness (Table 21). These two behaviors occurred when children were reading stories with their fathers. The multiple correlation coefficient squared for mothers was $R^2 = 0.28$, $\alpha = 0.007$ and for fathers it was $R^2 = 0.51$, $\alpha = 0.0001$. The results seen in Table 20 indicate that mothers' criticism and disagreement, with or without corrective feedback during or after reading a story, accounts for 28 percent of the variance in their children's performance on the Reading Readiness Subtest. In contrast, fathers' story book reading behaviors, seen in Table 21, account for 51 percent of the variance in their children's reading readiness scores.

Stepwise regression analysis of mothers' and fathers' reading behavior (i.e., within a family reading behavior) revealed seven significant reading behaviors for mothers and three reading behaviors for fathers when reading a story book with their children (See Table 22). The multiple correlation coefficient squared for mothers and fathers was $R^2=0.84, \alpha=0.0001$. This result indicates that story book reading behaviors in a family account for 84 percent of the variance in children's scores on the Reading Readiness Subtest. The R^2 result is inflated by chance because of the large number of variables used in this analysis. A summary of mothers' and fathers' reading behavior as an influence on their children's reading readiness is presented in Table 23.

Table 22

Children's Pretest Performance as a Function of Mothers' and Fathers' Reading Behavior^a

Variable	df	Regression Coefficient	Standard Error	MS	F
<u>Mother</u>					
Child's <u>Other</u> responses (while reading story)	1	4.92	0.93	174.35	27.95***
Child's response to <u>Other</u> questions (before reading story)	1	4.46	1.61	48.00	7.70**
Child's response to <u>Other</u> questions (while reading story)	1	-3.33	0.84	96.63	15.50***
Child's response to <u>Other</u> questions (after reading story)	1	-6.13	1.08	198.74	31.86***
Negative reinforcement with/without explanation (while reading story)	1	-3.24	1.47	30.24	4.85**
Child comments or points to words or pictures and discusses them (after the story)	1	-1.44	0.62	37.20	5.48*
Parent looks at child or parent-child mutual glances or child looks at parent	1	-1.60	0.57	46.72	7.50**

Table 22 (Continued)

Variable	df	Regression Coefficient	Standard Error	MS	F
<u>Father</u>					
Questions with more than one word and/or one correct answer (after reading story)	1	20.81	3.64	204.42	32.77**
<u>Other</u> questions (after reading story)	1	-2.83	0.81	76.81	12.31***
Child's response to <u>Other</u> questions (before reading story)	1	8.91	2.30	95.56	15.32***
Error	25		6.24		

aN = 37

*p < .05
 **p < .01
 ***p < .001

Table 23

Summary of Relationship Between Children's Reading Readiness
and Parent's Behavior Prior to Program Participation

Variable	Mothers	Fathers	Mothers and Fathers
Questions with more than one word and/or one correct answer (after reading story)	+	+	(F)
<u>Other</u> questions (after reading story)	-	-	(F)
Child comments or points to words or pictures and discusses pictures (after reading story)	+	-	(M)
Child's response to <u>Other</u> questions			
Before reading story	+	(M)	+ (F)
While reading story	-	(M)	-
After reading story	-	(M)	-
Child's <u>Other</u> responses			
Before reading story	+	-	(M)
While reading story	-	+	(M)
Positive reinforcement with/without explanation (after reading story)		+	
Negative reinforcement with/without explanation		-	
While reading story	-	-	
After reading story	-	-	
Parent looks at child or parent-child mutual glances or child looks at parent			- (M)
- Negative influences on children's reading readiness M = Mother			
+ Positive influences on children's reading readiness F = Father			

Mothers' Reading Behavior. Hypothesis 6:

There will be a relationship between mothers' reading behavior and a) the education of mothers, b) the sex of children.

Hypothesis 6 was tested using the multiple regression procedure.

The significant results, for mothers' reading behavior as a function of their education, are reported in Table 24. As may be seen in Table 24, the number of thought questions asked before reading a story and the amount of praise provided by mothers was positively related to their educational background, as reflected in the reported adjusted means.

The multiple correlation coefficient for mothers asking thought questions before reading a story was $R^2 = 0.14$, $\alpha = 0.02$; for positive reinforcement before reading a story it was $R^2 = 0.11$, $\alpha = 0.04$; for positive reinforcement while reading a story it was $R^2 = 0.23$, $\alpha = 0.003$. The results indicate that mothers' educational background accounts for 14, 11 and 23 percent of the variance in their reading; namely, asking thought questions before reading a story and praising before and while reading a story, respectively.

The mothers' reading behavior was also analyzed as a function of their children's sex. This analysis yielded no significant results.

Fathers' Reading Behavior. Hypothesis 7:

There will be a relationship between fathers' reading behavior and a) the education of fathers, b) the sex of children.

Hypothesis 7 was also tested by using the multiple regression procedure. The relationship between fathers' reading behavior and their education was analyzed. No significant F values were found for fathers.

Table 24

Mothers' Reading Behavior as a Function of Education^a

Variable	df?	MS	F	Adjusted Means	
				Baccalaureate and below	Graduate
Question with more than one word and/or one correct answer (before reading story)	1	0.23	5.43*	1.03	1.28
Mother's education	35	0.04			
Error					
Positive reinforcement with/without explanation					
Before Reading Story	1	0.42	4.18*	1.06	1.55
Mother's education	35	0.10			
Error					
While Reading Story	1	2.29	10.01**	1.47	2.28
Mother's education	35	0.23			
Error					

^aN = 37

*p < .05

**p < .01

The fathers' reading behavior was also analyzed as a function of their children's sex. Only one significant F value was found, $F [1, 35] = 4.72$, $p < 0.05$. Since there was only one significant result no table is reported. The result indicated that fathers pose thought questions to their sons, as reflected in the reported adjusted means (1.32 for females and 1.77 for males). The multiple correlation coefficient for fathers' reading behavior as a function of their children's sex was $R^2 = 0.12$, $\alpha=0.03$. This result indicates that 12 percent of the variation in fathers' reading behavior is explained by their children's sex.

In view of the necessity of running a large number of significance tests for Hypotheses 6 and 7, because of a large number of variables, the reported results may well have been due to chance.

CHAPTER V DISCUSSION

The three major purposes of this study were (1) to compare the pattern of mother-child and father-child interactions during the reading of children's books, (2) to compare the story book reading behavior of parents who have participated in the program workshops to that of parents who have not participated in the workshops and (3) to examine the relationship between parents' program participation and their children's reading readiness. There were four subproblems. The first was to study the relationship between children's reading test scores and their mothers' and fathers' educational background, and their mothers' and fathers' frequency of story book reading at home. The second was to study the relationship between children's reading test scores and their mothers' and fathers' reading behavior. The third was to study the relationship between mothers' reading behaviors and (1) their educational background and (2) the child's sex. The fourth subproblem was to study the relationship between fathers' reading behavior and (1) their educational background and (2) the child's sex.

Hypothesis 1

Differences between father-child and mother-child interactions during a book reading situation were not significant. The data indicated that mothers and fathers read similarly. A factor which may have contributed to the nonsignificant differences between the parents' behavior was the

task involved, which was the same for both mothers and fathers (i.e., the reading of two story books). In the studies of Osofsky and O'Connell (1972) and Cunningham (1973), for example, that reported differential patterns of behavior, the tasks were not the same (i.e., toys and puzzles for mothers and blocks and different puzzles for fathers).

Another possible reason may be that "traditionally" story book reading has been considered a social interaction done purely for pleasure and not for teaching. Following this line of reasoning, it seems, then, that the fathers' and mothers' behaviors (i.e., social stimulation and playfulness during story book reading), may therefore be alike. Similar findings were reported by Clarke-Stewart (1978), who found no difference between mothers' and fathers' frequency and proportion of social-physical play with their fifteen-month old infants.

Hypothesis 2

The finding, that program participation changed the mother-child and father-child reading activities, indicated that the program workshops had an impact on those parents who were trained in the behaviors found to be effective in reading readiness. In conjunction with the effect of treatment on reading readiness (See Hypothesis 3) this suggests that it is possible to teach parents specific teaching/reading behaviors and that this instruction can affect their children's reading readiness. The finding of effect for program participation on parents' teaching/reading behavior is important, as it provides further evidence of the ability of a parent education program to improve the teaching behaviors of parents. The current findings agree with those of Olmsted, Webb, and Ware (1977), which show that parents with training read better than parents without training.

Influences of Program Participation on Father-Child Reading Behavior

Two significant interaction effects between treatment and child's sex were found for those fathers who participated in the program. The results indicated that girls did better when their fathers asked factual questions and praised them after ending a story than did boys in the experimental group, and both boys and girls in the control group.

However, the evidence for the interaction effect between treatment and child's sex for fathers' data is weak. Because of the necessity of running a large number of significance tests.

The tendency of fathers of daughters to ask more factual questions than fathers of sons may reflect some sex-role stereotyping even with children at the preschool level. That is to say, fathers may tend to relate to their daughters at a lower cognitive level. Specifically, fathers may not feel the need to test their sons' memory, while feeling it necessary to test the daughter's memory.

Another significant aspect of father-daughter interaction was the effect of praise on girls' reading score. This finding is supported by the study of Crandall, Dewey, Kathovsky, and Preston (1964). Crandall and her colleagues found that the academic achievement of girls in grades two through four was positively correlated with paternal praise for their intellectual efforts. Along the same line, studies by Baumrind (1971), and Radin and Epstein (1975) reported a high correlation between paternal behavior and daughters' cognitive score between ages of four to six. This finding may imply that fathers of daughters may perceive the role of father to daughter as more nurturant than the role of father to son. Fathers' behavior does not have a specific cognitive focus then for their daughters but rather, acts as an influence of support.

Three main effects were found for those fathers who participated in the program workshops. The experimental group fathers (1) asked more thought questions before reading a story, (2) asked more factual questions while reading a story, (3) commented more on or pointed to more sentences, words or pictures and discussed more pictures while reading a story book than the control group fathers.

The results indicated that not only was the program valuable for the parents but also that it influenced the children's story book reading behavior. That is, fathers' participation in the program influenced their children's book reading behavior (1) to become more actively involved in the story (girls in particular), (2) to answer thought questions while reading a story, (3) to answer factual questions before reading a story and (4) to comment on or point to pictures or words in the story book while reading a story.

Overall, the findings, with respect to fathers' behavior change due to program participation, marginally exceeded chance result. Several reasons could be offered, namely (1) that fathers are resistant to behavior change and (2) that it takes them longer to change their behavior once initial resistance is overcome.

In contrast, story book reading behaviors of children who read with their fathers changed significantly due to their fathers' program participation. These father-child findings imply that the experimental group fathers read well, and due to their program participation and concerted effort to apply themselves to story book reading, their children benefited.

Influences of Program Participation on Mother-Child Reading Behavior

Mothers' program participation resulted in mothers' (1) asking questions (thought and factual, before and while reading a story), (2) commenting on, or pointing to pictures, words or sentences, or discussing pictures or words (before and while reading a story) and (3) encouraging their children to participate in the story more than the control group mothers did.

Mothers' program participation resulted in more "other responses" category to questions asked of their children. This item is composed of child's responses such as "I don't know," "Yes," "No," nonverbal and no responses. One explanation that may be offered for these results is that parents who ask questions or make comments, thus interrupting the flow of the story, or who do not allow their child adequate time to explore ideas before interrupting their thought processes, will create an environment in which there is little time to stimulate thinking, thus receiving answers such as "I don't know," "No," or "Yes." Another explanation may revolve about parents' attempts to practice those behaviors discussed in the workshops, which may have increased parent-child frequency of interaction during a story book reading setting, consequently increasing occurrence of answer responses such as "I don't know," "No," or "Yes."

The results of mothers' behavior change due to program participation were significant. This finding seems to imply that mothers' behavior, as affected by program participation, changed more easily than fathers' behavior. In particular, one behavior that mothers exhibited due to program participation was encouraging their children to participate in the story, i.e., through pausing, looking, or through their tone of voice. While by contrast, girls' spontaneous participation in the story

was associated with their fathers book reading activities. It is reasonable to believe that girls' spontaneous participation in the story was because of their fathers increased efforts to read story books at home. The raised frequency of fathers' book reading is seen through a comparison of pre and postprogram parental replies to the question "How often do you read at home with your preschooler?" However, the evidence from significant interaction effects for fathers' data is weak due to the necessity of running a large number of significance tests.

In summary, it appears that mothers' behaviors are more amenable to change than fathers'. If one accepts such hypothesis then changes in mothers' teaching behaviors may appear before changes in child measures which seem to be the case for the experimental group mothers whose behavior changes were significant and their children whose behavior changes were minimal.

Overall, the treatment appears to have affected both mothers' and fathers' reading behavior. However, the evidence is unclear about whether mothers were affected more than fathers. The data also suggests that the treatment affects the child's reading behavior. There is stronger evidence for the effect on the child while reading with the father, than for the effect on the child while reading with the mother.

Hypothesis 3

The effect of parental program participation on the children's reading achievement was significant. The experimental group children scored higher than the control group children on items pertaining to word discrimination, ability to draw inferences, and ability to recall factual content. Apparently, parents' workshop participation and their

efforts to inculcate story book reading behaviors into their interaction with their children were influential in their children's reading readiness. The higher score of the experimental group children on the word discrimination item to that of the control group children may have been caused by parents' efforts to point to words and/or sentences which then would draw the child's attention to a particular word and/or sentence in the story book. The experimental group children's higher test scores on items pertaining to ability to draw inferences and to recall factual content may be the result of parents' teaching/interactive effort to encourage child's participation, to focus child's attention on the story and to stimulate thinking through the asking of thought and factual questions.

Although the actual number of hours of training received by the experimental group was small (two hours), it is encouraging to still find an effect size as large as 0.7 standard deviation in such a short training period. Therefore, this finding for the main effect of the treatment is important as it provides further evidence of the ability of parents to be the primary influences in the education of their children.

This finding is congruent with the evidence from intervention programs in the 1960's (Bronfenbrenner, 1974a). The results of those programs indicated that involving parents in enrichment activities, including language development, resulted in cognitive gains which were still evident in the children three to four years after the termination of the programs. When parental involvement was not an important program component, children did not maintain the cognitive gains. Similarly, O'Neil (1976) reported that parents who participated in a program to tutor

their children, the latter being one year below grade level in reading, were effective in improving certain subskills, such as consonant sounds, vowel sounds, three-letter short "a" words, and three-letter mixed short vowel sounds of their primary age child.

Hypothesis 4

Hypothesis 4 predicted the relationship between children's reading readiness and their parents' education and their parents' frequency of story book reading. Hypothesis 4 was tested using analysis of variance. Since the results were not significant a correlation procedure was employed. Two significant results were found, mothers' education and fathers' reading frequency. First, the education level of mothers was related to their sons' reading readiness. Similar findings were obtained by studies of Durkin (1963) and Briggs and Elkind (1973), who reported that mothers of early readers had more education than mothers of non-readers. In support of the importance of mothers' education Levy (1943) reported that middle-class, intellectually-oriented mothers who have an intense relationship with their boys (sons whom Levy considers maternally overprotected) encourage their sons to superior work in school, especially in subjects requiring verbal skills.

There is an interesting point to be made here in relating this Hypothesis to Hypothesis 2. The testing of Hypothesis 2 showed that mothers encourage their children to participate in the session. In Hypothesis 4, we see that the educational level of the mothers predicts their sons' reading readiness. One might then infer that the higher the mother's educational level, the greater the degree of influence on her son's participation in story book reading.

Second, the amount of time fathers spent reading to their children was found to be associated with the verbal achievement of their girls, but not of their boys. Bing's (1963) study reported that the amount of time fathers spent reading to their daughters was positively associated with verbal achievement of fifth-grade girls but not of boys. (Bing's data, however, were derived from maternal reports and not from paternal behavior.) Along the same line, the study of Briggs and Elkind (1973) found that fathers of early readers read to their children more often than fathers of the control children.

It appears, then, that paternal interest and participation in story book reading at home stimulate their daughters' reading readiness and verbal achievement, while mothers' education is associated with their sons' reading readiness.

Hypothesis 5

Hypothesis 5 predicted the relationship between children's pretest score and their parents' reading behaviors. Several significant variables were found pertaining to paternal reading behavior and its relationship to the children's pretest score. There was a positive relationship between childrens' reading readiness and those fathers (1) who asked thought questions, (2) who praised their children, (3) whose children commented on or pointed to pictures or words in the story after its completion and (4) whose children answered factual questions before reading the story. In contrast, there was a negative relationship between childrens' reading readiness and those fathers (1) who asked factual questions and (2) whose children answered factual questions and (3) who commented about the story or its pictures, after the completion of the story.

An interpretation of the latter behavior implies that pictures in story books are important to children at this age level (3, 4, 5), and the manner in which pictures are used in the story reading process affects children's reading readiness. That is, parents who use the pictures in the story book to test the child's retention abilities contribute differently to their children's reading readiness than those parents who use the pictures in the story book to stimulate their child's reasoning.

An interpretation of the results, as regards thought and factual questions asked by fathers and their relation to children's reading readiness, is that thought questions spur thinking which may result in learning and reading readiness, while by contrast, factual questions demand that the child demonstrate knowledge of facts presented in the story, which results in mere repetition of various items from the story. These finding are partially congruent with Flood (1977) and further clarify his results. Flood reported that the variable "poststory evaluative questions" is significantly correlated with the children's prereading score. His research, however, stops short of dealing with different possible types of questions that parents may ask at the end of a story. The present study clearly indicates that only the extent to which fathers ask thought questions after the story is positively related to children's reading readiness. Nevertheless, the extent to which the fathers ask factual questions before reading the story is correlated positively with their children's reading readiness. This finding implies that factual questions asked before reading the story may act as an advance organizer, or as an introductory statement to the

story, thus stimulating the child's interest in the content and preparing him/her for the story.

The occurrence of the variable "other responses," while reading a story book, to questions was found to be related positively to children's reading readiness. But why this behavior related positively to reading readiness is not clear.

To summarize, it seems that how fathers read a story does not directly relate to their children's readiness, but what they do, before and after the story, i.e., the type of questions they ask is related to their children's reading readiness.

As for the relationship between children's reading readiness and their mothers' reading behavior, it was found that there is a negative relationship between those mothers who criticize their children during and after a story and their preschoolers' performance. This finding implies that what is apparently crucial to a parent-child book reading session is that the climate between mother-child must not be negative, in order for story book reading to be educative.

This pattern is supported by Epstein and Evans (1979), who found that mothers' "negative interaction style" which included "no" and "don't" was negatively related to their child's competence and this effect was stable from child's age two to seven.

When the data for mothers' and fathers' reading behavior were combined in the regression equation, findings similar to those stated earlier under Hypothesis 5 for fathers were reported again for fathers. No change occurs in the behaviors of fathers related to children's readiness.

When the same combination is used to view mothers' behaviors, the data showed a definite change in the number of behaviors emitted by mothers. The results imply that in order to understand how mothers' reading behavior influences their children's reading readiness, it is important to study and consider fathers' reading behavior as well.

Hypotheses 6 and 7

The relationship between parents' education and their story book reading behavior was found to be statistically significant only for mothers. This result suggests that mothers with an educational background higher than the baccalaureate level tend to ask more thought questions and give more positive reinforcement to their children. A related finding was obtained under Hypothesis 4. That is, mothers' education not only predicts mothers' story book reading behavior but also their educational background predicts their child's reading readiness.

Finally, the reading behavior of fathers and mothers was analyzed as a function of their child's sex. This analysis yielded only one significant result, for fathers. This result indicated that fathers tend to ask more thought questions of their sons. In view of the previously discussed results in Hypothesis 2, that fathers tend to ask more factual questions of their girls than of sons, one may imply that fathers tend to ask mostly factual questions of their daughters and thought questions of their sons. It is also possible that this differential attentiveness reflects the fathers' greater intellectual involvement or identification with their same-sex child.

Conclusions

The results of this study demonstrate for the corresponding hypotheses that

for 1) mothers and fathers; when reading a story book with their preschooler, read similarly;

for 2) it is possible to alter parents' story book reading behaviors through program workshops, even within a short period of time;

for 3) parents' participation in program workshops' activities resulted in their children's reading readiness gain score;

for 4) mothers' education predicts their son's reading readiness, and the amount of time fathers spend reading with their daughters relate to their daughter's reading readiness;

for 5) what fathers do or the type of questions they ask before reading a story book with their child and after the termination of the story predicts their children's reading readiness. The climate between mother-child during a book reading session must not be negative in order for story book reading to be educative;

for 6) mothers' educational background (higher than the baccalaureate level) predicts their story book reading behavior; namely, their tendency to ask more thought questions and to give positive reinforcement and praise; and

for 7) fathers tend to ask mostly thought questions of their sons while concomitantly asking mostly factual questions of their daughters.

Recommendations for Parents, Parent Educators
and Early Childhood Teachers

Parent education programs should focus on methods which would teach parents effective ways of interacting with their children when reading aloud that will foster their children's reading readiness, especially the ability to ask the right type of question at the right time; the ability to provide a warm book reading environment; the ability to comment on and point to pictures or words; and the ability to encourage a child's participation.

Since the way an adult reads a story with the child in his/her lap appears to affect that child's reading readiness, early childhood teachers should be trained for one to one (lap) reading situations utilizing the above cited behaviors.

With the awareness that it is the quality of the relationship and not the quantity of time spent with the child, parents may be able to improve the nature of their book reading interactions with their preschooler. It is important then for parents to take their cue from their c . r . . capitalize on opportunities that may arise in a book reading situation while employing the appropriate lap reading behaviors, in order to remain as effective as possible in the story reading interchange.

Furthermore, parent education programs should focus on the mutual involvement of both mothers and fathers, for mutuality is particularly useful in illustrating the complexity of mother-child and father-child relations during a story book reading session. In order to understand how the story book reading behavior of one parent influences his/her child's reading readiness, it is important to study and consider the behavior of the other.

Suggestions for Future Research

There has been great progress made in the past few years in improving the techniques of implementing and delivering parent education programs. What is needed now is direct observation of parent-child interactions, lasting over a long period of time, to be used as a technique of evaluation. That is, longitudinal studies of this nature can provide data concerning the continued use of parental teaching behaviors and their subsequent effect upon children's development.

Much additional research is needed to clarify the fathers' behavior and role in story book reading and his subsequent effect on his child's reading development. Additional research is needed to isolate and define why the influences he exerts on his wife's story book reading behavior have an ultimate effect on their child's reading readiness.

The story book reading behaviors reported here, before and after program workshops, for parents and their children were for middle-class parents both of whom were involved with and interested in their preschooler's reading readiness. Thus, fathers and mothers (but especially fathers) of other populations need to be studied to discover if they interact in the same ways as the present population of this study, for other populations may exert different influences upon their preschoolers' reading readiness. Furthermore, a similar study focusing on younger children and their families would be a positive addition to the research in the area.

APPENDIX A

Dear Parents:

The _____ Nursery School Board would like to offer two special workshops on the topic of READING READINESS. We will have consultants from the University of Florida conduct workshops on reading aloud with your child in ways that enhance reading readiness.

To really individualize our workshops the University people would like to videotape each mother-child and father-child team before and after the workshops. They would like you to agree to the following before we begin. Both parents will be asked to:

1. come to two videotape sessions (scheduled at your convenience, ten minutes each) at the University of Florida campus (parking permits will be provided). You will get a chance to have feedback on the videotapes.
2. read to your child at least three times a week (both mother and father).
3. attend two one hour workshops at the University of Florida campus.
4. have us assess your preschooler's readiness for reading (results will be shared with you).

Please return the attached questionnaire to us by _____ to let us know if you will participate.

We believe this will be an enriching experience for all.

Sincerely,

P.S. If you have any questions please call Taraneh Darabi at 377-4616.

Preschooler's Name _____ Age _____
Last First Year Month

Mother's Name _____ Age _____

____ Father's Name _____ Age _____

Address _____ Phone _____

Number of Children in Family

Mother's Education(circle): High school, Jr. college, College,
Master's, Ph.D.

Father's Education (circle): High school, Jr. college, College,
Master's, Ph.D.

How often, mother, do you read aloud to your preschooler?

(circle): seldom, sometimes, once-a-week, several-times-a-week,
every day, several-times-a-day

How often, father, do you read aloud to your preschooler?

(circle): seldom, sometimes, once-a-week, several-times-a-week,
every day, several-times-a-day

We are (both father and mother) interested in participating in this program.

Signatures

APPENDIX B

Rater _____ Book _____

Child's Sex _____ Father-Child _____
Code _____ Mother-Child _____

Before Reading Story

Parent

1. No. of questions with more than one word as an answer _____ 2. No. of responses to #1 and 3 _____
3. No. of questions with more than one correct answer _____ 4. No. of Other responses _____
5. Total no. of other questions asked _____ 5. a. No. of "I don't know" _____
6. No. of times parent fails to respond _____ 5. b. No. of "yes" or "no" responses _____
7. No. of times parent answers child's questions _____ 5. c. No. of no responses _____
8. No. of times parent makes comments _____ 5. d. No. of nonverbal responses _____
9. No. of times parent makes comments child makes _____ 6. a. No. of comments child makes _____
10. No. of times parent points to pictures _____ 6. b. No. of times child points to pictures _____
11. No. of times parent points to pictures and discusses them _____ 6. c. No. of times child points to pictures and discusses them _____
12. No. of times parent points to words _____ 6. d. No. of times child points to words _____
13. No. of times parent points to words and discusses them _____ 7. a. No. of times child points to words _____
14. No. of times parent points to sentences _____ 7. b. No. of times child points to sentences _____
15. No. of negative reinforcements (verbal) _____ 7. c. No. of negative reinforcements (verbal) _____
16. No. of positive reinforcements (verbal) _____ 7. d. No. of positive reinforcements (verbal) _____
17. No. of negative reinforcements with explanation _____ 7. e. No. of negative reinforcements with explanation _____
18. No. of times parent points to words and discusses them _____
19. No. of times child points to words and discusses them _____
20. No. of times parent points to sentences _____
21. No. of times child points to sentences _____
22. No. of negative reinforcements (verbal) _____
23. No. of positive reinforcements (verbal) _____
24. No. of positive reinforcements (verbal) _____
25. No. of negative reinforcements with explanation _____
26. No. of negative reinforcements with explanation _____

Page 2
Before Reading Story

28. No. of positive reinforcements with explanation
29. No. of positive reinforcements with explanation
30. No. of times parent encourages child to enlarge upon his/her answer
31. No. of times parent encourages child participation
32. No. times child participates in reading with parent
33. No. of times child reads with parent
34. Parent mentions title and reads from cover or title page
yes no

Rater _____	Book _____	Child's Sex _____	Father-Child _____
		Code _____	Mother-Child _____
While Reading Story			
<u>Parent</u>			
<input type="checkbox"/>	1. No. of questions with more than one word as an answer	<input type="checkbox"/>	2. No. of responses to #1 and 3
<input type="checkbox"/>	3. No. of questions with more than one correct answer.	<input type="checkbox"/>	4. No. of <u>Other</u> responses
		<input type="checkbox"/>	a. No. of "I don't know"
		<input type="checkbox"/>	b. No. of "yes" or "no" responses
		<input type="checkbox"/>	c. No. of no responses
		<input type="checkbox"/>	d. No. of nonverbal responses
<input type="checkbox"/>	5. Total no. of <u>other</u> questions asked	<input type="checkbox"/>	6. No. of responses to #5
<input type="checkbox"/>	8. No. of times parent fails to respond	<input type="checkbox"/>	7. No. of questions asked
<input type="checkbox"/>	9. No. of times parent answers child's questions	<input type="checkbox"/>	11. No. of comments child makes
<input type="checkbox"/>	10. No. of comments parent makes	<input type="checkbox"/>	13. No. of times child points to pictures
<input type="checkbox"/>	12. No. of times parent points to <u>pictures</u>	<input type="checkbox"/>	15. No. of times child points to <u>pictures</u> and discusses them
<input type="checkbox"/>	14. No. of times parent points to <u>pictures</u> and discusses them	<input type="checkbox"/>	17. No. of times child points to <u>words</u> and discusses them
<input type="checkbox"/>	16. No. of times parent points to <u>words</u>	<input type="checkbox"/>	19. No. of times child points to <u>words</u> and discusses them
<input type="checkbox"/>	18. No. of times parent points to <u>words</u> and discusses them	<input type="checkbox"/>	21. No. of times child points to <u>sentences</u>
<input type="checkbox"/>	20. No. of times parent points to <u>sentences</u>	<input type="checkbox"/>	23. No. of negative reinforcements (verbal)
<input type="checkbox"/>	22. No. of negative reinforcements (verbal)	<input type="checkbox"/>	25. No. of positive reinforcements (verbal)
<input type="checkbox"/>	24. No. of positive reinforcements (verbal)	<input type="checkbox"/>	27. No. of negative reinforcements with explanation
<input type="checkbox"/>	26. No. of negative reinforcements with explanation		
<u>Child</u>			

Page 2
While Reading Story

28. No. of positive reinforcements with explanation 29. No. of positive reinforcements with explanation
30. No. of times parent encourages child to enlarge upon his/her answer 32. No. of times child participates in reading with parent
31. No. of times parent encourages child participation 33. No. of times child reads with parent

Rater _____	Book _____	Child's Sex _____	Father-Child _____	Mother-Child _____
<u>After Reading Story</u>				
<u>Parent</u> <u>Child</u>				
<p><input type="checkbox"/> 1. No. of questions with more than one word as an answer <input type="checkbox"/> 2. No. of responses to #1 and 3 correct answer.</p> <p><input type="checkbox"/> 3. No. of questions with more than one correct answer. <input type="checkbox"/> 4. No. of <u>Other</u> responses</p> <p><input type="checkbox"/> 5. Total no. of <u>other</u> questions asked <input type="checkbox"/> 6. No. of nonverbal responses</p> <p><input type="checkbox"/> 8. No. of times parent fails to respond <input type="checkbox"/> 7. No. of questions asked</p> <p><input type="checkbox"/> 9. No. of times parent answers child's questions <input type="checkbox"/> 11. No. of comments child makes</p> <p><input type="checkbox"/> 10. No. of comments parent makes <input type="checkbox"/> 13. No. of times child points to pictures</p> <p><input type="checkbox"/> 12. No. of times parent points to pictures <input type="checkbox"/> 15. No. of times child points to pictures and discusses them</p> <p><input type="checkbox"/> 14. No. of times parent points to pictures and discusses them <input type="checkbox"/> 17. No. of times child points to <u>words</u></p> <p><input type="checkbox"/> 16. No. of times parent points to <u>words</u> <input type="checkbox"/> 19. No. of times child points to <u>words</u> and discusses them</p> <p><input type="checkbox"/> 18. No. of times parent points to <u>words</u> and discusses them <input type="checkbox"/> 21. No. of times child points to <u>sentences</u></p> <p><input type="checkbox"/> 20. No. of times parent points to <u>sentences</u> <input type="checkbox"/> 23. No. of negative reinforcements (verbal)</p> <p><input type="checkbox"/> 22. No. of negative reinforcements (verbal) <input type="checkbox"/> 25. No. of positive reinforcements (verbal)</p> <p><input type="checkbox"/> 24. No. of positive reinforcements (verbal) <input type="checkbox"/> 27. No. of negative reinforcements with explanation</p> <p><input type="checkbox"/> 26. No. of negative reinforcements with explanation</p>				

Page 2
After Reading Story

28. No. of positive reinforcements with explanation 29. No. of positive reinforcements with explanation
30. No. of times parent encourages child to enlarge upon his/her answer 32. No. of times child participates in reading with parent
31. No. of times parent encourages child participation 33. No. of times child reads with parent
35. Parent retells story 37. Child retells story
36. Parent and child retell story

38. Miscellaneous Tallies

- a. No. of times parent touches child
- b. No. of times child looks away, bored
- c. No. of times parent looks at child
- d. No. of mutual glances
- e. No. of times child looks at parent

39. Time of Tape

- a. Time from parent starts talking to child to end of session
- b. Time from parent begins reading until book reading is finished

40. Who turns pages?

- a. Parent
- b. Child
- c. Both

41. Overall rating _____ Poor Fair Good

This item will include the following behaviors:

- a. Pointing to words and pictures and talk about them (teach the child)
- b. Asking relevant and appropriate questions
- c. Ability of parents to get child to participate
- d. Talking and making appropriate comments
- e. Read with expression

Coding Manual For
Parent-Child Reading Interaction
Observation System

Procedure

Each item is tallied as it occurs. All interactions are coded regardless of length. If a behavior continues for some time, it is only coded once until the context changes.

Item 1. Questions with more than one word as an answer

This type of question usually would require the child to use either phrases, sentences, or a list of things in answering. For example, "What can you tell me about the story of The Gingerbread Boy?" or "What do you think will happen next in this story?"

Item 3. Questions with more than one correct answer

This type of question requires some thought before answering. This type of questioning allows the child to answer with any number of responses, all of which are acceptable. For example, "What kinds of animals do you find on a farm?" or "What would you do for your mother's birthday?"

Note: Many of the questions which fit under Item 3 are also appropriate for Item 1. There is (will/should be) some overlap.

Item 5. Other questions

This type of question may have one correct answer or a "yes" or "no" response. A question like, "Did you like that story?" will be coded as an 8.

Note: Behavior in items 1, 3 and 8 can take the form of either a question or a statement. For example, "Tell me about Mr. Bear." instead of "What can you tell me about Mr. Bear?" Do not count a question twice if it is asked again or stated differently.

Item 22. Negative reinforcement

This category is used for the purpose of voicing disagreement. Verbal behavior of this sort might include comments such as "no" or "I disagree" or "that's not correct."

Note: A negative reinforcement is different from a negative criticism. A punitive and negative criticism will "cool" the emotional environment. For example, "Stop touching the book, let me turn the pages," is a negative criticism.

Item 24. Positive reinforcement

The parent may praise, encourage the behavior, comments, or ideas of the child. Praising behavior tends to "warm" the emotional climate between parent and child. For example, a parent might say "very good" or "nice" or "that's right."

Note: A parent's words must carry a praising intonation with them to distinguish them from mere acceptance of the child's response. For example, do not tally a routine "good" or "O.K."

Items 26 and 28. Negative and positive reinforcement with explanation

These two items are used for the purpose of communication, giving corrective feedback with expansion, when the child makes an inappropriate or appropriate response.

Item 30. Parent encourages the child to enlarge upon his/her answer

This item is marked when the parent prompts the child to expand on an answer that he/she has previously given. Also, these second and subsequent questions must indicate that parent's intention for the child is to reach the most complete answer to the parent's original question. For example, "What can you tell me about the story of Ask Mr Bear?" "What else can you tell me about Mr. Bear?"

Item 31. Parent encourages child's participation

The parent's style of reading encourages the child to participate. Parent pauses and/or looks at child as if waiting his/her participation. For example, parent says, "The Gingerbread Boy said . . . (pauses and/or looks). . ."

Item 32. Child participates in reading with parent

This item is the direct subsequent result of a parent's encouragement for the child's participation. For example, parent says, "The Gingerbread Boy said . . . (pauses and/or looks). . ." and child says, "Run, run as fast as you can . . ."

Item 33. Child reads with parent

Child initiates spontaneously and reads with the parent.

APPENDIX C

Directions

1. Please read through and become familiar with this book.
2. Sit in the chair so as to allow the camera over your right shoulder to get a good shot of the pages in the story book.
3. The most important thing is for you and your child to be as relaxed, comfortable, and natural as possible. Take your time and use this book exactly as you would if you were at home.

APPENDIX D

INFORMED CONSENT FOR CHILDREN'S READING READINESS

Child's Name:

Address:

Title of Study: Effects of a Program of Father-Child and Mother-Child Reading on Children's Reading Readiness

Principal Investigator: Taraneh Darabi

Description of Study: The purpose of this study is to acquire information on the behavior of mothers and fathers when reading to their child, and the way such behavior might be connected to child's performance on a reading readiness measure. This program would require your participation in the following activities:

1. Two videotaping sessions, ten minutes each, where each mother-child and father-child pair will be videotaped.
2. Two one-hour long workshops for parents.
3. Each mother and father agreeing to read separately to his/her preschooler at least three nights a week at home.
4. Your preschooler will be tested on a reading readiness measure.

We, the undersigned, understand the purpose of the above study. The study has been explained to us by the investigator whose name is _____ signed below, and I agree that my child, whose name is _____
in my par____ce in this study, and the videotapes being made may be used for educational purposes. I understand that I am free to withdraw this consent at any time.

Signature of Mother

Date

Signature of Father

Date

I, the undersigned, have defined and explained this study to the volunteer.

Investigator's Signature

Date

Witness

Date

APPENDIX E

WORKSHOP I

WHY SHOULD BOTH MOTHERS AND FATHERS READ STORIES TO THEIR PRESCHOOLERS?

A number of studies report different instructional behaviors by mothers and fathers which provide unique kinds of experiences for the child.

For example, Dr. John Cunningham of Michigan State University, found that mothers, when interacting with their children, tend to introduce more new concepts and to be more verbally specific, while fathers used more general orientation, more new approaches, and more demonstration as teaching methods.

In a study at Syracuse University, Dr. Bertram Henry found that boys who were read to by their fathers two or three times a week scored higher on a prereading measure than when their mothers read to them. Researchers at University of Florida, who have studied only mother-child reading behavior, have found that a combination of various behaviors by the mothers while reading story books to their children corresponded significantly with their children's prereading score. These behaviors included

Asking questions which require more than a "yes" or "no" as an answer;

Asking questions which might have more than one correct answer;

Encouraging the child to enlarge upon his/her response; and Praise and support for the child.

Finally, Dr. Doloris Durkin at the University of California found that early readers are those children who have been read to regularly, with related discussion of both the pictures and the stories.

The fact of the matter is that both mothers and fathers can uniquely contribute to and influence their child's reading readiness and it is the quality of the parent-child interaction during story time that contributes to the child's learning and reading readiness.

GENERAL PURPOSE: The right time, place and way to read to your child.

A. PURPOSE: The "right time" to read to your child.

1. Read to your preschooler when your older children will not be likely to interrupt.
2. Read to your preschooler at the doctor's office, on long trips to help the time go faster, and before a coming event (i.e. circus).
3. Read a story book when it will answer a question your child has asked.
4. Read a story before your preschooler goes to bed and before nap times.
5. Have a regular time each day to read together.

Repeated exposure to print has tremendous impact on child's reading readiness.

B. PURPOSE: The "right place" to read to your child.

1. Select a place which will be quiet and comfortable, such as a bedroom or in the back yard on a blanket. Ask your child to put aside anything he/she is carrying (marbles, trucks, purses, and the like).
2. Sit so your child can see the pictures easily. Most children will especially enjoy being in your lap or very near you.
3. Pick a time and place which will minimize interruptions. Don't allow other family members to interrupt except in cases of dire need.

Minimizing interruptions tells your child that reading is important.

C. PURPOSE: How to read and discuss a story book.

Keep in mind the following tips which will make your reading aloud time special:

Before reading the story:

1. Before the story time select one or two books together with your child.
2. Read through the stories you plan to use before sharing them so that you can read them smoothly, with expression to portray the mood of the story.

3. Before starting the story, set the stage for it with a few well chosen words or questions. For example, "Remember when you had a dime and your older brother wanted one, too? Sometimes you really want to do everything he can do, don't you? Well, here's a story about a brother and a sister called Rachel and Obadiah. Let's see how they solved their problems."
4. Introduce the book, but keep the introduction brief so that attention remains focused on the story.
5. Point with your finger left-to-right at the words in the title. Ask your child if he/she can point to _____ (the key word in the title).

While reading the story:

1. Let your preschooler turn the pages when you are ready. In this way your child will learn that which part of story is on what page and where a sentence is finished.
2. Change your voice when character changes. For example, use a light breath for the little bear in the story. Once you have differentiated the characters in any way, be consistent throughout the story.
3. Pause at appropriate intervals to let your child think and comment.
4. Read in a soft, hushed voice.
5. At appropriate places, ask your child to predict what will happen next.
6. Don't interrupt rhyming sequences.
7. Try to respond (stop reading) to child's questions and comments.
8. Point to pictures and talk about them.
9. Add descriptive terms to the content of the illustrations in the book. For example, if your child says, "A dog, and a boy and a ball," you can suggest that the dog is tiny or black, or funny; that the boy is little; that the ball is round and red.
10. See if your child can point to a character's name in the story. Upper case letters are a key to names.
11. When you ask your child a question, give him/her plenty of time to think of a response.
12. Ask more questions which spur thinking and comprehension (why? How?) and less factual questions (who? when?).

13. Ask questions which have more than one correct answer. For example, "What parts of the story do you like best?"
14. Ask questions which require multiple word answers. For example, "Why did Rachel get to run with the message to the Captains' house?" "What would you do with two silver coins?"
15. Ask questions to assure yourself that your child is clear about the meaning of a word or a phrase.
16. Avoid asking questions concerning insignificant facts which do not influence the comprehension of a story. For example, If the fact that the boy wore a red shirt in the story is significant, you might ask what the color of the boy's shirt was. Often, however, this question is not significant, but rather is simply used to provide a more vivid description of characters in a story.
17. To get your child to focus on the print and develop left to right progression, occasionally move your finger slowly under the words in a sentence as you read.
18. Encourage the child to "read" with you the parts she/he has learned by heart. For example: Hundreds of cats
Thousands of cats
Millions and billions of cats,
while you (or your child) are pointing to the words...
19. Encourage your child to enlarge upon his/her answers.
20. Provide an explanation or reason for your correction.
21. If your child is beginning to read:
 - a. Select some very easy to read books
 - b. Teach the child the words in the story by sight on cards.
 - c. Make the reading easy by taking turns reading a page at a time.
 - d. Give child time to think to figure out a word if it is phonetically regular (can be sounded out).
 - e. Quickly supply hard words that must be learned by sight.
 - f. Don't correct inconsequential mistakes (horse for house).

After the story:

1. Pause after the story with a moment or two of silence to allow your child to take the initiative to talk or ask questions about the story.
2. Encourage your child to tell the story in his/her words, using pictures in the story book as a guide, as she/he turns the pages, and ask you questions about the story.
3. Relate the book content to your child's previous experiences.

4. Ask your child to act out his/her favorite character or part of the story while you try to guess what it is. Role playing is a very effective way of checking comprehension.
5. Take note of the words the child remembers and read those words in subsequent books.
6. Sometimes you can take your child's role and retell your version of the story you have just read from memory. By retelling a story from memory you provide the example that:
 - a. Events in the story follow a sequence.
 - b. A story can be "padded" or cut.
 - c. A story can be told differently at each time.

In short, when reading a story book

- a. Provide a warm and relaxing atmosphere.
- b. Pay attention to the ideas your child is expressing, and
- c. Praise your child when he/she does well or takes steps in the right direction.

Note: The intent here is for each mother and father to synthesize and use the above given information to suit his/her style of story telling and reading.

For the next session:

Share with the group your experiences and comments and bring 2 of your child's favorite books.

Parent Reading Chart Calendar

Child's Name: _____ Last, _____ First

MARCH						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 M1 F2 O1 F1 M2	2	3 First Workshop
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31 Second Workshop at 2:00 p.m. 524 Weil Hall

Key: M = Mother reads
F = Father reads
O = Other

Example: On Thursday, March 1, Mother read 1 book (before breakfast); Father read 2 books (before work); Babysitter read 1 book (a.m.); Father read 1 book (before dinner); and Mother read 2 books (before bed).

Note: Please return this chart and an audiocassette tape of you and your child reading stories to us at the next workshop.

WORKSHOP II

REVIEW

1. Did you ask what "do you think" this story will be about when looking at the cover of the story with your child?
2. Did you encourage your child to retell the events in the story in a sequential order?
3. Did you encourage your child to turn the pages, using the pictures in the story book as a guide, while listening to "the tape" you just made of you reading to your child?
4. Did you encourage your child to point to the words or repetitive phrases that he/she can recognize in the story book, while listening to your tape?
5. Are you tired of reading the same story over and over? Tell your child let's look at this page (choose any page) and ask:
 - a. Can you tell me what's happening here?
 - b. What happened just before that?
 - c. What happened right after that?
6. Did you ask your child "thought questions" instead of "fact questions?"
7. Did you point to words in the title and in the text while you were reading?
8. Did you point to pictures and talk about them?
9. Did you encourage your child to enlarge upon his/her answers?

A. PURPOSE: WRITING DOWN YOUR CHILD'S EXPERIENCES

Your child should have had many experiences looking at books and hearing stories read to him/her before you begin to write down ideas dictated by your child.

The following activities provide you with some guidelines for writing down your child's experiences:

1. When your child brings you a picture he/she has made, drawn, or pasted ask him/her what he/she would like you to write about it. It might be something simple like: Johnny's picture, or he/she may want you to write many sentences about the picture. Sometimes he/she may not want you to write anything.
2. If you and your child have just returned from somewhere that was fun have your child tell you a sentence or two to write down about the experience, or write his/her experience as a note to a parent or a letter to be mailed. You may write the sentence on a plain piece of paper and have your child draw a picture to go with it. Share it with the rest of the family when it is finished.

3. You may want to start an experience scrapbook. A notebook with thick paper is best. Each day have the child tell and reconstruct an event that happened, perhaps a recent trip to the grocery store, the zoo, or a pet shop. Ask your child "what important things can we write down to remember this trip?" Have your child describe what happened step by step. Write each "step" on a separate piece of paper. Number the pages. The child may draw pictures for the books.
4. Take pictures of an event (e.g. a birthday party) and have your child arrange the pictures in a sequence and dictate sentences to write under each picture. This birthday book could be put in your child's scrapbook.
5. Children love to cut out pictures. Have your child cut many different pictures out of old magazines, and classify or group them together. For example, he might classify pictures according to toys, foods or things that make noise and make a picture book for each classification. It might even be an alphabet book. You can, then, write the title and write a few sentences as your child dictates.
6. Most children enjoy making little books. Your child may draw two or three pictures which you, then, glue or staple together the pages. Have him/her tell you what to write on each page. You might make a title page and include the author's name on the front page.

In general, when you are writing your child's ideas and experiences:

- a. Tell your child what you are going to do together.
- b. Be sure your child's story tells about one sequentially spoken idea.
- c. Be careful not to give your child more help than he/she needs. Let it be his/her story.
- d. Repeat the words your child is familiar with a lot.
- e. Sometimes leave out a word from dictated stories and have your child supply them.
- f. Keep your letters close together and your words far apart. This is to help your child develop word boundaries.
- g. Spell words out loud as you write them.
- h. Have the child watch you write.
- i. Use lower case manuscript printing.
- j. Draw pencil lines to write on.
- k. Try to make one sentence on a line.

- l. Capitalize and punctuate correctly.
- m. Write few words or sentences on each page.
- n. Number each page.
- o. Allow your child to review the whole story by reading it to him before:
 1. Any of the pictures are drawn.
 2. The pages are put together in order and stapled.
- p. READ THE BOOK TO YOUR CHILD.

As the child begins to learn to write, leave a space underneath each line for the child to copy what you have written. Start with one word and gradually increase.

WHY SHOULD I WRITE DOWN MY CHILD'S IDEAS AND EXPERIENCES?

When writing your child's ideas and experiences you are helping your child to:

1. Share and organize his thinking.
2. Learn that print is from spoken language and that it must make sense.
3. Check out the consistency and logic of his/her ideas.
4. Focus on relevant parts of his/her ideas.
5. Use the new words he/she has learned.
6. Pick out words that have been written down many times.
7. Choose from all that might be said the most important part for someone else to write.
8. Develop left to right progression.
9. Learn what letters are and how they differ from words.

KINDS OF BOOKS TO MAKE WITH YOUR CHILD'S WRITTEN EXPERIENCES AND IDEAS

Our trip to - - - .

Birthday book.

Gift book (e.g. a book for mom on mother's day).

Collection of your child's drawings with some captions or a sentence about each one.

Friend's book (a photo album of your child's friends, teachers, etc.).

Alphabet book (using pictures from magazines or photographs).

B. PURPOSE: SELECTING STORY BOOKS

When selecting a book to read to your child, ask yourself the following questions:

1. Does the book meet your child's needs and interests? Children have several basic needs such as the need for security, love, competence, belonging, variety, beauty, and the like. A good book helps your child meet these needs, while identifying with the character and understanding himself/herself and others (See Table 1).
2. How is the quality of the illustrations? The best illustrations are those which are attractive, real, familiar, and uncluttered. You might ask the following questions while evaluating the illustrations of a story book:
 - a. Does the picture truthfully interpret the text?
 - b. Are the pictures and the text synchronized?
 - c. Do the pictures appear on the same page as the text which they illustrate?
 - d. Do the pictures have interesting action?
Example: Where The Wild Things Are?
3. Are the colors bright? Children like bright colors but they also enjoy muted tones and black and white illustrations.
4. Do the words sound like they would make sense to your child?
5. Are there too many strange words so that your child will not understand the meaning of what you read.
6. Will your child understand the story? Even though your child may understand the words in the book, he/she may not understand the story. His/her understanding will depend on the experience your child has had. For example, your child does not need to know anything about monkeys to enjoy stories about Curious George. Children are curious and have had enough experiences to understand the fun of the story.
7. How is the overall quality of the text?
8. Does the book provide good models for your child's behavior?

In general, a good book has:

- a. Well-drawn theme.
- b. A single theme.
- c. A brief opening that introduces the main character and sets the scene.
- d. A plot where action unfolds, maintains suspense, and quickly builds to a climax in a sequence.

- e. An ending that resolves the conflict.

Also, a good story book for a beginning reader will have:

- a. Short sentences.
- b. Sentences all on one page.
- c. Repetition. Sentence repetition enables your child to learn and enlarge his/her sight vocabulary.
- d. Rhyming words.

TABLE 1^a

<u>Characteristics</u>	<u>Implications</u>	<u>Examples</u>
Child is extending beyond his/her world	Stories that involve children with 'others' in their world	<u>Kellogg, Can I Keep Him?</u> <u>Udry, What Mary Jo Shared</u>
Independence	Stories that reflect constructive use of power and expression	<u>Piper, The Little Engine That Could</u> <u>Alexander, Nobody Asked Me If I Wanted a Baby Sister</u> <u>Simon, I Know What I Like</u>
Rapid development of language	Interest in words, enjoyment of rhymes, nonsense, and repetition and cumulative tales. Enjoys retelling folktales and stories from books without words	<u>Mother Goose</u> <u>Gag, Millions of Cats</u> <u>The Three Bears</u>
Very active, short attention span	Requires books that can be completed "in one sitting." Enjoys participation through naming, touching, and pointing. Should have the opportunity to hear stories several times each day	<u>Carle, The Very Hungry Caterpillar</u> <u>Munari, Who's There? Open the Door!</u>
Child is the center of the world. Interest, behavior and thinking are egocentric	Likes characters with which he can clearly identify. Can only see one point of view	<u>Hoban, Bedtime for Frances</u> <u>Keats, The Snowy Day</u>
Curious about <u>his</u> world	Stories about everyday experiences, pets, playthings, home, people in his immediate environment are enjoyed	<u>Keats, Peter's Chair</u> <u>Zolotow, William's Doll</u>
Building concepts through many first-hand experiences	Books extend and reinforce child's developing concepts	<u>Hoban, Count and See</u>
Child has little sense of time. Time is "before now," "now," and "not yet."	Books can help children begin to understand the sequence of time	<u>Burningham, Seasons</u> <u>Tresselt, It's Time Now</u>
Child learns through imaginative play	Enjoys stories that involve imagination play. Likes personification of toys and animals	<u>Burton, Mike Mulligan and His Steam Shovel</u> <u>DeRenniers, May I Bring a Friend?</u>

TABLE 1 (Continued)

<u>Characteristics</u>	<u>Implications</u>	<u>Examples</u>
Seeks warmth and security in relationships with adults	Likes to be close to the teacher or parent during storytime. The ritual of the bedtime story begins literature experiences at home	Brown, <u>Goodnight Moon</u> Flack, <u>Ask Mr. Bear</u>
Beginning to assert his independence. Takes delight in <u>his</u> accomplishments	Books can reflect emotions	Brown, <u>The Runaway Bunny</u> Krauss, <u>The Carrot Seed</u>
Beginning to make value judgments about what is fair and what should be punished	Requires poetic justice and happy endings in the stories	Hutchins, <u>Titch</u> Potter, <u>The Tale of Peter Rabbit</u>

^aAdapted from Huck, C. and Kuhn, D. Children's literature in the elementary school. New York: Holt, Rinehart and Winston, Inc., 1968.

APPENDIX F

Intercorrelation Matrix of Items Entering Revised Variable 1
 For the Three Sections of PCRI Observation System

Item	Description	Intercorrelation Matrix					
		Section 1		Section 2		Section 3	
		1	3	1	3	1	3
1	Question with more than a single word answer	1.00	1.00***	1.00	0.99***	1.00	0.87***
3	Questions with more than one correct answer			1.00		1.00	

***p < .001

Intercorrelation Matrix of Items Entering Revised Variable 4
For the Three Sections of PCRI Observation System

Item	Description	Intercorrelation Matrix											
		Section 1				Section 2				Section 3			
		4a	4b	4c	4d	4a	4b	4c	4d	4a	4b	4c	4d
Child's Other Responses													
4a	"I don't know"	1.00	.43***	.24*	0.20*	1.00	.600***	.32***	.27*	1.00	0.06	0.20	0.11
4b	"Yes" or "No"		1.00	0.14	0.30*		1.00	0.25*	0.38**		1.00	0.29*	-.17
4c	No response			1.00	0.30*			1.00	0.46***		1.00	-.08	
4d	Nonverbal response				1.00				1.00				1.00

*p < .05

**p < .01

***p < .001

Intercorrelation Matrix of Items Entering Revised Variable 6
For the Three Sections of PCRI Observation System

Item	Description	Intercorrelation Matrix											
		Section 1				Section 2				Section 3			
		11	13	15	17	11	13	15	17	11	13	15	17
11	Child comments	1.00	0.14	0.00	0.54***	1.00	0.51***	0.14	0.36**	1.00	0.08	0.00	0.33**
13	Child points to pictures		1.00	0.00	0.21*			1.00	0.28**	0.15	1.00	0.00	- .03
15	Child points to pictures and discusses them			1.00	0.00			1.00	.06		1.00	- .00	
17	Child points to words				1.00				1.00		1.00		

*p < .05

**p < .01

***p < .001

Intercorrelation Matrix of Items Entering Revised Variable 7
 For the Three Sections of PCRI Observation System

Item	Description	Intercorrelation Matrix					
		Section 1		Section 2		Section 3	
		24	28	24	28	24	28
24	Positive reinforcement	1.00	0.35*	1.00	0.32*	1.00	-.06
28	Positive reinforcement with explanation		1.00		1.00		1.00

*p < .001

Intercorrelation Matrix of Items Entering Revised Variable 8
For the Three Sections of PCRI Observation System

Item	Description	Intercorrelation Matrix														
		Section 1					Section 2					Section 3				
10	12	14	16	18	20	10	12	14	16	18	20	12	14	16	18	
10 Parent comments	1.00	0.61***	0.18	0.25*	0.13	0.06	1.00	0.30*	0.23***	0.05	0.07	0.22*	1.00	0.21*	0.00	
12 Parent points to pictures		1.00	0.37*	0.24*	0.02	0.02		1.00	0.03	-.03	0.21*	0.09		1.00	0.00	-.04
14 Parent points to pictures and discusses them			1.00	0.14	-.02	-.02			1.00	0.03	-.04	-.01		1.00	0.00	0.00
16 Parent points to words				1.00	-.06	-.06				1.00	-.05	0.10		1.00	0.00	0.00
18 Parent points to words and discusses them					1.00	-.01					1.00	0.20		1.00	0.00	
20 Parent points to sentences						1.00						1.00		1.00		

*p < .05

**p < .01

***p < .001

Intercorrelation Matrix of Items Entering Revised Variable 12

Item	Description	Intercorrelation Matrix		
		38c	38d	38e
Miscellaneous Tallies				
38c	Parent looks at child	1.00	-.02	0.05
38d	Parent-child mutual glances		1.00	0.22*
38e	Child looks at parent			1.00

*p < .05

Intercorrelation Matrix of Items Entering Revised Variable 13
For the Three Sections of PCRI Observation System

Item	Description	Intercorrelation Matrix					
		Section 1		Section 2		Section 3	
		22	26	22	26	22	26
22	Negative reinforcement	1.00	.02	1.00	0.15	1.00	-.02
26	Negative reinforcement with explanation			1.00		1.00	1.00

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BIOGRAPHICAL SKETCH

Taraneh Mavaddat Darabi was born in Tehran, Iran, in 1947. In June, 1966, she graduated from Dr. Naser High School in Tehran, Iran. She received her B. S. degree with a major in chemistry from Southwest Missouri State University, in 1970, and received her M. S. degree in nuclear chemistry from University of Arkansas, in 1973. The latter work was supported by the United States Atomic Energy Commission. While studying at Arkansas, Taraneh was a research assistant and taught courses in general chemistry and biochemistry. In 1976 she began work toward her Ph. D. in early childhood education at the University of Florida. At the University of Florida, she taught science in early childhood education program and human growth and development in psychological foundations of education. Taraneh is currently employed by the Santa Fe Community College.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Linda L. Lamme
Linda L. Lamme, Chairperson
Associate Professor of General
Teacher Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James J. Algina
James J. Algina
Assistant Professor of Foundations
of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Patricia T. Ashton
Patricia T. Ashton
Associate Professor of Foundations
of Education

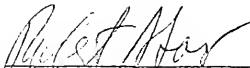
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Arthur J. Lewis
Arthur J. Lewis
Professor of Instructional
Leadership and Support

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Athol B. Packer
Athol B. Packer
Associate Professor of General
Teacher Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Robert S. Soar
Professor of Foundations of
Education

This dissertation was submitted to the Graduate Faculty of the Division of Curriculum and Instruction in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Dean, Graduate School

UNIVERSITY OF FLORIDA



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