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A model of literacy development: A social cognitive perspective

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A MODEL OF LITERACY DEVELOPMENT:

A SOCIAL COGNITIVE PERSPECTIVE

by

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Abstract

A MODEL OF LITERACY DEVELOPMENT:
A SOCIAL COGNITIVE PERSPECTIVE

By

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A model of literacy development was formulated based on conceptualizations derived from both social cognitive theory and available empirical evidence. Literacy was hypothesized to be a function of the following five variables found most salient in its acquisition: Home Reading Environment, Parental Modeling, Child Interest in Reading, Reading Self-Efficacy, and Kindergarten Readiness.

Based on Bandura's conception of triadic reciprocality, the model suggested relationships among the variables of interest. The model contained Cognitive and Personal Factors and Environmental Influences hypothesized to affect Behavior, and to be related to one another. The Cognitive and Personal Factors included Child Interest in Reading, Reading Self-Efficacy, and Kindergarten Readiness. The Environmental Influences included the Home Reading Environment and Parental Modeling. Behavior

(academic achievement) was measured by the California Achievement Test and Teacher Ratings.

To examine the manner in which these reading variables related to the development of literacy, and how this impacted on kindergarten achievement, 120 parent-child dyads were studied. Parents responded to questionnaires which yielded data on the Home Reading Environment, Parental Modeling, and Child Interest variables. Children were administered the California Achievement Test, Brigance Kindergarten Screening, and a self-efficacy questionnaire. Teachers responded to rating forms.

Stepwise multiple regression analysis, simple correlation, and canonical correlation were the statistical procedures used to analyze the data. Relative to the model, the present investigation has shown that Kindergarten Readiness was the most significant predictor of academic achievement. The predictive power of any of the other Cognitive and Personal Factors or Environmental Influences with Behavior was not supported.

The relationship between the two measures of Behavior and between the two measures of Environmental Influences were supported, although the three measures of Cognitive and Personal Factors were not. Three of the six hypothesized relationships between Cognitive and Personal Factors and Environmental Influences were supported.

Based on these results, some ways that the model could be reformulated were presented. Educational implications and direction for future research were discussed.

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Table of Contents

List of Tables

List Of Figures

Chapter I

Introduction

A rather disturbing trend in education is the decline of book reading in children, established by a nationwide survey released by the Book Industry Study Group (1984). The fact that some children fail to develop the "book reading habit," while others do, is a serious educational concern. The early preschool years is a time for building academic foundations. Marjoribanks (1972) found that the learning environment of the home accounted for 52% of the total variance in intelligence test scores, and that learning environment factors were more highly related to mental test scores than SES. Therefore, the strength or the weakness of these foundations may have irrevocable effects upon the child's later learning. Beyond the fact that reading is the foundation of education, it has many tangible and intangible benefits, such as the key to self-discovery, self-awareness, self-development, and the path to achievement and individuality (Smith, 1971).

Key factors have been observed frequently by educational and developmental psychologists as having a regulatory influence on the amount and nature of reading a child does. These are the home reading environment,

parental modeling of reading behaviors, another aspect of the home environment, and child interest in reading. Research has found that the best way for a child to acquire a love for books is for he/she to be read to as a preschooler (Bettleheim & Zelan, 1982; Teale, 1978). Home has often been considered a child's first school and parents a child's first and most influential teacher (Duff & Adams, 1981). Repeatedly it has been found that parental attitudes toward reading have a profound effect on the number of books their children read (Consumers Research Study on Reading and Book Publishing, 1983). Those children whose parents place a premium on reading for both the sheer pleasure it brings, as well as the key to achievement, were found to read a greater number of books. Most significantly, book reading is highest among children who were regularly read to by their parents (Research and Forecaster, 1983). As an important family activity reading aloud has been universally endorsed by authorities in reading, (Clay, 1972; Durkin, 1966; Spache & Spache, 1973) reading achievement, (Dallman, 1978; Harris & Sipay, 1980; Karlin, 1980) language development, (Chomsky, 1972; Giordano, 1979; Ninio & Bruner, 1978; Ninio, 1983) and early childhood education, (Cazden, 1972; Frost & Kissinger, 1976; Hildebrand, 1975). Thus research supports exposure

to books through the home reading environment and parental modeling as a crucial first step in getting children interested in reading on their own, and in establishing reading as a continuous source of inspiration and pleasure.

Although home environmental factors, parental modeling, and child interest have been major areas of inquiry, there is little research exploring the relationship of these variables. Reading habits are extremely complex and unique. Each person has a central core or radix (Strang, 1962) interacting with many external influences which more or less determine his/her reading and reading interests. Gage and Berliner (1976) discuss influences on the child's development of literacy. First, through modeling, the child can directly learn from the family and the environment. Second, the child's personality, abilities, and interests influence, and are influenced by, the family's attitudes and attention. Guthrie, Seifert, and Kirsch (1986) found that social contexts influence reading practices and should be considered in educational planning as well. They found that the social contexts most likely to influence adults' reading practices were their educational levels, occupational categories, and the setting, either work or leisure, in which the reading occurred. Further study in this area is warranted, and is the basis on which this present

study is formulated.

Current developments in educational theory and practice underlie the potential importance of examining the variables which impact on the development of literacy. Identification of these variables and their effects upon children's academic achievement may facilitate positive parental involvement at home, as well as bringing parents into closer partnerships with schools and teachers. This assumes greater relevance as parents continue to seek advice on how best to educationally prepare their children (Karl, 1971).

Although there has been a great deal of investigative research into the many independent variables which affect literacy, little is known about how these variables interrelate and the dynamics which underlie them. Furthermore, no conceptual framework exists to explain these relationships.

The purpose of this study was to examine the manner in which a number of reading variables relate to the development of literacy, and how this impacts on kindergarten achievement.

Social cognitive theory (Bandura, 1986) forwards a conception of interaction based on triadic reciprocality that is useful in integrating the many variables which affect literacy. Its major emphasis is on an interactional

model of causation, whereby environmental events, personal factors, and behavior operate as interacting determinants of one another. The salient variables in literacy acquisition can be incorporated into this model.

This study involved the collection of data on the five variables identified in the literature as most important in the development of literacy. These are (1) the home reading environment, (2) parental modeling of reading behaviors, (3) child interest in reading, (4) child reading self-efficacy, and (5) child kindergarten readiness. A self-report questionnaire specific to these reading related variables was employed and completed by both parents and children. Outcome measures included the results of end of year California Achievement Tests, and kindergarten teacher ratings.

This study was designed to seek evidence which will be beneficial to parents in helping their children achieve maximum academic success through the early development of literacy. Parents can make a significant contribution in preparing their children to read and in enhancing and reinforcing formal academic instruction. As the research suggests, children who are exposed to, and have a familiarity with a great number of books before they can initiate the activity on their own, have a

solid foundation for future reading (Kontos, 1986). Many parents do not realize their potential as role models and teachers for their children. Many parents are eager to help their children, but need specific guidance. Furthermore, early intervention is preferred to later remediation of reading problems (Goodman & Goodman, 1979).

Chapter II

Review of the Literature

Variables in Literacy Development

A substantial body of literature exists which supports the benefits of literacy development through parental modeling of reading behaviors and rich preschool home environments. These positive outcomes are reflected in children's interest in reading (Haskett & Lenfestey, 1974; Mason & Blanton, 1971; Wells, 1978), language development (Dore, 1977; Ninio & Bruner, 1978; Wells, 1980), academic readiness (Johnson, 1980; Teale, 1978), early reading (Briggs & Elkind, 1973; Durkin, 1975; Sakamoto, 1975), and later academic achievement (Durkin, 1975; Ferguson, 1980; Hoskins, 1977). If appropriate stimulation can nurture and spur the development of certain abilities, it seems that inappropriate conditions may delay or hamper their emergence (Morrow, 1983). There is much evidence to show that families have a profound impact upon children's capabilities in learning so that it is crucial to enlist parental involvement in the cognitive development of their children (Sartain, 1978). The role of the parents as partners to the school has been largely ignored (Miller, 1983). Currently there is considerable interest in enlarging parents'

involvement in developing literacy in their children.

Home Environment

Historically, schools have been remiss in recognizing, nurturing, and systematically capitalizing on family resources to enhance children's preschool and continuing education because educators have doubted that families were capable of making significant contributions (Smith, 1971). After analyzing the correlations of children's achievement scores with academic aptitude estimates, instructional factors, socioeconomic variables, and family social indicators several investigators concluded that only a small percentage of learning can be attributed to school teaching efforts compared to home environmental factors (Jencks, et al., 1972; Marjoribanks, 1972; McDonald, 1976). In learning to read and in developing favorable attitudes about academic endeavors, children are affected by both the stimulating experiences and the social-emotional climates in their homes (Sartain, 1978). Thus, home reading environmental variables have been quite extensively researched. This data, however, is for the most part correlational in nature and no causal relationship has been proven between environment and early reading. Many of the studies rely on data compiled strictly on the basis of parent

interview or questionnaire. Factors such as accuracy of memory of past events and interviewer bias may influence the results of these surveys. Furthermore, Zimmerman and Feldmann (1980) point to a lack of specificity concerning the social processes in these studies, thus, preventing application of the results.

Teale (1978) examined a series of studies of early readers conducted to identify the factors which are repeatedly associated with a positive environment for learning to read. Relying heavily on Durkin (1966) and Clark (1976), he found four environmental factors to be interdependent. These factors were: (1) the availability and range of printed materials in the environment, (2) the understood function of written language in the environment; (3) the environmental facilitation of contact with pencil and paper, and (4) the quality of interaction between the child and others in his/her environment in relation to reading activities. Reading to children was repeatedly mentioned as a factor in the learning development of early readers. The studies emphasized that a positive environment for learning to read was one in which a parent, or some other significant person, played a prominent role in generating an atmosphere conducive to reading.

Parent-Child Interaction

The responsiveness of those in the environment of the early reader is of great importance. The quality and richness of the parent-child interaction was stressed by both Durkin (1966) and Clark (1976). Durkin (1966) notes dimensions of the home environment and parent-child relationships which are of most importance to early reading achievement: the homes that the parents provide, the example they show, the time they share with their children, and their beliefs in their roles as educators of their preschoolers. Additionally, the assistance the parents gave to their children was directly dependent on, and as a result of, the child's direct questioning. In Durkin's New York study (1966), 25 out of 30 children were actively seeking help and their parents were perceptive enough to give that help at the moment it would be most effective. Twenty-five out of 32 children in Clark's study also received parent help with reading directly due to the child's questioning. Durkin reports that in her Oakland study (1961), 38 out of 49 parents did not deliberately plan to teach their children to read early. It was the "overt curiosity" of the children which prompted the interaction.

Teale (1981) suggests that:

> Instead of merely correlating the amount of time a child is read to

> with gross measures of language development or reading achievement, . . . we need to examine closely the underlying construction and underlying organization of story-book reading events (p. 906).

The type of investigation suggested would attempt to determine exactly what happens during story reading that might contribute to literacy. Heath (1981) reports that various communities have different styles of reading to their children. These styles are hypothesized to play a part in whether the children learn to read easily or not, thus providing support for the notion that there is more to reading to children than merely doing it.

The effect of different parental styles of reading to children upon the children's cognitive growth was first studied by Swift (1970). He designed a parent training program to enhance the communication skills of mothers of preschool children. In particular, the program was designed to enable mothers to lengthen thoughts, elaborate upon ideas, and to improve observational skills. The aim was to improve the verbal interaction between the mothers and their children using books and story-telling as the medium. Seven mothers and their children who were enrolled in Philadelphia's Get Set program were studied. A leader led discussion groups with the parents pointing out the appeal of particular books, and suggesting ways to help their children to like books.

The mothers practiced reading and telling stories to the group, and were encouraged not only to read to their children at home but to talk about the books with their children. Swift reported that the mothers' story telling expertise increased as well as their perception of their usefulness and importance in the education of their children.

The Parent as Reader Scale (PARS) was developed by Guinagh and Jester (1972) to assess the quality of parent-child interaction during book reading. The instrument consists of ten scales which assess variables such as the parent's introduction of the book, the language used when talking to the child, the parent's attempt to elicit verbal responses about the book, the amount of elaboration on the book that the parent undertakes, and the amount of feedback that the parent gives the child. The scale can be used for training parents how to improve their reading to their children. Considerable variability in parent-child interaction during book reading events was found among participants in a teaching skills program ranging from minimal involvement to elaborate participation.

Flood (1977) investigated the relationship between parental style of reading to young children and the child's performance on selected prereading tasks. The

sample consisted of 36 three and four year old preschoolers. The parents read to the children in their homes, and these sessions were tape recorded in the absence of the experimenter. A prereading score was given to each child based on his/her performance on several tasks believed to be related to later reading success. They included: alphabet recognition, whole word recognition, vocabulary, visual discrimination, and recognition and reproduction of geometric shapes. Fourteen separate components of the parent-child reading episode were chosen for analysis of which six were found to be significantly correlated with the prereading score. They included: (1) total number of words spoken by the child, (2) number of questions answered by the child, (3) number of questions asked by the child, (4) warm-up preparatory questions asked by the parents, (5) post-story evaluative questions asked by the parents, and (6) positive reinforcement by the parents. The author concluded that the reading episode between parent and child is cyclic in nature, whereby the most important feature is the opportunity for verbal interaction.

Wells (1980) has comprehensively researched mother-child interaction and suggests that both parent and child may affect the quality and quantity of each other's responses by the nature of their input. A child who

contributes little will likely receive less in the way of elaboration and support than a more active participator. Similarly, a parent who is authoritarian or insensitive to the child's utterances may not give the child the support or stimulation he needs, thus causing him/her to contribute less. Varying situations evoke a different quality of response as well.

Pelligrini, Brody, and Sigel (1985) studied the interaction styles of parents and children during shared book reading. Specifically they were interested in the extent to which parents' teaching of children is a function of a child's age and communicative ability, and the relationship between parental interaction style and child's verbal I.Q. One hundred and twenty families participated in the study. Half of these families had a communicatively handicapped child and sixty matched families had a non-communicatively handicapped child. Children were four and five years old. Each parent was involved in a book reading task with his/her child. Classification of parent-child interactions was coded according to levels of cognitive demand and directiveness. It was found that children's communicative level, not age, affected parents' interaction styles. The adults' teaching strategies were adjusted to the children's level of competence. In addition, different styles

of parent interactions predicted children's I.Q. These conclusions appear to support Vygotsky's theory of proximal development, and the notion that adults act as "scaffolds" for children in learning situations (Vygotsky, 1962, 1978). Vygotsky described the zone of proximal development as the difference between a child's actual ability to independently problem solve and the child's potential level, which is determined through adult assistance of the child's behavior. In this way, adults teach children to plan and guide their own behavior. Thus, as children develop, adult scaffolding of children's behavior decreases, and the children assume greater responsibility.

Stackhouse (1974) compared interaction patterns within fifteen reading problem families and fifteen normal families by using taped data and the Family Interaction Scales. He concluded that in the normal families there was more explicit agreement and disagreement on various matters. They did not hide their opinions, and showed more commitment to issues, ideas, suggestions, and to other family members. They tended to stay on a topic until it was resolved, but would change topics to facilitate the progress of a discussion. Stackhouse suggested that these family members' behavior showed that they were comfortable with each other and felt

their opinions would be valued by others.

In their study of home background factors and reading ability, Hewison and Tizard (1980) found that the factor which most strongly related to achieved reading ability was whether or not the mother regularly heard the child read. This time for verbal reading by the child not only provided the opportunity for reading practice, but it also demonstrated the parent's interest in and approval of the child's reading activities. Before children can actually read, Dallman, et al., (1978) suggests that parents should listen to their child tell a story either based on the pictures or based on their familiarity with the book. She also suggests that once children know how to read, it is beneficial for them to exercise their new skills by reading to a pleased parent.

In a later study, Tizard, Schofield, and Hewison (1982) organized a collaboration between teachers and parents so that every child in two infant classes was regularly heard reading at home from books sent by the class teacher. The intervention was continued for two years. The overall purpose of the study was to find out if there was a causal relationship between active parental help and reading performance. Cross-sectional analyses showed a highly significant improvement by children who received extra practice at home in comparison

with control groups.

Miller (1983) studied the relationship of preschool children's prereading knowledge and receptive vocabulary performance with: (1) the amount of time the parent spent reading to the child, (2) the attitude of the parent and the child towards reading, (3) the specific types of interactions between the parent and the child, and (4) the number of children's books in the home. Data was obtained from 28 parent-child dyads. The major conclusion was that the reading attitude of the parent was the best predictor of children's prereading knowledge and receptive vocabulary. Parents with positive attitudes towards reading engaged in more frequent book sharing with their children, encouraged their children to interact through leading questions, and supplied supportive responses to their child's hypotheses.

Early parental influences on beginning reading was investigated by Kunimitsu (1978). She studied specific, observable parental behaviors during book reading which have been found to be predictors of later reading achievement. Eleven parental behaviors were selected which formed three major clusters: (1) begins at the child's developmental level; (2) emphasizes material that is associated with the known and comprehensible language of the child that is concrete and experience-

based; (3) involves the child and, therefore, the child perceives the relevance and purpose of the reading task. Tape recordings of 60 mother-child reading episodes were assessed by a behavioral code. The children's ages ranged from 3½ to 4½ years old. Three predictors of reading achievement (Alphabet Name Inventory, Peabody Picture Vocabulary Test, Whole Word Recognition Test) were employed as the dependent variables. Three of the 11 parental behaviors which significantly predicted reading achievement were considered of major importance. Results indicated that: (1) use of words and written material related to recent or continuous experience of the child have considerable meaning to the child; (2) provision of understandable information to the child about the meaning of the material, and (3) use of questions to elicit verbalization from the child significantly influenced beginning reading.

Adams (1980) also studied the relationship between home environment during the preschool years and children's reading comprehension in third grade. Two questionnaires designed to determine the quality of home support the parents provided the child prior to first grade were administered to 68 families. Scores from the Comprehensive Test of Basic Skills were used as a measure of reading achievement. Data analysis revealed that expe-

riences and activities provided in the home prior to a child's entrance into formal school had a measurable influence on the development of reading skills.

Parental roles during children's preschool development was studied as well by TePoel (1980). The mothers of 108 fourth grade students took part in a telephone interview. Questions were asked to assess the parental roles involved in children's preschool development in the areas of language development, social development, development of curiosity, and intellectual growth and development. The analysis of the 78 items revealed that four items were classified as very highly discriminating between mothers of high achievers and low achievers based on the results of the Stanford Achievement Test. A greater percentage of the mothers of high achievers: (1) consciously tried to teach their children to read signs and words; (2) encouraged the children to read for themselves; (3) played sound alike or rhyming games with the children; and (4) had their children attend preschool or nursery school.

In summary, there is a substantial body of empirical literature which documents the relationship between the home reading environment, including parental modeling of reading behavior, and desirable educational outcomes. It appears that when families create a "literate" home

environment in which book reading is a natural occurrence, educational achievement is enhanced.

Parental Modeling of Reading Behaviors

The practice of parents reading to their preschoolers has been widely investigated (Clay, 1972; Durkin, 1966; Spache & Spache, 1973). Parent-child interactional studies are frequently used to document language development. Language is not merely the ability to produce words and sentences. For the child to master a language, he/she must acquire a complex set of broadly transferable skills--perceptual, motor, conceptual, social, and linguistic (Dore, 1977). Language serves as a means of communication between people; it also serves other functions, such as attracting attention, signalling needs, and providing information. Since parents spend the most time with their child, they are the primary language facilitators, offering a model of language as well as being mediators for the child's attempts at expression. This mediating role of parents has been researched by Ninio and Bruner (1978) who report that mothers accept an astonishing variety of responses on the baby's part as his turn in the conversation and to interpret anything the baby utters as having specific intelligible content. Snow (1982) speculates that no matter what

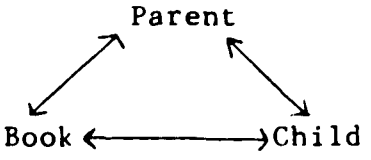
the child actually says, the mother interprets it in terms of what she thinks he/she is saying. Ninio and Bruner (1978) further suggest that the mother supports the child's conversation within the framework of her own, providing an appropriate model within a given situation. As a child's speech develops, he/she gradually assumes a more and more competent role in the conversation and the framework is gradually withdrawn.

Snow and Ferguson (1977) suggest that language is more complex in book reading situations. This is because the book provides a stable, stimulating framework of pictures and language on which to build a discussion. This points to an interactional effect between the processes of literacy acquisition and language development.

Reading is a form of communication, between author and reader, and it requires a number of skills on the part of both for it to be enacted successfully. Reading aloud is a situation that is quite different from ordinary reading to oneself, and from ordinary parent-child dialogue. Harkness and Miller (1982) note that story reading is hardly a dialogue since the very intrusive nature of the book must be taken into account. A book defines the beginning and end of the event as well as supplying a schedule of activities. Both the physical presence of the book and the author as participant add another

element to the interaction. The book is not a passive participant but offers a whole range of new alternatives for the parent and child. It provides a stimulus for conversation in both pictures and text; it provides a beginning and end to the interaction so that each participant in any given time knows approximately what the status of the interaction is; it provides a whole range of meanings, those intended by the author and those interpreted by the participants. It also most importantly provides a purpose for parent-child interaction.

Harkness and Miller (1982) postulate a model of the interaction as follows:



with equal importance given to each participant. The interaction serves as support and framework for the information that is being conveyed. It both influences and is influenced by the information. Similarly, the information the participants want to convey is both shaped by and shapes the type of interaction. Both aspects are important singly and in their relationship

to each other in this model.

This model was investigated by these researchers through analysis of 40 tape recordings of story reading sessions between a mother and her three year old son over a nine month period. Analysis centered on how stories were presented to the child, how he reacted to them, and any changes over time in this reaction. The child progressed from labelling characters and events to speculating on the causes of these events and their effects on the characters. They concluded that the development of the child's ability to seek out and understand more complex information is undoubtedly the result of the child's increased linguistic competence and gradual nurturing.

Chomsky (1972) found a positive relationship between listening to books read aloud and the linguistic development of children classified as prereaders. She identified five specific stages of early language development and observed that the rapidity with which children grow through these stages is determined by the socioeconomic status and the reading interests of the children and their parents. Chomsky developed a formula to measure the amount and complexity of reading material to which the child had been exposed. She suggests that the child reading (or listening to) a variety of rich and complex

materials benefits from a range of linguistic inputs that is unavailable to the non-literary child. She found that the children in the highest linguistic stages of development had more books read aloud to them each week, heard books at higher syntactic complexity levels, and were read to by more people than children in the lower linguistic stages.

The effects of story reading on the speech of 34 children was studied by Irwin (1960). The children were 13 months old when the study began, and 30 months old when the study was completed. The experimental groups of mothers were instructed to read stories for 15 to 20 minutes each day. The mothers were also told to engage in activities such as pointing out pictures, talking about them, and making up original stories based on the books. Control group mothers received no special instructions. Every two months, Irwin recorded the children's spontaneous speech in both groups. He observed no significant difference in speech production between the experimental and control groups from the 13th to 17 months. However, Irwin found significant differences in favor of the experimental group from the 17th to the 30th months.

Cazden (1969) compared two methods of language stimulation on the speech of 12 black children between

the ages of 28 and 38 months. These children attended a day care center where due to the high child to adult ratio, adult language input was limited. The experimental group which consisted of four children was exposed to "language expansion" efforts by a tutor for daily periods of 40 minutes over a three month period. For example, if the child said, "dog bark," the tutor answered by saying "yes, the dog is barking." A second experimental group of four children was exposed to an equal amount of language input but in the form of discussion of their ideas and listening to stories read aloud. The control group received no treatment. The second experimental group who had listened to stories and who discussed ideas made significant gains on six measures of language development.

In a like study, Fodor (1966) studied the effects of systematic story reading on the language development of 24 children between the ages of 21 and 30 months from low socioeconomic status. The experimental group was read to 20 minutes per day, five days a week for a period of three months. The treatment also consisted of pointing out and establishing word-referent associations and positively reinforcing the children for correctly identifying referents pictured in the books. The control group was matched for age, sex, race, and

SES. Results showed that the groups did not significantly differ in speech production, but the experimental group made significantly greater gains in both receptive and expressive vocabulary as measured by the Pacific Expressive and Receptive Vocabulary Tests.

Burroughs (1972) obtained similar results with three year old children from low SES homes. The children who composed the experimental groups were read to daily over a period of three months. The experimental groups scored significantly higher than the control group on receptive vocabulary, expressive vocabulary, length of sentences used, and on the Peabody Picture Vocabulary Test.

McCracken and McCracken (1978) studied the effect of modeling on a child's development of literacy. Their results suggest that modeling is the key to sustained reading, whereby children who have the opportunity to watch their parents or siblings reading silently and reacting to their reading, themselves learned to read. Through observation and imitation, children learn that books can be a source of information and stimulation for learning and thinking.

Greaney (1986) reveals that having adult models for reading activities influences children's interest in literacy acquisition. Parents who read books and

magazines as leisure activities are more likely to have children with high interest in literature.

This research suggests that adults should create an environment where the young child can (1) see and hear adults read, write, and converse in their daily activities, (2) read, write, speak, and listen in spontaneous situations meaningful to the child with adults and other children, and (3) engage in print related activities during play, such as make-believe reading and writing (Kontos, 1986).

Reading Interest and Motivation

Mason and Blanton (1971) studied the reading interests and literature preferences of preschool children. They found that the children expressed an interest in reading books that they enjoyed listening to. The investigators individually interviewed 180 three, four, and five year old children, asking them the following questions: (1) Do you like to have stories read to you?; (2) What stories do you like to hear best?; (3) What stories would you read if you could read all by yourself? Ninety-five percent of the children responded that they enjoyed having stories read to them. The children expressed definite preferences for one or more types of story content with the majority showing an interest

in fairy tales, animals, television characters, storybooks, and machines. The researchers found that a majority of four and five year olds responded identically to questions two and three; they noted as especially significant that exposing children to a good story increases their desire to read it themselves.

Haskett and Lenfestey (1974) studied how to increase looking at books as an activity choice in an open, preschool classroom. The classroom initially contained 12 different children's books as well as other standard equipment. A baseline measure of reading related activity was obtained. During each of five sessions, ten to fifteen new books were introduced into the classroom. In five subsequent sessions, adults selected a book and read aloud from it without directly encouraging the children into the activity. During the baseline period, a very low frequency of reading related activity was recorded. The introduction of new books brought some increase in reading related behavior. However, the reading aloud of books by adults produced the largest and most stable increases of the desired behavior.

Wells (1978) identified positive and negative experiences in the home that affected children's reading motivation. The study revealed that students perceive certain factors as having pronounced effects on their

reading attitudes. Negative factors were parental overstress on reading, punishment, and parent-induced frustration. Two parent-positive factors were supportiveness (providing interesting reading materials) and arousal of interest. It was also noted that children responded favorably to subtle rewards which stemmed from their own reading activities. This involved parents who encouraged library trips, bought extra books, considered a child's interest, stimulated a child's curiosity, and lavished reading praise upon them. These factors clearly stressed the importance of home influences. Wells indicated that the parent who was indifferent to the child's reading needs and who failed to provide proper motivation, would have an indifferent reader.

According to Teale (1984), the promotion of positive attitudes toward and interest in reading is through story reading. Reading to children provides them with a sense of what reading is about, introduces them to the form and structure of written language, and acquaints them with literary conventions.

Morrow (1983) reported that kindergarten children who displayed a high interest in literature had been read to more frequently and had more storybooks in their homes than children with low interest. In a later study, Morrow (1985) found that storytelling and guided discus-

sion promotes their interest, comprehension, a sense of story structure, and greater oral complexity in young children's language use.

Jenson (1985) found that several aspects of the home reading environment predicted children's print awareness and interest in reading, including the number of people who read to the child and whether or not they discussed the stories as they were read.

Deliberate teaching by parents was not a factor in children's interest in and acquisition of reading in early studies of Clark (1976) and Durkin (1966). The absence of teaching did not mean that reading was dismissed. In these studies, parents were particularly responsive to their child's requests for help with or information about reading. This literature suggests that it is important for parents and teachers to allow preschoolers to initiate interest and desire for information about print.

It is clear from the foregoing research that children's interest in books is closely related to environmental factors. Family members who use print while young children are present (to communicate with notes and letters, remember appointments, keep records, and balance checkbooks) provide a learning environment for why we read. As in other areas of development, a major

reason children become interested in reading and want to learn is that they see the people they admire doing it.

Academic Achievement and Home Reading Environment

In one of the earliest studies in this area, Almy (1950) studied the relationship between first grade achievement and being read to and looking at books. Through parent interviews, scores on the Gates Primary Reading Tests of Word Recognition and Sentence Reading, and teacher ratings, a significant relationship between the home reading environment and achievement was found. She discovered that a sizeable amount of instruction takes place when a parent reads to a child and responds to the child's interest in words and letters.

Another early study compared a group of low and high achieving first graders using a questionnaire concerned with patterns of parent-child interaction (Milner, 1951). The information that was requested included the number of books the child owned, who read them to the child, and when. The measures of achievement used were the verbal subtests of the California Test of Mental Maturity. The high achievers were found to own significantly more books than the low achieving groups, and their parents also read significantly more to them.

Brzienski (1964) conducted a study in the Denver Public Schools whose purpose was to assist parents prepare their preschoolers for reading through educational television programming. Over 1,000 three and four year old children were studied. Parents in two experimental groups were instructed in teaching reading readiness skills. They followed a guidebook and watched specific programs on educational television. One of the experimental groups also met in a discussion group with an experienced reading teacher. The control group received no treatment. A parent questionnaire was administered, and achievement was measured by the Test of Skills Basic to Beginning Reading. It was found that reading aloud had a significant effect on achievement regardless of group membership. High achieving children were found to practice the beginning reading activities more than half an hour weekly, and also to have been read to more than one hour per week. Brzienski emphasized that reading to a child should be an essential component to beginning reading activities.

Miller (1969) conducted structured parent interviews to assess prereading activities focusing on story reading. A significant relationship was found between story reading activities and kindergartner's reading awareness as measured by the Metropolitan Readiness Tests, across

the three social classes studied. Although all children in the three social classes were exposed to story reading, this activity was noted to be on a less consistent basis in the two lower groups. However, first grade achievement as measured by the Stanford Achievement Test and the Gilmore Oral Reading Test positively correlated with home story reading only for the middle class children.

A national survey of over 1,000 mothers was conducted by Gallup International (1969) to assess the role that parents play in school achievement. Of the high achieving group, 70% had been read to before they started school, compared to 40% of the low achieving group. Differences were also noted between the groups with regard to the age they first were read to. Within the high achieving group, 26% were first read to at age one year, 22% were first read to at age two years, and 15% were first read to at age three years. In comparison, only 24% of the low achieving group had been read to by age three.

The relationship between the home reading environment and readiness skill achievement, and the relationship between parents reading to their preschoolers and readiness skill achievement was investigated by Hoskins (1977). The population studied consisted of 129 preschoolers and their parents. Half of the parents were given guidelines and instructions to read to their children for

at least sixty minutes per week for three months. Data reflecting the home reading environment was collected through the use of a questionnaire which sought information concerning time spent reading to children, books in the home, library usage, and parent reading behavior. The results showed significantly higher scores on the achievement tests of those children with rich home-reading environments rather than meager ones, and significantly higher scores on the achievement tests of those children who were participants in the summer reading program. Those subjects who both came from rich home-reading environments and who participated in the reading program scored significantly higher than all the other children in the study. Thus, parents who read aloud to their preschool children on a systematic or regular basis enhance their preschooler's academic readiness for the kindergarten experience; children who come from homes where there is a rich home-reading environment appear to have an educational advantage over peers who come from homes that reflect a meager home-reading environment.

Hoskins (1977) also investigated the effects of parents reading to their children prior to kindergarten entrance on their academic readiness. The home reading environment, judged rich or meager, was assessed by means of a parent questionnaire. Items included time

spent reading to children, books in the home, library visits, and parent reading behavior. The experimental and control groups, each consisting of 64 children, were dichotomized according to their home reading environment. The parents read to their children for at least one hour per week during the summer preceding the children's entry into kindergarten. The Stanford Early School Achievement Test was used as a measure of academic readiness (general information, mathematics, knowledge of letters and sounds, aural comprehension). Children who were read to scored significantly higher than those coming from a meager home reading environment. Those children who both came from a rich reading environment and were read to, scored significantly higher than all the other children studied.

In one of Durkin's (1975) longitudinal studies, she followed a group of children who learned to read at four years of age due to their participation in a preschool language arts program which emphasized letter and number naming, the development of a sight vocabulary, and listening to books read aloud. At the end of both first and second grades, the participants in the program obtained significantly higher reading achievement scores. However, at the end of both third and fourth grades, no significant differences among the children were found.

Another longitudinal study was conducted by Walker and Kuerbitz (1979) of 36 first graders. They were interested in determining the relationship between story reading experiences and beginning reading success. They were also interested in studying the extent to which the reading gains, attributed to listening to stories read aloud, persisted through third grade. Parents responded to questionnaires designed to assess reading aloud experiences prior to kindergarten. Children were then classified into one of three groups: those read to daily, those read to every other day, and those read to once weekly. A significant relationship was found between story reading activities such as talking about pictures, explaining things, answering questions and achievement in first grade. A significant relationship was also found between the child's expressed wish to have stories read and first grade reading achievement. Although all three groups achieved two years of reading gain from first to third grade, the group that was read to least, made the greatest gain. The authors note a "catching up-leveling off" process which took place over the three year period. It should also be noted that there was no control group of children in the study who were not read to at all.

Cousert (1979) studied the relationship between

the personal reading habits of parents, whether parents read or did not read to their child during the preschool years, and whether the parents read or do not read to their child at present, and the child's reading achievement at third grade. Third grade students in the top 26%, and the bottom 26% of the class were chosen for study on the basis of their scores on the Stanford Achievement Test. Results showed significant relationships for both mothers and fathers who read to their child in the preschool years and third grade achievement, although more mothers than fathers reported reading to their child.

Ferguson (1980) investigated the effects of listening to the reading of children's books and other related language experiences on kindergarten children whose test data indicated that their readiness level for reading instruction was low. The first experimental group received planned daily experiences which consisted of listening to selected stories from children's literature. The second experimental group listened to the same stories as the first group, but in addition, had film strips, puppet plays, creative dramatics, tape recordings, and rewording of the stories in the children's own words. The control group received no additional reading of stories or language experiences other than what was

provided in the regular kindergarten curriculum. Achievement was measured by the Metropolitan Reading Test, the Test of Basic Experience, and a teacher questionnaire. Results showed that Group 1 experienced a significantly greater gain over Group 2 and Group 3. There was no significant differences in gain between Group 2 and the control group. Ferguson concluded that the difference in gain between the two experimental groups was due either to teacher effect or to other experience related variables. The reading of selected stories and related language experiences did result in increased reading readiness of kindergarten children.

Norman-Jackson (1982) studied the relationship between the primary reading achievement of black children in low income families and family interactions and language development. The preschool siblings of second graders in two contrasting levels of reading achievement were observed in their homes. Language samples were collected, as well as tape recorded descriptions of family interactions and activities. It was found that the language of preschool siblings of successfully reading second graders was significantly more mature than preschool siblings of unsuccessful readers. Furthermore, five years following the home observations, the primary reading achievement of the younger children was assessed.

Norman-Jackson found that successful readers differed from unsuccessful ones when observed as preschoolers; they had participated in more verbal interaction with their families and produced more language that was of greater maturity. The author suggests that the contributions of school-age siblings were significant in providing verbal stimulation to preschoolers who were later successful readers. It was also found that as preschoolers, unsuccessful readers received significantly more parental discouragement to child-initiated verbal interactions than did successful readers.

Academic Achievement and Early Readers

The child who learns to read prior to entering kindergarten has been the subject of much research. This research has primarily focused on the characteristics of the early reader and the characteristics of the home environment. Comparative studies have also been conducted between early and non-early readers in order to identify more clearly characteristics or circumstances unique to the early reader.

Typically, an early reader who learned to read at home prior to receiving formal reading instruction is discovered upon entering kindergarten. The parents know that the child can read but usually there is no

reason for reading ability to be recognized by others before formal schooling has begun. Researchers have availed themselves of this accessible school population and as a result, have studied early readers as they enter the school system. This technique has been quite useful for it has provided the formal framework and consistency with which to study these children over a period of time. A drawback of this technique is the lack of information on the early reader during the time reading was acquired, and the reliance on parental accounts several years after the events have taken place.

Generally, the sample size of the studies have been quite small, and the methods used to identify early readers have varied. The largest studies of early readers were the longitudinal studies by Durkin (1961, 1964, 1966, 1974-5). The first study (1961) was conducted in Oakland, California and identified 49 early readers from a population of 5,103 entering first grade students. Any child taught any reading during kindergarten was dropped from the study during initial screening which may have eliminated some early readers. The children studied were identified by means of a two step screening procedure consisting of a word identification test and a score of Grade Level 1 on the Gates Reading Test. Durkin examined various variables to determine which

showed a positive relationship to early reading. In every case the children were read to by their parents or by older sisters and brothers. There was at least one person in each child's family who answered the child's questions about reading. The parents also noted that their children's questioning was constant.

Durkin's follow-up study (1966) identified a total of 156 early readers from a total population of 4,465 in 40 New York City public schools, by means of a similar two step screening process. She conducted interviews with parents of both early and non-early readers. She found that those children identified as early readers were read to significantly more often than the other children prior to entering school.

Krippner (1963) described the precocious development of a child who began to read at eighteen months. The child, Larry, began to ask his parents to read captions on a picture dictionary at age one year. He quickly developed a sight vocabulary, "reading" the dictionary by himself, relying on pictorial clues and memory. He then began requesting that other various printed material in his environment be interpreted. In analyzing the various factors which accounted for the child's precocity, Krippner noted that books had always been available to him, and that his parents always answered

his questions about letters and words. They also served as models being avid readers themselves.

Plessas and Oakes (1964) identified 20 early readers by means of a score of 2.0 on the California Reading Test which was administered in December of first grade. No attempt was made to identify children who had been taught reading in kindergarten, although an attempt was made to identify those children who were reading upon entrance to first grade. This would insure that the early readers had learned to read before first grade, rather than the first half of the school year. It was found that all of these children were read to extensively both at home and in kindergarten. According to data gathered from parent questionnaires, 19 of the 20 children were read to daily, and five were reportedly read to several times daily. These children were primarily read to by their parents, however, older siblings, grandparents, and baby-sitters read to them as well.

An informal reading program was offered to 134 kindergarten children (Sutton, 1964). After four months in the program, 46 children had attained a reading level of 1.3 and were classified as readers. Sutton then administered questionnaires on home environment and personality characteristics to their parents. He found that significantly more of the readers had routinely

asked questions about words and had older siblings who read to them. The readers had also been read to at an earlier age than the nonreaders.

Many Japanese children learn to read at home by age four. Sakamoto (1975) attributes this early reading to the fact that Japanese parents read to their preschoolers from picture books very often. These picture books contain the phonetic writing system, Hiragana. This system is reportedly easy to learn due to the very regular relationship between spoken and written symbols. Fluency in reading at age four was found to be related to the age at which the parent began reading to the child. Thirty-six percent of the parents started to read picture books to their children at age one, thirty-one percent began at age two, and twenty-three percent began at age three. Only seven percent of the parents began reading to the children for the first time at age four.

Briggs and Elkind (1973) presented the results of a pilot study of early readers and matched controls. The children were given a large battery of perceptual, motor, cognitive, and personality tests, and their parents were interviewed. A major finding was that early readers were superior to non-early readers on concrete operational tasks.

Briggs and Elkind (1977) in a replication and exten-

sion of their earlier study identified 33 children from an entering kindergarten population of 2,700 by means of a two step procedure similar to Durkin's (1966). This population was different than Durkin's because kindergarten children were studied, rather than first graders. The 33 early readers were then compared with a matched sample of children who did not read early. The children were given a battery of tests, and their parents interviewed about 47 items dealing with demographics, parenting practices, and child characteristics. Their results demonstrated that early readers were superior to controls on measures of conservation, on two measures from the Illinois Test of Psycholinguistics, and on one measure of creativity. Data from parent interviews suggested that the parents' achievement orientation and the environment of the home were more important than the child's interest as motivation for early reading. It was concluded that the presence of operativity in children, along with the high achievement motivation of parents, facilitates the attainment of reading skills at an early age. A significant difference was also found between readers and nonreaders on a factor called "Family Interest in Language." This factor included items dealing with the child's interest in words, parental teaching of writing, spelling and vocabulary, and fre-

quency of sibling reading to the child.

A comparison of characteristics of kindergarten entrants who could read with those who could not was undertaken by both Harty (1976) and Johnson (1980). Based on the results of the Silvaroli Informal Reading Inventory and teacher questionnaires, Harty identified 130 children as readers. Another 230 children were randomly selected who required additional readiness skills for reading. The frequency of parents reading to their child was one of eight variables which showed a significant difference in favor of the readers. However, in Johnson's study, no significant differences were found in terms of frequency of parent reading aloud to the child between the 15 readers and nonreaders. That no significant difference between groups was found may have been a function of the study's small sample size.

In drawing conclusions from these studies of early readers, it is important to consider the range in ages, grades, and previous school exposure to reading. Additionally, the methods used to determine which children were early readers need to be considered. Despite these methodological differences, some common factors can be noted, and some generalizations made.

Most noteworthy about these groups of children

is the level of reading ability with which they entered kindergarten. They were not merely reading isolated words, but were truly quite fluent. Clark (1976) reported a reading range of 7.5 years to 11+ years for a group of 32 early readers from an entering population of selected schools in the British Isles. These children were reading both fiction and nonfiction books, and most could spell some words. Durkin's subjects also exhibited a great deal of fluency. In the Oakland study, the reading grades range upon entrance to first grade was reported as 1.7 to 2.6. Thirteen children who sought and received preschool help with reading at age three entered the study with the highest reading level (grade 2.6) in May of 1958. At the conclusion of the study in May of 1963, these children had achieved a grade level of 9.2. The majority of the early readers began at age four, and entered first grade with a reading level of 1.8, and reached a level of 6.6. Those who began at age five started at a level of 1.7, and concluded the study with a grade level of 7.6 (Durkin, 1966). Clearly, these children were not only fluent readers upon entrance to school, but they were able to maintain reading levels at or above grade level.

Superior intelligence is often assumed in the presence of such early fluency in reading. Durkin reports

a median I.Q. of 121 (range 91-161) for the Oakland subjects (1966), and a median I.Q. of 133 (range 82-170) for the New York population (1975). Plessas and Oakes (1964) report a mean I.Q. of 128; Briggs and Elkind (1977) report a mean I.Q. of 115.5; Clark (1976) reports a mean I.Q. of 122.5 (range 98-146). When considered in terms of measures of central tendency, these children are certainly above average in intelligence. However, it is interesting that the range of success indicates the presence of scores at considerably lower levels. Thus, not all early readers are above average in intelligence. Durkin (1975) theorizes that these early readers may benefit much more as they are able to learn to read slowly over a time period of years with minimal pressure rather than having to learn to read in the first few months of first grade.

In general, may children who are early readers do have high I.Q.'s. The relationship between I.Q. and early reading is complex and centers on the question of whether early reading is caused by a high I.Q. or is a high I.Q. score caused by early reading and related language abilities. It is difficult to assess the relationship between I.Q., home environment, and early reading, although there certainly seems to be a strong relation ship among these factors. The social cognitive viewpoint

of the proposed model is an attempt to clarify the strength and quality of these interrelationships.

Theoretical Formulations

Although there is considerable research on reading variables in isolation, as reviewed above, there is no cohesive theoretical formulation to explain the relationship among these variables and their effects on the development of literacy and academic achievement.

Several theoretical explanations have been forwarded to explain literacy development. Many of these theories center around the emotional warmth of the reading situation, the positive reinforcement which leads to the love of books, and the opportunity for language enhancement. In-depth study of the qualitative aspects of story book events, and their underlying construction and organization, will greatly supplement present knowledge of why book reading is positively linked to many aspects of a child's educational development (Teale, 1981).

For example, Ninio and Bruner (1978) advanced the notion of developmental scaffolding, a potentially powerful theoretical account of language learning by means of story book reading. They concluded a ten month longitudinal study of a mother and child. The study centered

around how the child learned to name and label objects in the context of reading with his mother. Book reading is a crucial event in which labelling begins, characterized by children's first attempts at language through naming people and objects. They observed that during picture book reading, mother and child engage in verbal interaction and interchange. Initially the mother provides all the dialogue. Her verbalizations fit into four categories: (1) the attentional vocative, "Look," (2) the query, "What's that?," (3) the label, "it's an X," and (4) the feedback utterance, "Yes." Whatever the child says that is remotely understandable, the mother interprets as his/her turn in the dialogue. In this way the child is moved from more primitive to more mature communication. As the child participates more fully, the mother adjusts her input accordingly, encouraging the child's verbal input. Thus, the mother acts as a scaffold for her child's emerging competencies.

An earlier and similar view by Cazden (1969) notes that reading to a child is a potent form of language stimulation, not only because it necessitates a physical relationship, but because reading inevitably stimulates interpolated conversation between adult and child. The emotional climate established during book reading supports the child's emotional functioning and helps

them develop positive feelings and attitudes toward reading.

Gordon (1976) uses modeling to explain story reading's positive outcome. Parents serve as models of appropriate reading behavior, and children want to read in an effort to be like their parents. Gordon suggests that if children are expected to want to read upon entering school, they need to see their parents reading. Whether parents are seen reading fiction or textbooks, manuals, box labels, comics, or magazines appears unimportant. What is vital is that the child see that reading is needed to function better in their world.

Smith (1977) suggests that children need to acquire two basic insights before learning to read. The first is that print is meaningful, and the second is that written and spoken language are different. These are learned when someone reads to them. Smith notes that although children are immersed in print in the course of their daily lives, it is not until it is responded to (as when a parent points out that "that word is 'stop'") that a child will learn it is meaningful. They then test hypotheses about the characteristics of written language and about the features which differentiate it from spoken language. As children hear written language, and as they become more capable of reading on

their own, they add to their understanding of written language. Stories serve the function of familiarizing children with written language. Smith notes that even if parts of the stories are incomprehensible to children, they will benefit as long as the general theme is interesting to them.

Schickedanz (1978) states that the foregoing theoretical explanations of the relationship between story reading and reading achievement are incomplete, rather than invalid. Schickedanz states that the modeling explanation and the "establishment of a positive affective climate" explanation are both consistent with a learning theory model, but these theories:

> . . . stress the importance of motivation and reinforcement derived externally from the language act itself. In addition, they assume that story reading serves as preparation for instruction in reading that is to occur at some later time, not that it is itself a situation in which actual instruction can and does occur (p.49).

In particular, Schickedanz asserts that letter-sound relationships can be learned from the story and reading situation. This view asserts that story reading is the actual source of reading skills, as opposed to the others which view it as an experience which renders the child receptive to and motivated for formal reading instruction.

The importance of Schickedanz's observations is

apparent when considering the process by which early readers learn to read. The two allied concepts that the child is an active participant in the story reading process, and that learning to read in this context is likely, forward a plausible explanation for how much early reading is acquired.

Schickedanz presents a cognitive explanation of how letter-sound relationships develop. In Scheme I, the reader presents the story to the child who, upon repetition of the story, is able to memorize it. By this time, the child is able to make the generalization that stories can be learned "by heart" and applies this to other books. During Scheme II, the child recognizes some words in books because parents have pointed them out or they associate them with pictures or other clues. Their "by sight" reading is aided by their "by heart" versions of stories. In Scheme III, the child, no longer dependent upon a story reader begins to observe specific letter-sound relationships and patterns of correspondence. During this stage, children construct a set of skills for themselves rather than being taught a hierarchy of skills.

The behavior presented in Schickedanz's theoretical model has been observed in research studies of early readers. Durkin (1966) found that stories that were

read and often reread were generally the ones that elicited such questions as "Where does it say that?," or "What's that word?." Clark's (1976) research also emphasizes the memorization of story lines and the need for repetition of stories. He questions the extent and ways in which learning to read is a developmental process and whether there are essential sequential steps. It may be that the traditional sequence in which reading is taught has little relationship to the system produced by the child in a story reading situation. It also appears that the memorization of story lines and the repetition of the same stories may be at the very heart of the learning process for the early reader.

Theoretical formulations which point to the story reading situation as the data from which a child learns about reading are consistent with cognitive theory. Forester (1977) a proponent of this viewpoint, believes that the reading strategies of children who learn to read in the context of being read to may be equally effective in the classroom environment. Her research was conducted in a first grade class in Canada where the traditional reading curriculum was abandoned in favor of an approach in which children listened to stories and read familiar nursery rhymes printed on large wall charts. The children were also exposed to tapes with

follow along books, and they heard and read stories which they then dictated. There was no control of vocabulary or reading materials, no traditional lessons in reading, nor any expectation for word accuracy when reading. The accuracy was allowed to develop gradually, with the children themselves asking the questions and searching for the answers. Forester found that by the end of the school year, all of the children learned to read with impressive fluency and expression. Forester asserts that:

> Reading is learned not as a set of rules but as expressive meaningful language on the basis of modeling, where a competent reader demonstrates fluent reading. It is a process much like that at work when a child learns to speak by having parents model fluent language in the home where the same familiar words and actions occur again and again (p. 163).

Snow (1983) argues that literacy and oral language are very similar and closely related skills which are acquired in the same manner. The characteristics of parent-child interaction which supports language acquisition also facilitate reading and writing development. Learning to read has historically been viewed as a cognitive problem, a task children had to solve on their own, within their own heads. Snow believes that reading should be treated as a social phenomenon, which occurs by and in groups and which is embedded in the culture

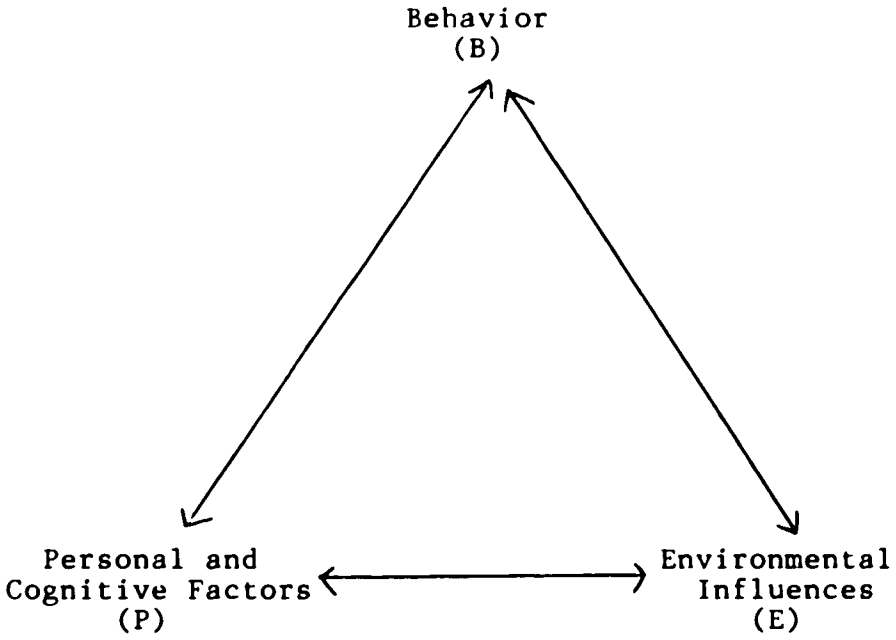
of the users. The social nature of the reading process is truly potent during the early stages of acquisition. Snow directs further research efforts toward distinguishing variables within the interactive situations which facilitate literacy acquisition.

None of the theoretical formulations discussed thus far appear to comprehensively examine these interrelationships. It is the focus of this present research to study them within the social cognitive framework and provide a rationale for literacy development.

Social Cognitive Theory

Bandura's social cognitive theory explains human functioning through a model of triadic reciprocality (Bandura, 1986) and is shown schematically in Figure 1. In this view, behavior, cognitive along with other personal factors, and environmental influences all operate as interacting determinants of one another. Since there are multiple interacting influences, the same variable can be a part of different mixtures of conditions that can have different effects. Triadic reciprocality does not mean there is symmetry in influence among these variables either. The relative strength exercised by the three interacting variables will be changeable across different activities, individuals, and circumstances.

Figure 1. Bandura's Model of Triadic Reciprocality



A feature of social cognitive theory is that the environment affects, and also is shaped by humanity. Therefore, people are not passively controlled by external events; they actively influence their destiny. Their wants, expectations, and interests guide their conduct. Reciprocal causation allows people to exercise control over their experience. This experience is shaped by the events facing people (environmental events), how these events are construed (cognitive and personal factors), and the actions shaped by these perceptions (behavior). The concern with the mutual interaction of causes is key to this approach (Rosenthal, 1979). No single set of influences master the others.

The three sets of interacting factors are developed and activated because they are so greatly interdependent. The analysis of reciprocal causation must also take into account the bidirectional links within these constituent factors (Bandura, 1986). However, these bidirectional influences do not wholistically or simultaneously operate. The interaction of these factors occur sequentially over variable time sequences (Phillips & Orton, 1983).

These multiple relationships have advantages in educational application since all factors must be considered, and problem solving is not restricted to the

analysis of independent variables. Therefore, several alternatives for the implementation of change can be considered.

Social cognitive theory is particularly applicable to the understanding of literacy development because the variables involved in the acquisition are clearly interrelated, although traditionally investigated separately.

Literacy has been defined by Snow (1983) as:

> . . . the activities and skills associated directly with the use of print--primarily reading and writing, but also such derivative activities as playing Scrabble or Boggle, doing crossword puzzles, alphabetizing files, and copying or typing (p. 166).

Zimmerman and Feldmann (1980) and Snow (1983) have suggested broadening the perspective on literacy development by examining the social processes involved. A child with simple access to literacy materials does not necessarily become an avid reader and lover of books. This brings into light the question of a child's motivation in developing a strong sense of literacy. Another important aspect of social cognitive theory is Bandura's conceptualization of self-efficacy (1986). The interrelationship between knowledge and action is mediated by people's conceptions of their personal efficacy. Perceived self-efficacy as defined by Bandura is a per-

son's judgment of their capabilities in a specific domain of activity. Thus, self-efficacy is considered to be the cognitive mechanism contributing to behavioral choice and change. People will avoid activities and situations they think surpass their capabilities, and will attempt and perform confidently activities they judge themselves capable of undertaking (Bandura, 1977).

This concept is particularly useful in the proposed model of literacy development. A child's sense of how he/she will perform in reading activities should in part signal whether he/she will seek or retreat from those activities. Bandura views self-efficacy as dynamic, multidimensional, and situation specific. It involves a "generative capability in which cognitive, social, and behavioral subskills must be organized into integrated courses of action to serve innumerable purposes" (1986, p. 391). Social cognitive theory specifies the determinants and mechanisms whereby these separate threads are viewed. Most frequently, the development and activation of these interacting variables are extremely interdependent.

Based on the research reviewed, social cognitive theory is an appropriate model in which literacy is hypothesized to be a function of the five separate variables found most salient in its acquisition. These

are: (1) the home reading environment, (2) parental modeling of reading behaviors, (3) child interest in reading, (4) child reading self-efficacy, and (5) child kindergarten readiness. As can be seen from the literature review, these variables oftentimes overlap and are intricately enmeshed with one another. To clarify the proposed model, and separate the variables as much as possible, the following definitions are proffered.

The Environmental Influences in literacy development are the home reading environment (physical influence), and parental modeling of reading behaviors (social influence); the Cognitive and Personal Factors in literacy development are child interest in reading, child reading self-efficacy, and child kindergarten readiness; and the Behavioral Influences on literacy development is academic achievement.

In this model, the home reading environment (physical influences) is defined as the following factors: (1) the availability and range of printed materials in the home, and (2) library usage and activities associated with books (story hours, book store visits).

The variable of parental modeling of book reading behavior is also a part of the environmental determinant (social influence) and is confined to these factors: (1) amount of time parents or other family members spend

reading in view of their child, (2) the amount of time parents spend reading directly to their child, (3) the amount of time parents spend listening to their child read and in discussion of what they have read, and (4) parental attitudes toward and interest in reading.

The variable of child interest in reading is defined as: (1) the amount of time the child spends in independent reading, (2) how often the child asks to be read to, (3) whether or not the child selects his/her own books, and (4) the importance of reading compared to television watching, game playing, or other activities.

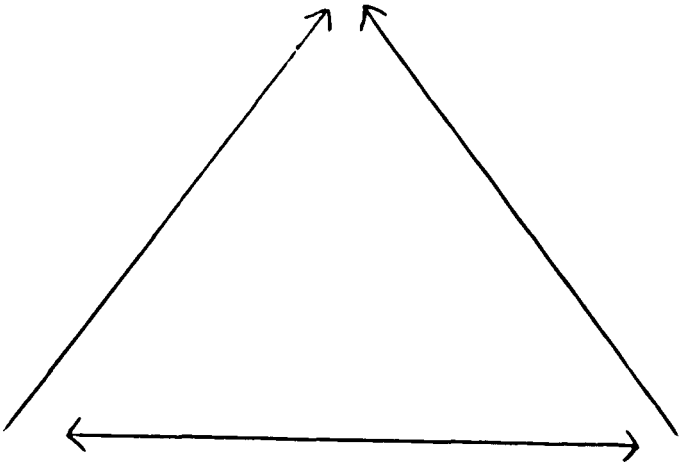
The variable of child reading self-efficacy is defined as (1) how capable a child estimates he/she is in a reading activity.

The model in Figure 2 describes the interactions among the three key variables according to social cognitive theory (Bandura, 1986), and their counterparts in this proposed model of literacy development.

Thus, in the proposed model, the variables which are hypothesized to contribute most to children's literacy development are: (1) the home reading environment, (2) parental modeling of reading behaviors, (3) child interest in reading, (4) child reading self-efficacy, and (5) child kindergarten readiness.

According to Bandura (1986), social learning occurs

Figure 2. A Model of Literacy Development



based on casual or directed observation of others in everyday situations. Learning in youngsters depends extensively on the behavioral modeling that infuses their daily lives.

The hypothesized relationship between parental modeling and the development of literacy was further suggested by the findings of Gordon (1976), McCracken and McCracken (1978), Miller (1983), and Snow (1983). The hypothesized relationship between parent-child interaction, a form of modeling, and the development of literacy was suggested by the findings of Guinagh and Jester (1972), Stackhouse (1974), Harkness and Miller (1982), and Pelligrini, Brody, and Sigel (1985).

The hypothesized relationship between the home reading environment and the development of literacy was suggested by the research of Marjoribanks (1972), Durkin (1975), Briggs and Elkind (1977), and Johnson (1980).

The hypothesized relationship between child interest in reading and the development of literacy was suggested by the investigations of Mason and Blanton (1971), Haskett and Lenfestey (1974), and Wells (1978).

The hypothesized relationship between child reading self-efficacy and the development of literacy is suggested by Bandura's social cognitive theory (1986). It is

a novel formulation in literacy research and is an integral aspect of the proposed model. However, numerous self-efficacy/academic achievement studies have been conducted. In particular, Collins (1982) found that enhanced self-efficacy is predictive of increased persistence in seeking solutions, higher level of cognitive achievement, and greater interest in activities previously disliked. He also found that perceived self-efficacy is particularly independent of underlying cognitive skills, and contributes significantly to performances requiring these skills.

The hypothesized relationship between a child's kindergarten readiness and the development of literacy was suggested by Miller (1969), Hoskins (1977), and Ferguson (1980).

The relationship between literacy in children and academic achievement has been established by the investigative efforts of Durkin (1975), Hoskins (1977), Cousert (1979), and Walker and Kuerbitz (1980). This research has uncovered strong, positive relationships between a child's level of literacy and academic achievement. Thus, in this model, academic achievement is hypothesized to be a function of literacy.

For the purposes of this study, the model will not examine the bidirectional influence of behavior

on the other two determinants.

Rationale for the Study and Hypotheses

These variables have been investigated in relative isolation, and the research has been mainly atheoretical in nature. Thus, investigators have identified variables important to the study of literacy development, however, no attempt has been made to look at these variables within a theoretical framework. The proposed model is an attempt to bring together the several bodies of literature in an integrated way. The model suggests relationships among the variables of interest. It is a relational model, not a causal one.

Based on the foregoing, the following hypotheses are generated based on conceptualization derived from both social cognitive theory, and available empirical evidence. Based on Figure 2, it is proposed that there will be significant relationships between Cognitive and Personal Factors with Behavior, Environmental Influences with Behavior, as well as Cognitive and Personal Factors with the Environmental Influences. A multiple correlation of Environmental Influences and Cognitive and Personal Factors on Behavior will be conducted separately for each criterion variable. The hypotheses will examine beta weights and direct simple correlations.

It is hypothesized that:

H1: Significant multiple correlations will be obtained between the three Cognitive and Personal Factors and the two Environmental Influences on each measure of Behavior. It is expected that the Environmental Influences (home reading environment and parental modeling) will account for the greatest amount of variance in CAT test scores, as well as teacher ratings.

H2: The Environmental Influences of the home reading environment and parental modeling will produce significant beta weights on both CAT test scores and separately for teacher ratings. Children who are exposed to richer home environments and greater levels of parental modeling of reading behaviors will obtain higher levels of CAT test scores and teacher ratings.

H3: The Cognitive and Personal Factors of child interest, child reading self-efficacy, and child kindergarten readiness will produce significant beta weights on both CAT test scores and separately for teacher ratings. Children who demonstrate greater levels of interest, self-efficacy, and kindergarten readiness will obtain higher levels of CAT test scores and teacher ratings.

H4: Significant positive correlations will exist among the variables measuring each determinant. That is, for Environmental Influences, home reading environment and parental modeling will be significantly correlated, as will the Cognitive and Personal Factors of child interest, child reading self-efficacy, and child kindergarten readiness, and the Behaviors of the CAT test and teacher ratings.

H5: Significant positive correlations between the two measures of Environmental Influences and each of the three measures of Cognitive and Personal Factors will be found. In all, there will be six correlations examined.

Chapter III

Method

The purpose of this study was to investigate the variables most salient in the development of literacy, their interrelationships and their relationship to kindergarten achievement. This chapter describes the procedures undertaken in the study including the selection of subjects, instruments used, data collection, and data analysis.

Subjects

The sample consisted of 122 parent-child dyads. The children attended one of nine kindergarten classes, from two grade schools, within a suburban, middle-class, school district. The parents of all children in these classes were contacted by letter asking them to participate in a study concerned with their reading habits and those of their child (see Appendix A). The letter informed them that their participation required answering a questionnaire (see Appendix B). In two-parent families, the parent who spent the most time reading with his/her child was asked to participate.

Out of 199 questionnaires mailed, 122 were returned, with a response rate of 61%. The returned parent questionnaires provided the consent needed for their children

to participate in this study. The mothers of 110 subjects returned the questionnaire accounting for 90.2% of the respondents; the remaining 12 respondents were fathers, accounting for 9.8% of the respondents. Of the 122 children, 60 were girls (49.2%) and 62 were boys (50.8%). Their ages ranged from 60 to 72 months, with a mean of 66 months. The vast majority of children had 1 sibling (82.8%), with a range of siblings from 0 to 4.

All but one child attended nursery school. The number of sessions ranged from 0 to 520+, with 56% attending 360 or more sessions over the preschool years. All but four children attended 120 or more sessions (see Table 1).

Parental education ranged from not completing high school to graduate work. 63.1% of mothers and 66.9% of fathers had four year college degrees and/or graduate work completed (see Table 2). Parental occupation is presented in Table 3. In 10.7% of the homes, a secondary language was spoken.

The parents reported the age at which they first started reading to their children. The age in months ranged from 1 to 42, with a mean of 12.4.

Instruments

Data was collected from the following instruments:

Table 1

Nursery School Sessions

# Sessions of Nursery School	Number	Percent	Cumulative
1 = none	1	0.8%	0.8%
2 = <40	0	0.0%	0.8%
3 = 40-119	3	2.5%	3.3%
4 = 120-199	7	5.7%	9.0%
5 = 200-279	22	18.0%	27.0%
6 = 280-359	21	17.2%	44.3%
7 = 360-439	50	41.0%	85.2%
8 = 440-519	5	4.1%	89.3%
9 = 520+	13	10.7%	100.0%
Total	122	100.0%	100.0%

Table 2

Parental Education

Mother's Education	Number	Percent	Cumulative
1 = <High School	0	0.0%	0.0%
2 = High School Diploma	21	17.2%	17.2%
3 = >H.S. Tech. Ed.	1	0.8%	18.0%
4 = Some College	17	13.9%	32.0%
5 = A.A. Degree	6	4.9%	36.9%
6 = 4 year Degree	45	36.9%	73.8%
7 = Graduate Work	32	26.2%	100.0%
Total	122	100.0%	100.0%

Father's Education	Number	Percent	Cumulative
1 = <High School	1	0.8%	0.8%
2 = High School Diploma	24	19.8%	20.7%
3 = >H.S. Tech. Ed.	0	0.0%	20.7%
4 = Some College	12	9.9%	30.6%
5 = A.A. Degree	3	2.5%	33.1%
6 = 4 year Degree	49	40.5%	73.6%
7 = Graduate Work	32	26.4%	100.0%
Total	121	100.0%	100.0%

Table 3

Parental Occupation

Mother's Occupation	Number	Percent	Cumulative
1 - Prof./Specialty	33	27.3%	27.3%
2 = Executive	8	6.6%	33.9%
3 = Tech./Sales/Admin.	29	24.0%	57.9%
4 = Craft/Precision Prod.	2	1.7%	59.5%
5 = Operators/Labor	2	1.7%	61.2%
6 = Service Occup.	1	0.8%	62.0%
7 = Homemaker/Unemp.	46	38.0%	100.0%
8 = Farm/Forest/Fish	0	0.0%	100.0%
Total	121	100.0%	100.0%

Father's Occupation	Number	Percent	Cumulative
1 = Prof./Specialty	38	31.7%	31.7%
2 = Executive	46	38.3%	70.0%
3 = Tech./Sales/Admin.	15	12.5%	82.5%
4 = Craft/Precision Prod.	16	13.3%	95.8%
5 = Operators/Labor	3	2.5%	98.3%
6 = Service Occup.	2	1.7%	100.0%
7 = Homemaker/Unemp.	0	0.0%	100.0%
8 = Farm/Forest/Fish	0	0.0%	100.0%
Total	120	100.0%	100.0%

A parent questionnaire was developed for use in this study. It provided the data on the Environmental Influences of the literacy model: the home reading environment (physical influence), and parental modeling of reading behavior (social influence). It also provided the data on one of the Cognitive and Personal Factors, the child interest variable. As was mentioned in the literature review, these questions were selected on the basis of how well they represented each variable. These questions were not empirically derived, but based on formulations developed from previous studies. It contains 43 items and required approximately half an hour to complete. Demographic variables (Questions 1-10) were also included to assess the educational and occupational levels of the parents, as well as family constellation variables. The questionnaire was filled out by each parent participant. It was designed in part to identify the kinds of environmental support provided to the child in the home prior to admission to first grade: to assess the physical influences of the Home Reading Environment--the range and availability of printed materials and the activities related to literacy and to assess the social influences of the Home Reading Environment--how often modeling of reading related behavior occurs in the home and parental attitudes toward

and interest in reading. The questionnaire also included items designed to assess the child's interest in reading (see Table 4).

Three global scores were calculated from these variables based on Z-score composites. Each question composing that determinant was transformed to a Z-score according to $Z = \frac{Xi-\bar{X}}{Sd}$. These Z-scores were then totalled and used as the global score.

A child questionnaire was also developed for use in this study. It provided the data on the child's reading self-efficacy (a Cognitive and Personal Factor), that is, how capable he/she estimated that he/she would be in a reading activity. It involved five items and was group administered to the children in their classroom. Verbal instructions were given. They were not provided enough time to actually perform the task. The children were only required to select either a smiling or frowning face in response (see Appendix C and Appendix D).

Data on another Cognitive and Personal Factor, Child Kindergarten Readiness, was obtained from the Brigance Kindergarten Screening (1976). It is a criterion referenced screening device which provides an overall picture of the child's development in key readiness areas, such as language development, motor ability, number skills, body awareness, and auditory and visual

Table 4

Questions Measuring Each Determinant

Cognitive and Personal Factors
Child Interest in Reading
16. How much time does your child independently look at printed material (books, magazines, etc.) per day?
24. What percentage of the time does your child select his/her books?
31. What percentage of the time does your child pick up something to read while you are reading?
33. On a long car ride, would your child spend more time playing with toys or looking at books?
34. Would your child prefer to go to the park or the library?
36. Does your child ask you to read to her/him?
37. How often does your child write (or pretend to)?
39. If your child had a choice between reading a book with you or watching T.V. with you, she/he would choose to read: never, 25% of the time, 50% of the time, 75% of the time, 100% of the time?
41. How important do you think reading is to your child?

(table continues)

Environmental Influences

Home Reading Environment--physical influences

18. Approximately how many books does your child own?
19. Approximately how many adult books do you have in your house?
20. How many magazine and/or book subscriptions does your child have?
22. How often in the average month do you take your child to the library?
23. Has your child participated in the library reading program or story telling hour?
25. How often on the average per month do you take your child to a bookstore?
26. Do you usually buy your child a book at the bookstore?
27. How often do you go to the library without your child in an average month?
30. How many magazine subscriptions do you have?

Parental Modeling of Reading Behavior--social influences

11. At what age did you start reading to your child?
12. On the average, how much time do you spend reading to your child on a daily basis?
13. Who else reads to your child regularly? On the average, how much time do they spend reading to your child on a daily basis?

(table continues)

Environmental Influences

14. On the average, how much time do you read per day within your child's view?

15. How much time do others spend reading per day within your child's view?

17. How much time do you spend reading the newspaper per week?

28. How many books on the average do you read per month?

29. How many books on the average does your spouse read per month?

35. How often do you point out words on signs, cans, billboards, to your child?

38. How often do you listen to your child read, or listen to your child make up his/her own words to a picture book if they cannot read?

40. How important to you is it that your child learn to read this year in school?

42. How often do you praise/reward your child for reading related behaviors?

43. How important is reading to you?

discrimination. It was administered to the children in June 1988 prior to their entrance into kindergarten in September.

Dependent measures include the reading comprehension score on the standardized California Achievement Test (CAT) (1985). It is a 22 item subtest which yields data on pre-reading skills and may be used to establish reference points for beginning instruction in kindergarten and to predict first grade reading achievement. It was group administered in the children's kindergarten classrooms. The children were told they did not have to participate if they did not want to. All children participated in the testing.

An additional outcome measure, a teaching rating form for reading, was created. It consists of five questions, and was completed by each child's teacher. Responses for each question were analyzed separately (see Appendix E).

Statistical Analysis

Data were obtained on the variables of interest from the following sources: the parent questionnaire, child questionnaire, Brigance Kindergarten Screening Test, the California Achievement Test (reading comprehension score), and the teacher rating form.

Data collected were analyzed in the following manner. Descriptive statistics (means, frequency distribution, and standard deviations) were obtained.

For Hypothesis 1, six separate multiple regressions were calculated to study the power of the five independent variables in predicting the criterion variable. For Hypotheses 2 and 3, the beta weights from the regression were examined. Simple direct correlations were also calculated for Hypotheses 4 and 5. A canonical correlation was then calculated to look at the predictor variables as a set and the criterion variables as an interrelated set of variables, and to examine how these two sets of variables related.

Chapter IV

Results

Hypothesis Testing

This chapter presents the findings resulting from the testing of the five hypotheses. Stepwise multiple regression analysis was the statistical procedure used in the testing of the first three hypotheses. Simple correlation was the procedure used in the testing of the remaining two hypotheses. Hypotheses 1-3 were tested twice, first with CAT scores, and then with teacher ratings as the dependent variables. In general, the correlations among the predictors were low; therefore, multicollinearity was not a problem here, and the order of entry and removal of variables from the equation was not critical. A canonical correlation was calculated to determine the relationship between the predictor variables as a group and the six criterion variables measuring academic achievement as a group.

Table 5 presents the means, standard deviations, and ranges of the predictor variables and for CAT reading comprehension and teacher rating. The five predictor variables were Child Interest, Child Self-Efficacy, Child Kindergarten Readiness (Brigance), Home Reading Environment, and Parental Modeling. Table 6 presents

Table 5

Means, Standard Deviations, and Ranges for Predictor Variables, CAT Reading Comprehension, and Teacher Ratings

Variable	Mean	Standard Deviation	Range
Child Self-Efficacy	3.27	1.56	0-5
Child Kindergarten Readiness (Brigance)	84.67	10.43	48-98
Global Child Interest	-0.02	4.34	-13.1-11.7
Global Home Reading Environment[a]	0.00	3.67	-6-12.3
Global Parental Modeling	0.14	5.22	-11.3-21.1
CAT score (%)	48.63	24.60	1-97
Teacher Ratings - Q.1	2.23	0.67	1-5
Teacher Ratings - Q.2	2.32	0.61	1-5
Teacher Ratings - Q.3	2.28	0.50	1-5
Teacher Ratings - Q.4	2.35	0.57	1-5
Teacher Ratings - Q.5	2.19	0.57	1-5

[a]Global scores based on Z-score composites.

Table 6

Correlations of Predictor Variables with Criterion Variables

Variables	SE	Brig.	CI	HRE	PM	CAT	1	2	3	4	5
Child Self-Efficacy	-										
Child Kindergarten Readiness (Brigance)	.00	-									
Global Child Interest	-.06	.11	-								
Global Home Reading Environment	-.02	-.23*	.22*	-							
Global Parental Modeling	.06	-.01	.41**	.33**	-						
CAT score (%)	.07	.47**	.15	-.14	.07	-					
Teacher Ratings Ques. 1	.11	.46**	.03	-.14	-.02	.38**	-				
Teacher Ratings Ques. 2	.16	.38**	-.06	-.20*	-.12	.18**	.72**	-			
Teacher Ratings Ques. 3	.13	.29**	-.06	-.06	-.10	.13	.68**	.76**	-		
Teacher Ratings Ques. 4	.07	.26*	-.07	-.06	-.05	.16	.59**	.72**	.74**	-	
Teacher Ratings Ques. 5	.02	.35**	.03	-.11	-.05	.16	.65**	.67**	.73**	.72**	-

**$p<.001$

*$p<.05$

the correlations between the predictor and criterion variables.

Hypotheses 1-3: California Achievement Test

To test Hypothesis 1, the reading comprehension score of the California Achievement Test was regressed on the predictor variables. The five predictor variables were included in the regression equation. The combined effect of these five variables accounted for 24% of the variance in CAT reading comprehension. A significant multiple correlation was found (R = .49, $F(5,114)$ = 7.21, $p<.001$).

Of the five predictor variables, only the Brigance was significant (beta weight = .44, F = 26.94, $p<.001$; see Table 7). In fact, the simple correlation of the Brigance and CAT % was .47, F = 33.17, $p<.001$.

Hypotheses 1-3: Teacher Ratings

The testing of Hypothesis 1 also involved the regression of Teacher Ratings on the five predictor variables. A multiple regression was calculated separately for each of the five teacher ratings.

Question 1: Two predictor variables were included in the regression equation (Kindergarten Readiness and Self-Efficacy). The combined effect of these two vari-

Table 7

Predictors of CAT Reading Comprehension Using Multiple Regression Analysis

Predictor Variable	Beta	F-ratio	Probability
Global Child Interest	.09	1.01	.32
Global Home Reading Environment	-.07	.70	.59
Global Parental Modeling	.06	.41	.53
Child Self-Efficacy	.07	.78	.62
Brigance (Kindergarten Readiness)	.44	26.94	.00

ables accounted for 22.1% of the variance in Question 1 of the Teacher Ratings. A significant multiple correlation was found (R = .47, $F(2,117)$ = 16.57, $p<.001$).

Of the two predictor variables, only the Brigance was significant (beta weight = .46, F = 31.36, $p<.001$; see Table 8). The simple correlation of the Brigance and Question 1 was r = .46, F = 31.14, $p<.001$.

Question 2: Using multiple regression, four of the five predictor variables were included in the regression equation (Kindergarten Readiness, Parental Modeling, Child Self-Efficacy, Home Reading Environment). These four variables accounted for 19% of the variance in Question 2 of the Teacher Ratings. The multiple correlation was .44 ($F(4,115)$ = 6.76, $p<.001$).

Of the four predictor variables, only the Brigance had a significant beta weight, (β = .36, F = 17, $p<.001$; see Table 9). The simple correlation of the Brigance and Question 2 was r = .38, F = 19.73, $p<.001$.

Question 3: The five predictor variables were included in the regression equation. These five variables accounted for 11.5% of the variance in Question 3 of the Teacher Ratings. The multiple correlation was .34, $F(5,114)$ = 2.97, $p<.05$.

Of the five predictor variables, only the Brigance was significant (beta weight = .31, F = 11.07, $p<.01$;

Table 8

Predictors of Question 1 of Teacher Ratings Using Multiple Regression Analysis

Predictor Variable	Beta	F-ratio	Probability
Child Self-Efficacy	.11	1.79	.18
Brigance (Kindergarten Readiness)	.46	31.36	.00

Table 9

Predictors of Question 2 of Teacher Ratings Using Multiple Regression Analysis

Predictor Variable	Beta	F-ratio	Probability
Global Reading Environment	-.08	.68	.58
Global Parental Modeling	-.11	1.42	.23
Child Self-Efficacy	.16	3.77	.05
Brigance (Kindergarten Readiness)	.36	17.46	.00

(see Table 10). The simple correlation of the Brigance and Question 3 was r = .29, F = 10.63, p<.01.

Question 4: Three of the five predictor variables were included in the regression equation (Kindergarten Readiness, Interest, Self-Efficacy). These three variables accounted for 8.2% of the variance in Question 4 of the Teacher Ratings. The multiple correlation was .29, ($F(3,116) = 3.47$, p<.05).

Of the three predictor variables, only the Brigance had a significant beta weight (β = 27, F = 9.27, p<.01; see Table 11). The simple correlation of the Brigance and Question 4 was r = .26, F = 8.70, p<.01.

Question 5: Two of the five predictor variables were included in the regression equation (Kindergarten Readiness and Parental Modeling). These two variables accounted for 12.3% of the variance in Question 5 of the Teacher Ratings. The multiple correlation was .35, ($F(2,117) = 8.20$, p<.001).

Of the two predictor variables, only the Brigance had a significant beta weight (β = .35, F = 16.07, p<.001; see Table 12). The simple correlation of the Brigance with Question 5 was r =.35, F = 16.20, p<.001.

Hypothesis 4

Hypothesis 4 predicted the existence of a significant

Table 10

Predictors of Question 3 of Teacher Ratings Using Multiple Regression Analysis

Predictor Variable	Beta	F-ratio	Probability
Global Child Interest	-.06	.33	.57
Global Home Reading Environment	.05	.30	.59
Global Parental Modeling	-.10	.98	.68
Child Self-Efficacy	.14	2.33	.13
Brigance (Kindergarten Readiness)	.31	11.07	.00

Table 11

Predictors of Question 4 of Teacher Ratings Using Multiple Regression Analysis

Predictor Variable	Beta	F-ratio	Probability
Global Child Interest	-.09	1.05	.31
Child Self-Efficacy	.07	.58	.55
Brigance (Kindergarten Readiness)	.27	9.27	.00

Table 12

Predictors of Question 5 of Teacher Ratings Using Multiple Regression Analysis

Predictor Variable	Beta	F-ratio	Probability
Global Parental Modeling	-.05	.29	.60
Brigance (Kindergarten Readiness)	.35	16.07	.00

correlation among the variables measuring each determinant. Table 6 summarizes the results of these calculations. The results indicate that for those variables measuring Environmental Influences (Home Reading Environment and Parental Modeling) there is a significant correlation (r = .33). The correlation is significant at the .001 level (t = 3.78).

For those variables measuring Cognitive and Personal Factors (Child Interest, Self-Efficacy, Readiness) no significant relationships were found.

The CAT test and Teacher Ratings measured the Behavioral Influences. Significant correlations were uncovered between the CAT test and Question 1 of the Teacher Ratings (r = .38, t = 4.51, $p<.001$), and between the CAT test and Question 2 (r = .18, t = 2.07, $p<.05$). The five questions composing the teacher ratings were all significantly correlated with one another.

Hypothesis 5

Hypothesis 5 predicted the existence of significant correlations between the two measures of Environmental Influences with each of the three measures of Cognitive and Personal Factors. Table 6 also summarizes the results of these calculations.

Significant correlations were only found between

Child Interest and Home Reading Environment (r = .22, t = 2.45, $p<.05$), Child Interest and Parental Modeling (r = .41, t = 4.89, $p<.001$), and Child Kindergarten Readiness (Brigance) and Home Reading Environment (r = -.23, t = 2.52, $p<.05$).

Canonical Correlation

A canonical correlation yielded a significant relationship between the five predictor variables and six criterion variables. Table 13 displays the multivariate tests of significance. All three tests demonstrate a significant relationship.

One eigenvalue was found to be significant (eigenvalue = .57). A canonical correlation was found to be .60, accounting for 36.2% of the overlapping variance between the first pair of canonical variates. None of the other covariate pairs accounted for significant amounts of overlapping variance. The first canonical correlation, therefore, accounted for the significant linkage between the two sets of variables.

Univariate F tests (5,114) were conducted for each of the criterion variables. All were found to be significant, except for Teacher Ratings - Question 4. Similarly, strong correlations between the criterion variables and the root were found especially for Teacher Ratings -

Table 13

Multivariate Tests of Significance

Test Name	Value	Approx. F	Hypoth. DF	Error DF	Signif. of F
Pillais	.49	2.03	30.00	565.00	.00
Hotellings	.70	2.50	30.00	537.00	.00
Wilks	.56	2.27	30.00	438.00	.00

Question 1 (r = -.77), Question 2 (r = -.67), and CAT % (r = -.80).

Of the predictor variable set, only the Brigance was found to display a significant correlation with the root (r = -.96). As previously discussed, individual regression analyses for each criterion variable on the predictors revealed that only, and consistently, the Brigance was significantly predictive of the criterion variables.

To summarize, the findings from the canonical correlation procedure revealed that the Brigance formed one significant canonical root with all the criterion variables except Teacher Rating - Question 4. No other significant associations were uncovered.

Additional Relationships

Gender Effects and Self-Efficacy: Boys and girls were compared on self-efficacy, the means were 3.13 and 3.40, and standard deviations of 1.71 and 1.39 respectively. A t-test conducted indicated no significant difference between these groups (t = .94, p>.05).

Relationships of Other Variables: Table 14 displays the correlations of descriptive variables of interest with the predictor and criterion variables. There existed significant correlations between the age of the child

Table 14

Correlations of Descriptive Variables with Predictor and Criterion Variables

Variables	SE	Brig.	CI	HRE	PM	CAT %	1	2	3	4	5
Age of Child	.04	.32**	-.2	-.12	-.09	.20*	.30*	.14	.14	.21*	.10
Age Parents Started to Read to Their Child	-.02	-.18*	-.20*	-.18*	-.13	-.08	-.17	-.13	-.21*	-.22*	-.12
Daily Reading Time	-.10	.09	.12	.17	.38**	.03	-.15	-.10	-.09	-.05	-.11
Number of Nursery School Sessions	.17	.20*	.08	-.19*	-.14	.21*	.20*	.11	.14	.00	.01

**$p<.001$

*$p<.05$

and: Teacher Rating Question 1 (r = .30, t = 3.36, $p<.01$), Question 4 (r = .21, t = 2.28, $p<.05$), CAT % (r = .20, t = 2.27, $p<.05$), and Brigance (r = .32, t = 3.61, $p<.001$).

There existed significant correlations between the age parents started reading to their child and: Teacher Rating Question 3 (r = -.21, t = 2.34, $p<.05$), Question 4 (r = -.22, t = 2.44, $p<.05$), Brigance (r = -.18, t = 1.97, $p<.05$), Home Reading Environment (r = -.18, t = 1.97, $p<.05$), and Child Interest (r = -.20, t = 2.25, $p<.05$). Negative correlations were found; those children who were read to at an earlier age were found to have higher ratings on those variables.

A significant relationship existed between Daily Reading Time and Parental Modeling (r = .38, t = 4.46, $p<.001$).

There existed significant correlations between the number of nursery school sessions the child attended and: Teacher Rating Question 1 (r = .20, t = 2.28, $p<.05$), Brigance (r = .20, t = 2.26, $p<.05$, CAT % (r = .21, t = 2.34, $p<.05$), and Home Reading Environment (r = -.19, t = 2.07, $p<.05$).

Summary Statement

The proposed model of literacy development, as

presented in Figure 2, contained Cognitive and Personal Factors and Environmental Influences hypothesized to affect Behavior, and to be related to one another. The Cognitive and Personal Factors included Child Interest in Reading, Reading Self-Efficacy, and Kindergarten Readiness. The Environmental Influences included the Home Reading Environment and Parental Modeling. Behavior (academic achievement) was measured by the CAT test and Teacher Ratings.

Relative to the model, the present investigation has shown that Kindergarten Readiness is predictive of academic achievement. The present study did not support the hypothesized relationship between any of the other Cognitive and Personal Factors or Environmental Influences with Behavior.

The variables measuring each determinant were hypothesized to be related. The present study supported the hypothesized relationship between the two measures of Behavior (academic achievement), CAT test and Teacher Ratings, and between the two measures of Environmental Influences (Home Reading Environment and Parental Modeling). The present study did not support the hypothesized relationships between the three measures of Cognitive and Personal Factors (Child Interest, Self-Efficacy, and Kindergarten Readiness).

The three variables measuring Cognitive and Personal Factors and the two variables measuring Environmental Influences were hypothesized to be related. The present study supported three of the six hypothesized relationships (the relationship of Child Interest and Home Reading Environment, Child Interest and Parental Modeling, and Child Kindergarten Readiness and Home Reading Environment).

The canonical correlation and multiple regression analyses displayed consistency of results. The canonical correlation further revealed that no factors other than the Brigance, on either the predictor or criterion variable side, accounted for any additional multivariate relationships.

Chapter V

Discussion

The purpose of this study was to examine the manner in which a number of variables crucial to the development of literacy interrelate, and to investigate their relationship to kindergarten achievement. In addition, this study sought to clarify these relationships within a social cognitive perspective.

It was hypothesized that a child's literacy development is contingent upon Cognitive and Personal Factors, Environmental Influences, and Behavior. This study examined how the first two factors consisting of five variables, affected Behavior. Thus, children who were exposed to higher levels of environmental support and who demonstrated higher levels of Cognitive and Personal Factors were expected to perform better than children with lower levels. In addition, it was hypothesized that all variables would be significantly related to one another. This study sought to extend the literacy research by clarifying how the variables relate to one another within a theoretical framework.

Hypothesis 1 stated that significant multiple correlations would be found between the three Cognitive and Personal Factors and the two Environmental Influences

on each measure of Behavior. This hypothesis was partially supported. Only the Brigance Kindergarten Screening, the measure of kindergarten readiness, was found to be a significant predictor of Behavior. Hypothesis 2 predicted that those children exposed to richer home environments, which included higher levels of parental modeling, would demonstrate greater academic performance. The results did not support this hypothesis. Hypothesis 3 predicted that children with greater levels of interest, self-efficacy, and kindergarten readiness would obtain higher levels of CAT scores. The results supported this hypothesis in part. The results indicate that the Brigance by itself was predictive of CAT scores and teacher ratings. Children with higher levels of kindergarten readiness consistently scored higher on reading comprehension.

The Brigance and the CAT were the only standardized measures in the study perhaps accounting for the significant results found in relation to the variables they measured. The other instruments developed based on theory were not pilot tested nor statistically examined for validity or reliability.

The Parent Questionnaire, in particular, was designed to assess three global areas found necessary for literacy development: Home Reading Environment, Parental Modeling, and Child Interest. The results have shown that although

they are significantly related to one another, they are not necessarily three distinct variables. In fact, it may be that the Parent Questionnaire actually measured only one global variable measuring a general literacy environment. Thus, the validity and reliability of these measures has not been established and accounts for a limitation of the study.

Only partial support for the first three hypotheses was also found due in part to the nature of the population sampled. The sample, although relatively large in number, was similar in terms of education, occupation, SES, and nursery school exposure. Both the parents and the children shared many characteristics of a more literate population. The children were particularly ready for the kindergarten experience based on several years of preschool preparation. The parents for the most part were well educated and held high level jobs. It is quite possible that the sample was skewed. Thus, the environmental variables lost some of their predictive power. However, they were clearly related to one another, and must still be considered influential in the model. Likewise, the Personal and Cognitive Factors of Child Interest and Self-Efficacy were not found to be significant predictors. These still appear to be theoretically viable variables to be included. The difficulty

appears to be in the methods used to assess them. In particular, Child Interest was rated through parent response on the questionnaire. The parents may have been projecting their own feelings, rather than accurately reflecting their child's. Exaggeration was likely, based on the nature of the questionnaire. Direct observation, interviewing of, or structuring forced choice activities with the children would have yielded more sensitive measures of these variables.

Hypothesis 4 stated that there would be significant relationships among the variables measuring each determinant. The results supported this hypothesis for the Environmental and Behavioral Influences. Thus, children who were exposed to richer home reading environments also had parents who modeled more reading related behaviors. In addition, children who demonstrated greater competence revealed by their CAT test scores had higher teacher ratings. Support for hypothesis 4, for the variables measuring Cognitive and Personal Factors, was not found. As indicated previously, the methods of assessing Child Interest and Self-Efficacy were found lacking. With more precise assessment procedures, it is likely that significant relationships would have been found.

Hypothesis 5 predicted that the variables consti-

tuting the Environmental Influences and the Cognitive and Personal Factors would be significantly related. This hypothesis was supported in part by some interesting relationships. A child's interest in reading was positively related to both the amount of parental modeling and the richness of her/his home reading environment. Children's kindergarten readiness was also found to be positively related to the level of the home reading environment. Although a significant relationship was not uncovered between Kindergarten Readiness and Parental Modeling, Kindergarten Readiness and Home Reading Environment and Home Reading Environment and Parental Modeling were all significantly related. These variables overlap and are closely interwoven. It appears likely that under the same circumstances with a different population significant relationships would be found.

Additional relationships were examined between descriptive, predictor, and criterion variables. These will be next described within the context of the literacy model, further clarified by the results of this study.

As stated previously, many variables have been identified in isolation as impacting on literacy development. Bandura's (1986) social cognitive theory, and specifically his model of triadic reciprocality, was reformulated for this study to organize and integrate

the extensive body of knowledge on literacy development. In this view, Behavior, Cognitive and Personal Factors, and Environmental Influences all operate as interacting determinants of one another. The same variable can be a part of different mixtures of conditions having different effects because of multiple interacting influences. Also important is the feature that there is not necessarily symmetry in influence among the variables. The relative strength of the interacting variables will change depending upon the individual, activity, and circumstance. The results of this study indicated that consistently the Brigance, a measure of kindergarten readiness, was most predictive of Behavior. This supports previous research by Hoskins (1977) and Ferguson (1980) who posit a strong relationship between kindergarten readiness and literacy. It was hypothesized that Environmental Factors would be most predictive of Behavior based on studies by Durkin (1966), Marjoribanks (1972), and Teale (1978). Although this study did not support this hypothesis, it did lend support to their notions that Environmental Influences are positively related to kindergarten readiness.

Self-efficacy was introduced into the model of literacy development based on Bandura's (1986) notion of its importance as mediating the relationship between

knowledge and action. It was hypothesized that children who feel they are capable readers will approach reading more confidently, and exhibit higher levels of the other reading variables. No support for this hypothesis was provided for in the study, and in fact no relationships with any other variable and self-efficacy was found. This was rather surprising considering the "common sense" appeal of this notion. Rather than discarding self-efficacy from the model, it appears important to understand what might have contributed to this lack of significance. Firstly, perceived self-efficacy can affect level of motivation, but it will not produce strong performances by itself if necessary subskills are not developed. So no matter how accurate the self-efficacy estimates of the kindergartners may have been, they were not significantly related to achievement because the children did not possess the prerequisite skills. Secondly, it is questionable whether such young children really understood the concept, and whether a true measure of self-efficacy was achieved. The children had to select a smiling or frowning face in response to questioning about whether they thought they could read certain items. Clearly, for a kindergarten child, a smiling face would be a more appealing choice. Secondly, the faces were uniformly lined up in columns making per-

severative responses more likely. Responses were often shown to be in patterns. Lastly, as the children were sitting in their regular class seats quite next to one another, they had the opportunity to see and be seen by their neighbors, affecting choices made. Including items of a very difficult nature might pinpoint exaggeration or lying on the part of over optimistic children. A more sensitive and reliable method of assessing a child's reading self-efficacy would shed further light in this area.

Bandura (1986) states that when environmental constraints are weak, the Cognitive and Personal Factors act as the predominant influence in the system. The results of the study indicate that whereas child reading self-efficacy and interest did not play important roles, kindergarten readiness did. However, the results support Mason and Blanton's (1971), Morrow's (1983), and Jenson's (1985) notions that child interest is positively related to parental modeling and the home environment. It was also found that the earlier parents read to their children, the more interest they displayed in reading. Thus, kindergarten readiness and child interest were in fact part of different blends of conditions having different effects.

Bandura's model also accounts for reciprocal pro-

cesses within each of the three constituent factors (1986). Within the Behavioral domain, many actions are mutually related; therefore, their occurrences co-vary either positively or negatively. The results supported this premise whereby the CAT test scores and Teacher Ratings were positively correlated. In the Environmental domain, situational happenings often interact, as when changes in one milieu activate other environmental changes. Here again, the results support this notion; Parental Modeling and the Home Reading Environment were positively correlated.

Much of the study's data was gathered through a response to a questionnaire that was mailed to the students' homes. Response rates to questionnaires are generally low. As shown by the demographic data, the middle class parents who responded were better educated and held higher level jobs than that of the general population. These parents then would be more likely to respond to a questionnaire of an "educational" nature, and more likely would value and foster reading experiences. In addition, respondent exaggeration was likely, perhaps biasing the results, and there was no means in the study to check their responses. Thus, differences in the sample were minimized, and generalizability reduced. The model may not have been fully substantiated due

to this method of data collection, and the population that was sampled. Since direct observation is not feasible, direct interviewing in future studies would be preferable. It would also be revealing to sample and compare parents and children in lower SES school districts.

Educational Implications and Future Research

The results of this study indicated that different combinations of the variables studied impacted on literacy development. Attention is directed and emphasis is given to the interactional nature of events within the social cognitive perspective. The data of this study helped clarify the literacy model proposed, and shed light on some ways that the model could be reformulated. For example, kindergarten readiness was the most influential variable in the model. However, upon closer inspection, readiness skills may be viewed not only as a Personal and Cognitive Factor, but as part of Behavior as well. This study did not consider how Behavior affects the other two aspects of literacy development. Behavior in social cognitive theory is an interacting determinant, not a detached by-product. How a child's behavior might impact on parental interest in reading to that child, and how that behavior affects the environment of the

home places a different perspective on the model. The behavior of a child could certainly enhance or hamper their own emerging interest in books. Likewise, children's self-efficacy in regard to reading would appear likely to impact on their interest. Variables found not particularly powerful in predicting Behavior, were in fact positively related to one another. The positive relationships found between Kindergarten Readiness and the Home Reading Environment, the Home Reading Environment and Parental Modeling clarify how closely these variables interact with one another. Clearly, parents can provide a learning environment for their children which prepares them for a successful academic experience. The child's preparedness for school was found to predict academic success. It would be feasible to add parental interest and parental reading self-efficacy to the Cognitive and Personal Factors in order to gauge their contribution to the literacy model. Further study in this area is warranted.

Future research should also focus on the interactional nature of the model and the interactive situations that facilitate literacy acquisition. Based on the model of triadic reciprocality, action, cognition, and environmental factors work together to produce changes. Much research remains to be done to gather qualitative

information on how these variables relate, and how they can be discriminated from one another. This study partially supported the conceptual framework of social cognitive theory which advocates focusing on the collaborative experience between environment and child, rather than on a one dimensional view.

Closer involvement and communication between the home and school is suggested. Parents have an important role in preparing their children to read and in supplementing the formal reading instruction received in school. This is an exciting and challenging area because most parents are quite interested in laying a solid foundation, but lack knowledge and/or confidence in their ability to aid their children. Parents are not skilled in formal educational techniques, and the emphasis is not for them to teach their children the mechanics of reading, but to instill an attitude about reading, reading for the pleasure and wonderment it brings. Given an awareness of their potential and some guidance, parents can have a very positive influence on their child's literacy development.

Being read to during the preschool years, and parental modeling of reading behaviors has been shown in this study to be related to kindergarten readiness. Reading to young children is an activity that parents

can do with little training, is a habit that is relatively easy to establish, and provides the social warmth and interaction that is so desirable. Reading to their children by parents is a practice that should be vigorously supported as further research is conducted which affirms its long-range benefits. This study has shown that for children to have interest in books, children must have an awareness of reading that is supported by their environment.

A concern of educators and psychologists is that children are growing disenchanted and "turned off" to school and learning. Reading is the key to academic success. The purpose of literature is the purpose of education, to provide meaning to life. Books can be a child's most enriching experience.

Karl (1971) suggests that:

> . . . maybe all can be led eventually to see something beyond themselves and their primary interests. This is one of the great values of reading, along with the pleasure of reading--a pleasure once discovered, that can last the rest of an individual's life, whatever his fortune (p. 42).

The challenge of promoting the development of literacy and instilling the lifelong love of reading and learning is before both parents and educators. Future research should be directed toward offering greater insights into the qualitative nature of literacy development.

APPENDIX A

Parent Letter

PLAINVIEW-OLD BETHPAGE CENTRAL SCHOOL DISTRICT
PLAINVIEW, NEW YORK 11803

January 1, 1989

Dear Parents:

I would like to take this opportunity to introduce myself. I am the School Psychologist at the Old Bethpage Grade School. I am conducting a study for the district on the development of literacy in our kindergarten population. This study involves the gathering of information on the reading habits of both parents and children. Enclosed is a questionnaire that I would appreciate your filling out and returning to me in the enclosed envelope. It is requested that the parent who spends the most time reading with their child completes it.

The kindergarten children will be administered a brief reading comprehension test. The results of these tests will be kept confidential and will be useful in evaluating our current kindergarten reading curriculum. Participation in this study is voluntary. If you would like, I would be happy to share the results of this study or answer any questions you may have. Please contact me directly at 937-6330 or 763-0950.

Thanking you in advance for your cooperation and participation.

Sincerely,

Wendy Fader, M.S.,
School Psychologist

WF/fr

Appendix B

Parent Questionnaire

This is a questionnaire related to books and reading activities. Please fill in the blanks with the information requested. If you are unsure, or do not know, please do not leave blank; fill in don't know (dk).

1. Respondent: mother____ father____ Child's Name_____
2. Sex of child: girl____ boy____
3. Age of child: ____ years, ____ months D/O/B:_____
4. Teacher:_____
5. List all siblings:

age: ____ years	____ months	sex: girl	boy
____	____	____	____
____	____	____	____
____	____	____	____

6. List all others living in household:

   Relation:_____

   Age:_____

   Sex:_____

7. Education of mother:_____

   father:_____

8. Occupation of mother:_____

   father:_____

9. Primary language spoken:_____, secondary:_____
10. Nursery school experience: ____ years, ____ months

    ____ times per week

11. At what age did you start reading to your child?

____ years, ____ months

12. On the average, how much time do you spend reading to your child on a daily basis?

____ minutes

13. Who else reads to your child regularly?_____

On the average, how much time do they spend reading to your child on a daily basis?

spouse: ____ minutes

siblings: ____ minutes sex: ____ boy ____ girl

others: ____ minutes ____ ____

14. On the average, how much time do you read per day within your child's view?

____ minutes

15. How much time do others spend reading per day within your child's view?

spouse: ____ minutes

siblings: ____ minutes sex: ____boy ____ girl

others: ____ minutes ____ ____

16. How much time does your child independently look at printed material (books, magazines, etc.) per day?

____ minutes

17. How much time do you spend reading the newspaper per week?

____ minutes

18. Approximately how many books does your child own?

____ books

19. Approximately how many adult books do you have in your house?

____ books

20. How many magazine and/or book subscriptions does your child have?

____ subscriptions

21. How much T.V., excluding Educational T.V., (e.g. Sesame Street, Reading Rainbow) does your child watch on a daily basis?

____ minutes, ____ hours

22. How often in the average month do you take your child to the library?

____ time(s) per month

23. Has your child participated in a library reading program or story telling hour?

____ No ____ Yes: ____ # of times

24. What percentage of the time does your child select his/her books? ____% of the time

25. How often on the average per month do you take your child to a bookstore?

____ time(s) per month

26. Do you usually buy your child a book at the book-store?

____ No ____ Yes: ____ # of book(s)

27. How often do you go to the library without your child in an average month?

_____ time(s) per month

28. How many books on the average do you read per month?

_____ professional books

_____ leisure books

29. How many books on the average does your spouse read per month?

_____ books

30. How many magazine subscriptions do you have?

_____ subscriptions

31. What percentage of the time does your child pick up something to read while you are reading?

____ % of the time

32. How much time per day does your child watch Educational T.V. (Sesame Street, Reading Rainbow, Electric Company, etc.)?

____ minutes, ____ hours

33. On a long car ride, would your child spend more time playing with toys or looking at books?

____ toys ____ books

34. Would your child prefer to go to the park or the library?

____ park ____ library

For the next questions, please circle the number 1-5 which most closely matches your response.

35. How often do you point out words on signs, cans, billboards, to your child?

Never	Once In A While	Sometimes	Frequently	Always
1	2	3	4	5

36. Does your child ask you to read to her/him?

Never	Once In A While	Sometimes	Frequently	Always
1	2	3	4	5

37. How often does your child write (or pretend to)?

Never	Once In A While	Sometimes	Frequently	Always
1	2	3	4	5

38. How often do you listen to your child read, or listen to your child make up his/her own words to a picture book if they cannot read?

Never	Once In A While	Sometimes	Frequently	Always
1	2	3	4	5

39. If your child had a choice between reading a book with you or watching T.V. with you, she/he would choose to read:

Never	25% Time	50% Time	75% Time	100% Time
1	2	3	4	5

40. How important to you is it that your child learn to read this year in school?

Not At All	A Little	Somewhat	Very	Extremely
1	2	3	4	5

41. How important do you think reading is to your child?

Not At All	A Little	Somewhat	Very	Extremely
1	2	3	4	5

42. How often do you praise/reward your child for reading related behaviors?

Never	Once In A While	Sometimes	Frequently	Always
1	2	3	4	5

43. How important is reading to you?

Not At All	A Little	Somewhat	Very	Extremely
1	2	3	4	5

Appendix C

Child Questionnaire - Teacher's Instructions

1. "I want you to look at these letters; if you think you know these letters, circle this face  . If you don't think you know these letters, circle this face  ." (Teacher holds up an oak tag chart with 10 letters on it; b, r, s, n, a, v, e, p, f, m.)

2. "I want you to look at this book; if you think you can read it, circle this face  . If you don't think you can read this book, circle this face  ." (Teacher shows the class a pre-primer level book, S. MacDonald (1986), Alphabatics.)

3. "I want you to look at this paper; if you think you can read these words, circle this face  . If you don't think you can read these words, circle this face  ." (Teacher shows the class an oak tag chart with 5 easy sight words on it: the, and, we, go, up.)

4. "I want you to look at this book; if you think you can read it, circle this face  . If you don't think you can read it, circle this face  ." (Teacher shows the class a first grade level book, L. Damon (1978), Fun in the Snow.)

5. "I want you to look at this paper; if you think you can read these words, circle this face  . If you don't think you can read these words, circle this face  ." (Teacher shows an oak tag chart with 10 third grade level words on it: barnacles, gnawed, beachcombers, barge, orphan, scurried, tern, goods, drum, righteous.)

Appendix D

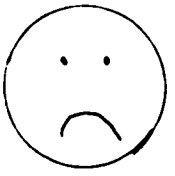
Child Answer Sheet

Name: _____

1.  

2.  

3.  

4.  

5.  

Appendix E

Teacher Rating Form

Please rate this student's reading performance this year compared to the other children in the class according to the following categories. Please circle the number which most closely corresponds to your rating.

Name of Student:_____ Sex: M F

Teacher:_____ Age:____years ____months

1. This student's reading comprehension is:

Below Average	Average	Above Average
1	2	3

2. This student's interest in learning to read is:

Below Average	Average	Above Average
1	2	3

3. This student's school library usage is:

Below Average	Average	Above Average
1	2	3

4. This student's interest in story reading hour is:

Below Average	Average	Above Average
1	2	3

5. This student's independent decision to look at books during free play is:

Below Average	Average	Above Average
1	2	3

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