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Reading Abilities of Third Grade Children as Influenced by Kindergarten Instruction

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READING ABILITIES OF THIRD GRADE CHILDREN AS
INFLUENCED BY KINDERGARTEN INSTRUCTION

by

Diane Thomas

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family and Child Development
ACKNOWLEDGEMENTS

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M. Diane Thomas
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ABSTRACT

Reading Abilities of Third Grade Children as Influenced by Kindergarten Instruction

by

Diane Thomas, Master of Science
Utah State University, 1975

Major Professor: Dr. Carroll Lambert
Department: Family and Child Development

Literature indicates that in past years a controversy has arisen as to the proper time and methods to begin the instruction of reading to young children. Most recent research indicates that authorities do not advocate formalized instruction by which whole classes or groups of children participate in a given program. However, recent literature also indicates a trend toward structured and formalized reading by public school teaching staff.

While there is a great deal of research in the area of early reading, the research is not definitive. Consequently, a need remains for definitive research that can help in answering questions about when and how to instruct children in reading.

This study was conducted with 185 kindergarten children. Eighty-nine of the selected children participated in Sullivan's Programmed Reading, Series E, in their kindergarten year. The remaining ninety-six children did not participate in Sullivan's Programmed Reading, Series E, in their kindergarten year. Rather they participated in a more traditional kindergarten atmosphere. Non-participating kindergarten children did begin instruction in formalized reading in their first grade year.
The purpose of the study was to determine if children who participated in Sullivan’s Programmed Reading, Series E, in kindergarten would indicate more growth than non-participating children by the time both groups entered third grade.

The study was designed to test three hypotheses stated in the null form. The first hypothesis was that there would be no significant difference in reading ability between children who participated in Sullivan’s Programmed Reading, Series E, and those who did not by the time both groups of children entered third grade. This hypothesis was confirmed. The second hypothesis was that there would be no significant difference in reading ability of participating and non-participating children based on the mother’s highest educational level. This hypothesis was confirmed. The third hypothesis was that there would be no significant difference in reading ability of participating and non-participating children based upon the sex of those children selected. This hypothesis was not confirmed.

The instrument used was the SRA (Science Research Associates) Achievement Series. Children were tested at the beginning of their second and third grade years. The difference between their second grade score and their third grade score was determined to detect if kindergarten participants in formalized reading would reflect more growth than non-participating children. The chi square method for analyzing data was employed to determine if differences in test performance between the groups of children were statistically reliable. The level of significance of testing differences was at the .05 level.
INTRODUCTION

There are many philosophies as to how children learn and at what age they should tackle various tasks. In the past two decades, a controversy has arisen concerning the age at which children can and should learn to read (Ollila, 1971; Smith, 1974). Many educators, psychologists, child developmentalists, pediatricians, neurologists, and parents have expressed themselves, and, consequently, a continuum has developed (Educational Leadership, 1971. See Appendix A). At one end of the continuum are those few who are adamant about the fact that young children must learn to read in their early years so that precious time will not be wasted (Doman, 1964; Bereiter and Englemann, 1966). At the other end are a few who are equally adamant that to teach young children to read is a waste of their childhood time--time that should be spent in discovery and play rather than in intellectual activity (Hoppock, 1966). Interestingly, both polar ends of the continuum express concern that the opposing school of thought may be wasting precious time in the development of the child during the early childhood years. Somewhere between these two polar ends are those who feel that some children might learn to read early while others may not indicate an interest or reach a maturational level to enable them to do so until a later time (Enzmann, 1971; Hymes in Karlin, 1973; Smith, 1974).

The differing points of view concerning when children should learn to read have led to many programs for kindergarteners and preschoolers. Some approaches are highly structured and demand that all children in
the program participate in formalized reading activities (LaConte, 1970; Ollila, 1971). The proponents of formalized instruction would agree with Hunt (1961), Bloom (1965), and other cognitive psychologists who advocate that the first four years of a child's life are the most important years in his cognitive development; and that, if the child does not gain certain skills during these formative years, they may be lost to him for his entire life. Programs developed by Bereiter and Englemann (1966), and M. W. Sullivan (Pines, 1966) are examples. Opponents of teaching formalized reading to preschool and kindergarten children would probably advocate programs that would allow for long periods of free play where children could discover and learn at their own pace through their play. These programs would stress the emotional and social development of children as well as intellectual development. These preschools and kindergartens would not have formalized instruction because formalized programs do not ensure that each child is at a particular age that will enable him/her to learn to read. Many of these more informal programs, however, would allow for interested children to have reading opportunities. Durkin (1962), Sutton (1964), Hoppock (1966), Enzmann (1971), Hymes (in Karlin, 1973), and Smith (1974) would be advocates of these kinds of programs.

This particular study has grown out of concern for young children who began learning to read by formalized methods in kindergarten. There were some who felt that these children, many of whom were disadvantaged, needed the advantage of an additional year of reading, while there were others who felt that these particular children lacked emotional stability as well as social skills that should be provided by the kindergarten setting. The time limitations would not allow for the development of both.
It is encouraging to note that the controversy on when and by what methods reading should be taught to children has grown out of a real concern for the welfare of children. Proponents and opponents of early childhood reading are sincerely interested in helping children to become well-educated; they simply cannot agree on how best to accomplish this feat.

**Origin and Nature of the Problem**

A problem has arisen in education due to the controversy between proponents and opponents of teaching reading by formalized methods in kindergarten. Traditionally, kindergarten has been the grade designated to prepare children socially and emotionally for their school experience. Kindergarten has also been assigned the responsibility of teaching reading readiness to youngsters (Hillerich, 1965). Today we find those who advocate that children, particularly disadvantaged children, should learn to read in kindergarten or preschool years and that to deny them this opportunity is to deny them a valuable learning experience that might affect them intellectually for the remainder of their lives (Bereiter and Engleman, 1966). The problem then arises as to the proper age children should be taught to read by formal methods. Is the formal teaching of reading to young children advantageous or harmful or neither?

**Statement of the Purpose**

The purpose of this paper is to assess two kindergarten programs, one hosting a formalized program in reading in kindergarten as represented by Sullivan's Programmed Reading, Series E, and the other
maintaining a more traditional kindergarten atmosphere featuring some readiness activities, to determine if reading in kindergarten increases the reading ability of children by the time they enter third grade. As far as this research can determine, the reading readiness activities were, for the most part, unrelated to the programmed reading. However, in the late kindergarten school year, non-participants did begin to receive instruction in six basic alphabet letters, their names and sounds. These letters are the basis of the beginning portion of Sullivan's Programmed Reading, Series E.

While this study will compare children who participated in Sullivan's Programmed Reading, Series E, one of many of the types of formalized reading instructional programs, findings cannot be generalized to other formalized programs because the variety among them is too great. Some formalized programs are more similar to informal approaches of the traditional kindergarten than to the specific program used in this study. Consequently, generalizations to all types of structured programs will not be made.

Objectives

The objectives of this study are as follows:

To determine if children who participated in Sullivan's Programmed Reading, Series E, in kindergarten indicate more growth by the beginning of third grade than children who did not participate in the formalized program in kindergarten.

To determine if the mother's education has any significance in the reading ability of all children tested.
To determine if the sex of the child has significant influence in his/her ability to read at an early age.

Hypotheses

As no significant differences are anticipated, null hypotheses will be employed:

There will be no significant difference in reading ability between children who participated in Sullivan's Programmed Reading, Series E, and those who did not by the time both groups of children enter third grade.

There will be no significant difference in reading ability of participating and non-participating children based on the mother's highest educational level.

There will be no significant difference in reading ability of participating and non-participating children based upon the sex of those children selected.

Delimitations

No attempt will be made to deal with the variables involved with the personalities of teachers, length of experience of teachers, nor the abilities and styles of teachers. Teachers were highly trained in the mechanics of teaching Sullivan's Programmed Reading, Series E, before they were permitted to do so in the classroom. During the initial year of instruction, The Exemplary Center from Salt Lake City, Utah, had representatives in the classrooms involved in the program every other week for two days to ensure that the program was, in fact, being administered correctly. During that same year, teachers involved
in the program participated in a class to further train in the program. Kindergarten teachers from schools where kindergarten children did not participate in the program were not included in the training sessions.

An exact measure of children, their abilities and emotional development, before entering kindergarten is not available. The participating schools were Title I which indicates a poverty level clientele. According to Mr. Byron Moore (August, 1975), Administrative Assistant, Ogden City School District, Ogden, Utah, schools are designated as Title I because they have the greatest concentration of children from low income families in a given district. Each school is judged on the basis of its poverty-level clientele within a given district.

Definitions

The concept "formalized reading" as used in this basic study refers specifically to Sullivan's Programmed Reading, Series E. In an indirect way, the term "formalized reading" may refer to other similar approaches. Durkin gives a definition of formalized reading as follows:

[It is that reading which] ... is directed to a whole class of children rather than to small groups or individuals ... the focus of this instruction is fixed and highly prescribed by commercial materials rather than by factors like children's interests, special abilities, or particular learning problems ... (Durkin, 1974, p. 156)

Informalized reading will indicate that reading which is learned by a given child or group of children as a result of their interest and maturational level.

The expression "young children" is used frequently in this study. It refers to children who are of kindergarten age or younger.

Traditional kindergarten, as used in this study, will refer to
those kindergartens that are committed mainly to the social and emotional adjustment of kindergarten children, as well as to reading readiness activities.
A review of the literature reveals the controversy among educators as to the right time and methods to begin the structured, formalized teaching of reading (Ollila, 1971; Smith, 1974). There is a wealth of information to support the thesis that children can learn to read in preschool years and/or in kindergarten, and there is literature to substantiate the thesis that to instruct children in a formal manner in the formative years of their lives is wasteful, at least, and possibly harmful, due to their lack of maturation. The question then is not whether young children can learn to read in preschool and kindergarten, rather it becomes one of the values of teaching children to read by formalized methods in early years (Clymer, 1963).

This review will concern itself with literature dealing with the teaching of reading to young children. It will explore the pros and cons of teaching formalized and informalized reading to young children, and it will investigate various programs and philosophies in an attempt to discover what authorities have said in this regard. Although concern for early childhood education did not begin in the twentieth century, this review of literature will deal only with those authorities from the first of this century to the present time.

**Early Trends and their Impact on Current Philosophies in Early Childhood Education**

In 1906, Maria Montessori opened her Casa Dei Bambini (Children's House) for disadvantaged children of two, three, and four years of
Montessori believed that children learn by doing, by being involved with their environment. "Montessori education is education in things and through things." (Montessori, 1961, p. 145) Through her "prepared environment," Montessori discovered that she could teach children during what she termed "sensitive periods." She claimed that during these "sensitive periods," children were able to learn more easily, and she further stated that if the child did not receive the correct stimulus during these times, difficulties in learning the same task at a later time might occur (Perryman, 1971). Looking at Montessori from the 1970's makes one aware that she was a pioneer in many of today's educational philosophies and practices.

Jean Piaget, another advocate of early childhood education, determined that children learn in developmental stages. According to Lawrence B. Schiamberg (1970, p. 115), "One result of Piaget's developmental theories has been the recognition of the crucial effect of early childhood experiences and the importance of early childhood education in the development of the child." Like Montessori, Piaget advocated that children learn from their environment.

Piaget and Montessori developed theories concerning how children learn. As their theories are now respected by educators and others concerned with young children, both proponents and opponents of formalized reading for young children have worked diligently to use their philosophies in aiding their rationales. Proponents state that because Montessori and Piaget were so adamant about the importance of a child's early years that they would strongly advocate reading experiences, formal or otherwise, so that "sensitive periods" or developmental stages would not be wasted or lost. However, opponents of formalized instruction argue that developmental stages
or "sensitive periods" indicate maturation and readiness in a child, that when the child is ready for an experience, given the proper stimuli, he/she will learn. In answer to those who believe that Montessori and Piaget would advocate the acceleration of learning in young children, Jennings quotes Piaget as follows:

"Probably the organization of operations has an optimal time ... for example, we know that it takes nine to twelve months before babies develop the notion that an object is still there even when a screen is placed in front of it. Now kittens go through the same stages as children, all the same substages, but they do it in three months—so they are six months ahead of babies. Is this an advantage or isn't it? We can certainly see our answer in one sense. The kitten is not going to go much further. The child has taken longer, but he is capable of going further, so it seems to me that nine months probably were not for nothing.

It's probably possible to accelerate, but the maximum acceleration is not desirable. There seems to be an optimal time. What this optimal time is will surely depend upon each individual and on the subject matter. We still need a great deal of research to know what the optimal time would be. (Jennings, 1967, p. 82)

While Piaget is an advocate of teaching young children, he does feel that the "optimal time" is a vital consideration. In this same vein Ronald and Beatrice Gross indicate that:

The Montessori child provides his own stimulus to achieve. Adult pressure, or imitation of adult behavior is frowned on; so are group activities. Instead, the child chooses his own tasks, works at his own pace, and progresses individually in ungraded classes that span a three-year range. The result, according to Montessori enthusiasts, is independent, self-reliant children who are eager to tackle work. (Gross, 1965, p. 35)

Again, it appears that Montessori, an advocate of educating young children, felt that "adult pressure" to encourage early learning is not good. Rather she contended that children pace themselves according to their ability to learn.
In the mid 1930's, Betts (1936) and Harrison (1935) proclaimed that children were not ready to read until they had reached a mental age of six and one-half years. The six and one-half-years-of-age syndrome became a general educational philosophy and was supposedly used as a measure for beginning reading during the thirties, forties, and into the fifties. However, mental age and actual age were confused, and, in actuality, mental age was most often ignored, while entrance into first grade was the criteria used to determine when children should begin reading. Educators who were adamant about the necessary mental age of six and one-half years to begin reading ignored the fact that age differences in children could vary as much as a full year within each classroom, and most first graders, regardless of their mental age, were placed in basal readers on a given day early in the autumn of a school year to begin formal instruction in the first R.

During this particular era, Gates objected:

It is now quite conceivable ... indeed the evidence in general tends now definitely to show--that the crucial mental age level will vary with the materials; the type of teaching; the skill of the teacher; the size of the class, the amount of preceeding preparatory work; the thoroughness of examination; the frequency and treatment of special difficulties, such as defects of the pupil; and other factors. (Gates, 1937, p. 497)

Gates did not rule out the importance of mental age, but he did not attempt to affix a particular mental age for beginning reading, either. He continued:

... the necessary mental age at which a pupil can be intrusted to learn to read [is] essentially meaningless. The age for learning to read under one program or with the method employed by one teacher may be entirely different from that required under other circumstances. (Gates, 1937, p. 506)

In more recent years, persons like Hunt, Bruner, and Bloom, have concerned themselves with the teaching of young children.
While these men are cognitive psychologists and not reading specialists, their work has been influential in present trends in reading (Durkin in Robinson, 1968; Durkin, 1974). Pines (1966, p. 30) referred to these men as "the new mind-builders."

One belief common to "the new mind-builders" is that a person's achievement in life may be dependent upon what he learns at a very early age. Bloom (1965, p. 16), a somewhat conservative cognitive psychologist has maintained that, "All later learning is likely to be influenced by the very basic learning which has taken place by the age of five or six." Pines indicated that:

If this startling theory is correct, it requires a radical change in society's approach to the years before a child enters school. It implies reversing the present pattern, in which we spend the bulk of our educational resources on more advanced students, and concentrating instead on children during their earliest years. (Pines, 1967, p. 55)

Most noted for his concept of "the problem of the match," which he has defined as "matching environmental circumstances to already assimilated schemata," is McV. Hunt (1961, p. 272). Hunt concurs with Bloom that early experience is vital, and his "problem of the match" agrees with Montessori's "sensitive periods" and Piaget's developmental stages.

From the late fifties to the present, there has been a great deal of concern and discussion over the issue of teaching reading to young children (Durkin, 1974). Many have expressed arguments in favor of moving formalized instruction downward to preschool and kindergarten, and as many have argued against this move. A look at some of these arguments will reveal the opposing points of view.

Part of the rationale to teach formalized reading in kindergarten and preschool years has been derived from the philosophy that children
may be thwarted if they are not given educational experiences early enough in life. Others feel that the younger a child learns to read, the longer he will have that tool to aid him in his life. This rationale was expressed by Thorndike and Gates:

Concentration of education in the early years may be defended by the fact, ... the earlier a fact or habit or skill is acquired, the longer, and consequently the greater the use that may be made of it. (Thorndike and Gates, 1929, p. 193)

However, Hoppock (1966, p. 24), in argument to this rationale has noted that young children need time to grow and to play, to act like children. She indicated that it is predicted that many young children will live for a hundred years or more. She stated in an address to the New Jersey State Department of Education, "If we do not begin to teach reading until the first grade, children will still have 94 years left to read. Isn't that long enough?"

Van Wie and Lammers (1962) have indicated concern that most kindergartens are trying to fit children into a school pattern that was developed decades ago. Part of the emphasis to begin formalized reading instruction in preschool and kindergarten years has grown out of the fear that today's child is more sophisticated than children in other generations and that his/her time may be wasted in the traditional kindergarten that spends most of its time in acclimating children to school. However, Heffernan has indicated that:

No human being is born with the learnings which enable him adequately to take his place in the world about him. The modern world is far too complex to hope that the process of growing up will equip the child with the learnings he requires to make a successful adjustment to life ... The quantity and quality of education are important. Of great significance are the initial social, intellectual, and emotional experiences of early childhood. (Heffernan, 1960, p. 316)
And a decade later, Ollila (1971) indicates that opponents of early reading would agree that today's kindergarten child should be treated differently than children were fifteen to twenty years ago. However, he indicates they would argue whether reading instruction is the best use to make of three, four, and five-year-old children. Ollila indicates that:

There is the fear that too much emphasis on early reading may lead to a less rounded development of the child because skills in the social and sensory-motor areas will receive less attention. Instead, it is argued that the emphasis at this age should involve a more horizontal approach—a development of a solid foundation of experiences, a broadening of these experiences, a consolidation of learnings—an insurance that almost all children would be more apt to be ready for reading activities. (Ollila, 1971, pp.3-4)

Another concern has been voiced that today's kindergarten children, for the most part, are ready to read and that many children entering kindergarten are already reading. Hillerich (1965) strongly intimates this in his article, "Kindergarteners Are Ready! Are We?"

In an attempt to determine if many kindergarten children are ready to read, LaConte (1970) made a study based on questionnaires, observations, and interview data concerning kindergarten teachers and their attitudes about formalized instruction of reading in kindergarten. She found that most teachers agreed that most kindergarteners were not ready to read when they entered kindergarten. They felt that children who were ready should be given the opportunity to learn to read but that there were so few who fell into this category that the basic kindergarten structure should not be changed to accommodate them. LaConte further reported that the more highly experienced kindergarten teachers were more negative about teaching formal reading in kindergarten. She (p. 386) noted that in spite of these feelings that the teaching of reading in a "planned, sequential program" can now be
observed in as many as forty percent of kindergartens, and she indicated that present kindergarten reading instruction tended to be less individualized and "more whole class." She (1970, p. 386) concluded her article with the statement that "regardless of what teachers believe, ... when it comes to the teaching of reading, at least for the foreseeable future--reading in the kindergarten is here to stay."

Scherwitzky (1974, p. 168) conducted a study of 354 kindergarten teachers in Virginia. As in LaConte's study, most teachers indicated that most children entering kindergarten are not ready to read. One hundred forty-four teachers in this particular study indicated that reading should be part of the kindergarten curriculum, but that the reading program should be informal and individualized so that children who are not ready will not be pressured to read. Scherwitzky (p. 168) also reported that some teachers expressed a concern that the kindergarten should maintain activities that offer "exploration, discovery, play, social and emotional development, experiential development and other curriculum areas such as music, social studies and science," in addition to reading activities for interested children.

Still another argument to begin formalized instruction in kindergarten or sooner appears to grow out of our frenzy to "keep up with the Joneses" (the Soviet Union), although Matthews (1959) has indicated that the Russians spend their energies during the kindergarten period in informal learning that teaches children to classify, discriminate, compare and designate what they see in proper language and through discussion. She noted that reading is not recommended in Soviet kindergartens. Hoppock has also indicated that:

The Russians ... have their children out in the parks, on playgrounds, on exploring trips around
the neighborhood, and talking about what they see and do. Russian children aren't exposed to systematic instruction until they are seven years old (and they've been to nursery school, too!) (Hoppock, p. 15)

In a different realm than those concerns already mentioned are those expressed by persons in the fields of child development, neurology, psychology, pediatrics, and education. In each of these fields, there are those who voice fears about the damage that may occur to the emotional and physical growth of young children who feel pressured to read before they are ready. Even McV. Hunt, one of the cognitive psychologists discussed earlier, expressed concern in an interview with Pines concerning the emotional consequences that might occur as a result of the thrust of educating children too young and too soon. Pines quotes him as follows:

What I'm afraid of is that middle-class parents will use the new theories about intellectual development to keep up with the Joneses through their children—and withhold approval or affection unless the child performs. This would leave the child feeling worthless, with a drive to achievement for fear of failure, instead of intrinsic interest. This is a real danger. (Pines, 1966, p. 48)

Sheldon and Spears have stated their concern for the emotional well-being of children who may be encouraged to read in a formal setting too early. Sheldon stated that the work of Piaget showed that young children learn at individual rates and, consequently, need individual attention. He states:

Such attention cannot be given in a rigid atmosphere wherein children are grouped together for formal instruction. Instead, research would suggest that the five-year-old can best profit from learning in an atmosphere of leisure, with opportunity for discussion and comment about the things he encounters in his environment. (Sheldon, 1962, p. 168)

And Hoppock (1966, p. 20) referred to Dr. Catherine Spears, a neuro-pediatrician and founder and medical director of the Child Education
Center at Morristown, New Jersey, Memorial Hospital, and stated that Spears has found that panic seems to have gripped many parents as they try "to make their children adults almost before they are born."

Spears cautioned teachers against getting caught in that same panic.

Hoppock also quoted Dr. Kenneth Zike, Head of the Department of Pediatrics at the Harbor General Hospital, Los Angeles, as follows:

... Only about 25% of the children in kindergarten have reached a neurological maturity to cope with the symbolization necessary for reading. The eye may be ready to receive the visual image but for more than 75% of the children, the neurological system has not reached the maturity needed to make connections between what they see and what they understand. There is nothing that can be done to speed up this readiness—only time can do that. (Hoppock, 1966, p. 19)

Zike gave further indication that 50 percent of the children treated at his clinic have problems related to pressure to accomplish a task they do not have the maturity to accomplish.

Other persons, notably Sheldon (1962), Hoppock (1966), and Furth (1970), have noted that very young children may not have developed the visual acuity and auditory perception necessary for them to learn to read. Ollila (1971, p. 11) indicates that "So little is known about the effects of early reading on eyesight that even the most enthusiastic advocates should take cautious note."

Ollila (1971) further indicates that some of the concern over the early instruction of children in kindergarten centers on the fact that many kindergarten teachers are not skilled in teaching reading. He indicates that this concern is borne out by research conducted by Ching who researched a sample of 931 California kindergarten teachers. She found that there were very wide differences in their reading preparation as measured by number of college reading courses taken, ranging from zero to thirty-two.
Perhaps the biggest concern in the when and how of teaching young children to read is demonstrated by an editor’s comment who stated that:

There is no question that extremely young children can be taught certain aspects of reading, as was demonstrated by Davidson in the 1920's. The question is not 'Can such teaching be done?' The important question is, 'What is the educational value of this early instruction?' (Stauffer in Durkin, 1961, p. 166)

Clymer (1963, p. 217) voiced similar concern in his article, "Does 'Can' Mean 'Should'?" He stated that there is no question that kindergarten children can learn to read but asked, "Does this early instruction produce lasting and beneficial results?" He indicated that:

Children can learn to read by most of the approaches being recommended today. That they can learn is not the critical point. The critical point is should they learn by this method or that approach? (Clymer, 1963, p. 217)

Clymer cautioned educators to keep open minds to the possibility of new programs for young children and further stated:

... but let's recall that because children can learn to read using this set of materials or that chart or by this emphasis does not mean they should unless there has been a clear demonstration of superior achievement under the new approach. (Clymer, 1963, p. 217)

The remainder of this chapter will look at current approaches, formal and informal, in teaching reading to preschoolers and kindergarteners.

**Current Trends in Education**

**Formal approaches to preschool and kindergarten instruction**

Bereiter and Englemann began work with disadvantaged children through the Institute of Research on Exceptional Children at the University of Illinois, Urbana, 1964 (Pines, 1967). The Bereiter-Englemann model is mainly instructional. Katz (1970, p. 44) describes an instructional model as placing "major emphasis on the deliberate transmission of information and knowledge and the conscious training of
children to develop skills—that is, on direct instruction or
structured programs." The thrust of the Bereiter-Englemann approach
deals with the concept that, if disadvantaged children do not gain
an advantage before they enter school, they will be unable to compete.
Bereiter and Englemann (1966, p. 10) indicate that "disadvantaged
children need to learn at double the usual rate if they are ever
going to catch up to the advantaged child." In other literature,
Bereiter indicates that:

Time is against the disadvantaged child ... The
disadvantaged four-year old, happily shoveling sand
at a sand table, gives the impression that he will be
four years old forever. But for the teacher to act
as if this were true is disastrous. She should be
constantly aware that the first grade is hurtling
toward that child like an express train, and that
the child's fate may well depend on what she as a
teacher is able to do, and how quickly. (Bereiter
in Pines, 1967, pp. 60-61)

Although the program was conceived in Illinois, it has gained
popularity elsewhere. In Ohio, a Head Start program in session for six
weeks, used the approach and Young (1968) reported that those children
who worked in the program gained approximately 100 percent more than
their matched peers. In evaluating the Bereiter-Englemann program
used in Head Start at Ocean Hill, Brownsville, Brooklyn, New York,
Grade Teacher reported that:

The program is controversial. Its 'stress' approach
to teaching (stress is defined by one Bereiter-Englemann
teacher as 'forcing the child to make it in this world')
leaves little room for social development activities or
play. (Grade Teacher, 1969, p. 54)

Bereiter has further indicated that:

We have virtually no free play—just the first ten
minutes and the singing, which is pretty structured.
Free play is too time-consuming, and it is superfluous.
'Group experience,' 'playing with their peers,' are the
least of these kids' needs ... (Bereiter in Pines, 1966
p. 54)
Osborne, an educational consultant to Head Start views the lack of socialization differently. Pines quotes him as saying:

It's a tool—why do we make it a god? Perhaps the god should be getting-along-with-people, rather than reading. If you do teach kids to read early, so what? You may get a child of three who knows how to read, but still doesn't get along with others. (Osborne in Pines, 1966, p. 203)

Hymes (1967) and Friedlander (1968) also criticize Bereiter and Englemann for their lack of concern for the individual. Hymes notes that the structure of the program is much like traditional classrooms that have been criticized for that very structure in recent years. Friedlander notes that:

The program shows little concern for the pupils as individuals with a variety of diverse needs, interest, and existing capabilities ... More subtle is the problem of pacing the instruction. Even observers who accept the concept of 'direct instruction' and a work-oriented approach, to the preschool might be troubled by the lack of suitable advice to the teacher on adjusting the instruction to fit four-year-old's different capacities to perform on cue ... (Friedlander, 1968, p. 361)

Although the Bereiter-Englemann program was designed mainly for work with disadvantaged children, Bereiter and Englemann decided to try it with a group of middle-class youngsters. Bereiter (Pines, 1967) indicated that the middle-class children were more difficult to "break in" because of their tendency to want to play, their spontaneity, and their verbal qualities. He further reported that it took from one to two weeks to establish the necessary routines with these children, whereas with disadvantaged children they were established more rapidly.

Perhaps the most universal feeling about the Bereiter-Englemann program is that it is controversial. It has many strong advocates as well as many opponents (Friedlander, 1968).
Another formalized program developed by Dr. M. W. Sullivan, a programmer linguist (Pines, 1966), and Cynthia Dee Buchanan is Sullivan's Programmed Reading, Series E. While the program is in theory based on individualized pacing, at its beginning it is a most formalized structure that demands that its participants work together in unison. When this program is used in preschools and kindergartens, quite naturally the children are placed into this formalized instructional situation. When asked if the materials should be used with kindergarten children, Cynthia Buchanan indicated to Maya Pines:

That's what we would prefer. If kindergarten children would at least start with the sound-symbol relationships [the more structured part of the program] and go into Book 1, they would be in good shape to advance rapidly in first grade. (Buchanan in Pines, 1966, pp. 211-212)

Results of Sullivan's program were reported by the Head Start Evaluation and Research Center, Tulane University, Annual Report (1968). This report indicated that the series was used with fifteen children in each of five Head Start programs. A control group of the same number of children was also established. They participated in unstructured reading readiness activities. At the conclusion of the year, the Lee-Clark Readiness Test, the Murphey-Durrell Analysis, and the Gates Reading Test were administered. Results indicated that those children who worked in the programmed series could recognize and identify names of letters and that they were more familiar with printed numbers and letters of the alphabet. The control group showed more expertise in recognizing similarities and differences in word formation, in learning more words in one day under normal conditions of presentation, and in being able to understand oral instructions and sensitivity to sounds of words.
The report seems to indicate that children who did not experience the programmed reading were more advanced in more significant areas than were those children who participated in the program.

Two persons of the opinion that reading can and should be taught to children in their most formative years are Omar Khayyam Moore and Glen Doman.

Moore (Pines, 1963) is most noted for his responsive environment approach to teaching children as young as two and one-half years of age to read. His "responsive environment" includes a "talking type-writer" that responds to children as they attempt to learn new skills in the reading process. His program is somewhat less formal than either the Bereiter-Englemann program or Sullivan’s as it allows completely for each child to learn at a comfortable pace. Time is also allotted for free play. Moore’s "talking typewriter" evolved from work he did for the Office of Naval Research. After working for some time with adults, Moore (Pines, 1963, p. 63), reports that he decided "to go in for ignorant subjects." Consequently, Dr. Moore began experimenting with children as young as two and one-half to three years of age. Hoppock (1966) takes exception to Moore’s philosophy that very young children should learn to read, and she makes particular note of the fact that Dr. Moore is a sociologist and not a reading specialist.

Doman (1964), author of the book, How to Teach Your Baby to Read, is a physical therapist who worked with brain-damaged children. He and his associates have developed a reading kit for preschool and kindergarten children (Hoppock, 1966). In his book Doman indicates that it is not a theory to be argued about whether or not children can learn to read. Rather, it is a fact. He states:
Reading is one of the most important functions in life, since virtually all learning is based on the ability to read. It is truly astonishing that it has taken us so many years to realize that the younger a child is when he learns to read, the easier it will be for him to read and the better he will read. (Doman, 1964, p. 1)

An advocate of teaching reading to very young children, Doman (1964, p. 1) indicates in his book that, "Children can read words when they are one year old, sentences when they are two years old and whole books when they are three years old—and they love it." In 1961 Doman began his work with very young children. Hoppock notes that his book was published only two years later and that it expressed:

... no reservations about the desirability of teaching babies to read. Two years seem a remarkably short time to draw such sweeping conclusions on so unique a proposal either as to long time gains, or possible ill effects. (Hoppock, 1966, p. 18)

While many formalized reading programs in preschools and kindergartens have been done with few numbers of children, the Denver Public Schools undertook a six-year study of 4,000 children of kindergarten age. The main experimental group followed a routine kindergarten schedule each day, as did the main control group, with the exception that the experimental group participated in a reading program for twenty minutes each day. The main experimental group participated in a program that was adjusted to the achievement level of the children throughout the entire study, with an adjusted reading program for the grades following the experimental kindergarten program. A second experimental group had a regular program in kindergarten but participated in an experimental program in the early months of first grade with an adjusted program in the latter part of the first grade and throughout later grades. A third experimental group used the experimental program in kindergarten but participated in the regular program in later grades.
Brzeinski (1964), reported that the findings of the experiment were that kindergarten children in large numbers could effectively be taught to read. He further reported that the experimental group could maintain its gain over the control groups after second grade if an "adjusted" teaching program followed the kindergarten program in subsequent years. A third finding was that the experimental group showed the greatest initial long-range gains in both reading comprehension and reading vocabulary and that they did better in other scholastic areas where reading skills were needed. In addition, at the end of third grade, the experimental group was reading with greater speed than the control group. Brzeinski and his associates found no evidence of poor visual acuity, no problems in adjusting to school, and no apparent cases of dislike for reading due to this early reading experience.

Mood (1967, p. 399) indicates that while the findings of the Denver Public Schools seem impressive, much of the excitement "will have been generated by findings based on a weak research foundation." She criticizes the research design by her indication that two variables, methods and materials, were manipulated without any means of separating their effects. Mood (1967, p. 400) points out that Brzeinski and his associates indicated that the gains made by the experimental group were due to method, "especially when begun in kindergarten, as the primary determinant of the greater academic achievement in the experimental group." However, Mood indicates that the results could be due to the materials used in the experimental group, as these materials were especially planned by McKee and Brzeinski for this group. Mood further criticizes the researchers for their anticipated higher attrition rate among the basic experimental group as compared to the main control
group, as all subjects were chosen by random sampling. (There were 1250 subjects in the original experimental groups as compared to 750 in the control groups.) She also asks why in actuality the observed attrition rate in the control group was so much higher and why no attempt was made to study subjects who dropped out to determine if they shared characteristics in common. Finally Mood suggests that a study of the magnitude of the Denver project must be:

... selective in the material that actually appears in the report. The selection in the McKee and Brzeinski report, however, is careless and extremely difficult to interpret. (Mood, 1967, p. 402)

She indicates that the poor research design is unfortunate due to the fact that:

... conscientious professional educators are groping for methods to meet the challenges of modern education. They look to research such as the Denver study for answers, but are generally not prepared to recognize the weaknesses which may reside in such a research report. (Mood, 1967, p. 403)

While researchers like Ollila (1971), Beattie and Vukelich (1972), and Durkin (1974) indicate that to date research in the area of early reading has been inadequate to make firm decisions about reading in early years, Brzeinski and Howard indicate in their article, "Early reading--how, not when!" that there is adequate research pointing out the desirability of early childhood education, and, particularly, reading. They state:

If we agree that early reading is beneficial, then why the wasted energy and resources? Why must we endure the 'research reruns' which prove little and certainly are of minimal value in advocating the cause of early reading instruction. (Brzeinski and Howard, 1971, p. 242)

Brzeinski and Howard (1971, p. 242) feel that the time has come to stop researching and to bring together what is currently and supposedly known about reading. They conclude, "Let us acknowledge the demise of
the 'when' factor and relinquish the security of research reruns which add very little to the understanding of reading instruction."

Morrison, Coleman, Harris, and Auerbach (1971) conducted a study of urban Black children. They found that four percent of those children studied had some word recognition abilities at the same time they entered first grade. These abilities were the result of experiences gained either at home or in preschools. The study followed these children through the third grade and found that they maintained a significant advantage through first, second, and third grade. The authors (p. 26) suggest that based on their research there is perhaps "desirability of trying systematic reading instruction in kindergarten for disadvantaged children with superior reading readiness." While these researchers indicate that formalized reading might be beneficial to disadvantaged children with superior readiness abilities, they do not generalize that it might be suitable for children who do not indicate these abilities.

Informal approaches to preschool and kindergarten instruction

There are currently those educators who feel that reading can easily and effectively be taught in an informal manner to young children who indicate an interest.

Durkin (1966) began a study of forty-nine children who showed reading ability when they entered first grade in Oakland, California. She observed her subjects carefully and noted that commonly the children who had learned to read before first grade had wanted to read and that there was someone in their environment who was available to answer their questions about words and to stimulate further questions. Also, her subjects had learned to read words that were of interest to them.
words that appeared on television, words on billboards and signs, words on labels, etc. Most of her early readers were also early writers. Durkin found that the learning schedules for the forty-nine children she studied were very flexible. The children, Durkin reported (p. 38), learned and studied at times when they indicated an interest, as "contrasted with the schedules of school programs for young children--schedules which constantly interrupt because, it is said, the children have a short attention span."

Durkin studied and reported on her subjects on different occasions from their first grade experience through five subsequent years. In her fifth-year report, Durkin (1964a) noted that the help the children received in reading in their preschool years did not appear to cause problems for later school instruction in reading. She further indicated that for some of the children, the earlier start in reading resulted in greater reading achievement in later years. And, finally, Durkin reported that a majority of "bright" preschool readers achieved higher in reading after only five years of school instruction than non-early readers of the same intellectual level who had six years of school instruction.

That Durkin (1962, pp. 150-151) believes that some young children who are ready can and should be taught to read in preschool and kindergarten years is obvious, for she has stated, "If we really believe that good education begins where the child is, then kindergarten teachers ought to feel obligated to give certain children help in reading." However, it is equally obvious that Durkin is not an advocate of formalized reading instruction for preschool and kindergarten years. In discussing formalized reading instruction for beginning readers, Durkin
compared those children she studied and the circumstances under which they learned to read and stated:

Contrast this approach to learning to read with a typical first-grade reading program moved down to kindergarten. The difference is great; the differences in outcome might be great, too." (Durkin, 1964a, p. 80)

Although Durkin's findings concerning the fact that young children can learn to read, she stated in regard to her findings:

Do these combined findings, then, provide positive support for earlier school instruction in reading? Not necessarily. To move from positive findings about children who first learned to read at home to a recommendation for earlier school instruction in reading is to take a big step over a wide gap. (Durkin, 1964a, p. 80)

Durkin (1964b, p. 4) makes her stand patently obvious concerning her view of formalized reading for kindergarten children by her statement, "Kindergartens cluttered with workbooks and noisy with phonics certainly tempt me to urge, no reading in kindergarten, please."

Sutton, (1964) reported success in an informalized program of instruction for kindergarteners in Anthony School, Muncie, Indiana. One hundred thirty-four children were tested for reading readiness and only two were found to be unready. The program was designed for only those children who indicated a desire to learn to read. Eighty-four children showed no interest; however, for the forty-six who did, an interest center containing eighteen assorted preprimers was developed. Sutton reported the following:

Within four weeks, 41 children had completed one or more preprimers. By the end of the school year, several had completed their fourth book, a first grade primer containing 160 pages and a vocabulary of 158 words. (Sutton, 1964, p. 234)

Sutton (1964, p. 234) further reported that after four months the Gates Primary Reading Achievement Tests were given and that a "total
of 46 children had reached a reading level of at least the third month of the first grade (the lowest level measured by this test)."

Sutton (1965, p. 194) continued her study of these children as they entered first grade and found that they had maintained their gain over children who did not learn to read in kindergarten. She noted that, "contrary to what one might expect, the later starters were not beginning to catch up with the early starters at the first grade level. In fact, the gap was widening."

Leeper (1967) made an examination of proposals for early reading in terms of the best time for beginning instruction and the effects upon children. She concluded from her research of children who learned to read before first grade or before the age of six that young children who are ready and want to read should be helped to do so, but that the teaching of reading to all five-year olds on a "wholesale" basis is questionable and may well be harmful to the child."

An informal program that has been used in the teaching of reading is the language experience approach. Davidson (1973) indicates that it is impossible to isolate instruction in reading from other language functions. Consequently, a language experience program capitalizes on the vocabulary of children, their experiences, and their desire to express their feelings and experiences. The program incorporates speaking, listening, reading, spelling, and writing. Children are introduced to reading through the use of experience stories which they dictate and learn to read. The children make connections between their own experiences and the written word.

Stauffer (1970, p. 234) an advocate of this type of instruction feels that it can be used in preschool and kindergarten years. He
indicates that kindergarten teachers can collect many experience stories from children and that the stories can be read and reread. He indicates that curriculum for kindergarten children involved in this approach should be informal so that each child will have a chance to grow individually and socially and to learn "in a systematic way by competing and sharing with each other."

O'Donnell (in Braun, 1971) reported on an informal conceptual-language program for kindergarten children and indicated that it showed promising results when compared to a more formal kindergarten reading program.

The research project was conducted with a group of kindergarten students in Maine. Two classrooms participated in an informal language experience program which involved activities conducted in an informal way to match their level of development. The conceptual-language approach consisted of activities that fostered concept attainment and language development. Two other classes were placed in a basal reading series and used workbooks. All children spent twenty minutes per day in the reading program to which they were assigned, and they spent the remainder of the day in traditional kindergarten activities such as music, art, and free play.

At the end of the kindergarten year and after 116 days of instruction, the participants in this experiment were tested. The children who participated in the informal program received statistically higher general reading scores. The informal conceptual-language program participants also scored higher in tests on letter forms, letter names, and sounds, although it was the formal instruction that offered intense drilling in these areas. It was expected that the children who worked
in the formal basal program would gain skills in listening and following
directions that would exceed those skills gained by children who
participated in the language experience program. However, the
children who worked in the less structured program indicated somewhat
more ability in this area, and they were also superior in completing
their assigned work.

O'Donnell concluded that the use of formal methods of instruction
in kindergarten can greatly limit the role of the teacher in providing
challenging opportunities for children due to the fact that these
activities are so time consuming. He suggests that the informal
experience program better fosters reading readiness skills such as
knowledge of letter names and forms, auditory and visual perception,
motor coordination, and listening.

Hoppock (1966) agrees with O'Donnell that the time element in a
kindergarten program that operates on a basis of two and one-half hours
per day prohibits the formal teaching of reading in kindergarten. She
suggests, however, that a good kindergarten program offers ample
opportunity for an informal reading curriculum to any child who wants
to begin reading. She states that any kindergarten can have a library
area as an interest center where children can work either listening to
a teacher or reading to the teacher. Children who are learning to
read may also find opportunity in this informal setting to read to
other children. Hoppock (1966, p. 10) further indicates that children
in a good kindergarten program are "surrounded by their own language
products." Kindergarten can easily provide experiences where the
child dictates stories, thoughts, and other important items, items
that he can learn to read. That Hoppock feels that an informal
Curriculum is superior to the formal curriculum for reading in kindergarten is demonstrated by her statement that:

Certainly, the children do not need readiness workbooks or preprimers. Their needs are better served by the more intellectually stimulating materials always available in the good kindergarten—their own language products recorded by the teacher and the books in the library center. (Hoppock, 1966, p. 10)

Enzmann (1971) feels that kindergartens should be prepared to offer those children who are ready and interested in reading opportunities to do so. He indicates that there are some children who enter kindergarten who already have reading abilities, but he is in agreement with the results of studies conducted by LaConte (1970) and Scherwitzky (1974) that this number of preschool readers is few.

Enzmann indicates that calendar date has no place in determining when children should begin reading. He cautions that educators must keep the important words "some children" in mind in the question of early reading. He states the following:

Some children are able to read before they start school; some children are developmentally ready to begin reading during the kindergarten; some children will not begin reading until well beyond kindergarten. (Enzmann, 1971, p. 620)

Smith concurs with Enzmann by her statement that:

Probably the answer to the controversy [of early reading] is neither 'Yes' or 'No.' Some children with high mental and physical maturation, living in favored home environments may want to read and ask for help during pre-first grade years. If so, these children should not be deprived of the assistance they seek. On the other hand there are other children who do not reach maturity for reading instruction until seven years of age or later. We cannot state any particular chronological or mental age at which all children should be taught to read. This is a matter of individual qualifications. (Smith, 1974, p. 26)

In agreement with Enzmann (1971) and Smith (1974) is Hymes (in Karlin, 1973) who indicates that it is unwise to suppose that all
children are ready to read before the age of six. Hymes notes that while preschool age children possess certain similar characteristics, they differ in maturation, interest, background, needs, and abilities. Teaching must take the differences into account. He suggests that teaching reading to children under the age of six is good only if it fits the child and works to make him a better human being. Hymes (p. 134) notes that the goal should not be to "produce a reader but to help build a better human being because now the child reads."

While Hymes feels that children should learn to read when they are ready, regardless of age, he cautions that programs in reading for children under six should not formal. The atmosphere should not necessarily be more quiet, but should stress individual needs. In regard to some kindergartens he has visited where teaching of reading is part of the curriculum, he indicates the following:

I see a program that is narrow, not broader. I see a program where the children talk less, not more. I see a sitting quiet program and not one where the youngsters are active. I see a program with store-bought materials, not a program growing out of the children's own activities and experiences, not one I would call relevant to them. I see almost always children brought together in groups and so seldom see the individualized and personalized teaching I think is called for. I too often see programs where the pressure comes from the teacher, not the children. There is little evidence of love and joy and thrill on the children's part; there is much evidence of control and management on the teacher's part. It seems so often as if one had to produce followers or cows or sheep in order to produce readers. (Hymes in Karlin, 1973, pp. 134-135)

Jondle (1973, p. 7) reported that the results of a five year-pilot project that indicated some success for children who participated in an informal reading program in kindergarten. She stated that "all children can experience success in a kindergarten reading program and that this success" can be sustained through a developmental reading program over a five-year time period.
Children were divided into three groups in their kindergarten year and spent five consecutive years in a program similar to the one they experienced in their kindergarten year. Each classroom had an average of twenty-six students for a two and one-half hour period each day. The Group I children were afforded many varied reading readiness experiences in kindergarten and these children were self-directed in their work. The many activities made available for this group of children included a small manipulative center with many games and materials available to develop definite reading skills. In addition to a science center, a work bench, and paint easels, other centers were available that directly related to reading such as a flannel board with materials to develop reading readiness skills; a center for phonographs and story records; a center for children to learn alphabet letter names and sounds by using tactile objects; and, of particular importance, a library center with many simple readers for children who indicated an interest in learning to read.

Reading readiness worksheets were used with Group I children, however, before any worksheet was given to them, children had to have been introduced to the work by some concrete method. The children were not given directions in how to complete the worksheets, but had to figure themselves how to accomplish the various tasks.

Jondle indicated that:

By the end of the year, over three-fourths of the children reading fluently and most of them read over a hundred books. Experience thus far shown that the few who were not reading were ready to start at the beginning of first grade. (Jondle, 1973, p.

Group II children were more teacher directed than Group I children and they had fewer centers (seven as opposed to twelve for
Group I children) from which to develop their interests. Their large and small manipulative centers lacked the variety of materials, particularly relating to reading readiness, that Group I children enjoyed. Their library center contained picture books for children to "look at." These children were not encouraged or helped to learn to read.

Group III children had only four interest centers: a doll corner, a block area including cars and trucks, a painting area, and a shelf for puzzles and other toys. These children were in a very teacher directed atmosphere where reading readiness skills were gained incidentally, if at all, through activities such as music, stories, and unit work.

All children were tested in the first, second, third, and fourth grades. Group I children maintained a lead over other children through the fourth grade. Jondle concluded that:

We can determine, ..., that for the population included in this study, those children who were afforded the more abundant and varied reading readiness experiences, and more self-direction in kindergarten, made greater achievement gains in all phases of the development reading program. (Jondle, 1973, p. 14)

Summary

That there is controversy concerning the proper time and methods to begin to teach children to read is borne out in the literature. Most educators do not deny the evidence that indicates that some children do learn to read before they enter first grade. In fact, most researched educators agree that preschools and, particularly, kindergartens should provide reading in an informal, unpressured way to those
who indicate a maturational level and an interest in learning to read in that grade.

Some recent literature indicates that authorities (LaConte, 1970; Hymes in Karlin, 1973; Durkin, 1974) are moving away from the philosophy of "mass instruction" as described by LaConte (1970) in which all kindergarteners in the class are taught together in the same reading program. However, at the same time, research indicates a trend towards more structured and formalized reading instruction by public school instructional personnel (LaConte, 1970; Ollila, 1971; Hymes in Karlin, 1973). There are many unanswered questions concerning the value of using structured methods in the teaching of reading to groups of preschool children and kindergarteners. It is not that formalized programs do not teach these young people to read, for, in fact, some programs have been successful. Rather, the questions raised are concerned about the value of teaching young children to read, and, more importantly, about the physical and emotional damage that might be caused from the pressures that are inherent in formalized instruction for particular groups of children.

After carefully examining the literature, my conclusion is that the entire issue of early reading necessitates still more research. It is hopeful that the flurry of the past decade will subside to allow for accurate research that can be interpreted in an unbiased way to aid competent educators in making decisions concerning early reading experiences for preschool and kindergarten children. At the present time, one can only conclude that there has not been sufficient research to definitively accept one method or philosophy over another, since many philosophies and their corresponding methods have been successful.
in differing locales with various children. Until definite research has been accomplished, it remains the responsibility of educators to determine how and when to teach young children to read.
RESEARCH PROCEDURES

Sample

The subjects for this study were selected from four elementary schools in a Utah school district. All schools were considered to be Title I schools by the Federal Government and all received financial assistance to aid in teaching their low income clientele. According to Mr. Byron Moore (August, 1975), Administrative Assistant, Ogden City School District, Ogden, Utah, schools are designated as Title I because they have the greatest concentration of children from low income families in a given district. Each school is judged on the basis of its poverty-level clientele within a given district. These schools were selected for this study as they all participated for three years in a programmed reading series developed by M. W. Sullivan. Two of the schools (participating schools) started kindergarten children in the programmed reading in October, 1971. Children in those schools completed second grade in May, 1974, having participated in the program three years. The other two schools were non-participating schools and did not place children in Sullivan's Programmed Reading, Series E, in their kindergarten year but rather delayed the program until the first grade. (First graders in non-participating schools for kindergarteners, however, began instruction in Sullivan's program in October, 1971.) The non-participating kindergarteners were exposed to a traditional kindergarten setting where they did some reading readiness activities.
The readiness activities they used were basically unrelated to Sullivan's Programmed Reading, Series E. However, late in the spring, non-participating children did begin work on six basic alphabet letters learning their names and sounds. This is the beginning of Sullivan's Programmed Reading, Series E. Consequently, the children in Group B who completed second grade in May, 1974, had only two years in the program.

The sample included 185 children. Participating schools had 89 children and non-participating schools had 96 children. All children selected started kindergarten at one of the schools described above and remained at that school to complete kindergarten, first, and second grade. Students who started school after September 1, 1971, or who left the school in which they originally started before November 1, 1974, were not included in the sample.

All subjects selected were tested at the beginning of the second and third grades.

**Instrument**

The instrument, the SRA (Science Research Associates) Achievement Series (1972), is a widely accepted norm-referenced test. The norms were developed during a national standardization of the SRA Assessment Survey conducted in the spring of 1971, in which cities, districts, schools, classrooms, and students were randomly chosen. The SRA series provides grade equivalents, national percentiles, stanines, and growth scale values to enable instructors to measure students against the national norms and that aided this investigator to make comparisons of local norms.
The content validity of the test was determined by current instructional and curricular materials, reviews by teachers, and particularly, reviews by curriculum specialists.

Reliability coefficients for this test and its subtests have been reported in the range of .84 to .98. Reliability estimates of .80 or greater are generally recommended for achievement tests.

Reading rate and reading comprehension were the skills tested by this examination. Those two scores were combined into one complete score indicating the grade level and the month in that grade at which each child was reading. (A score of 2.5 would indicate that a child was reading at a second grade, fifth month level.)

Administration

The SRA Achievement Series was administered twice to the sample subjects. At the beginning of the second grade, regular classroom teachers administered the test to their children to determine their particular needs and strengths as well as to assess abilities and skills gained the previous years. The instructors administered the test over a period of three days as outlined by the test manual. Children were instructed as to how to complete each section of the test and were given examples to ensure their understanding of those instructions. Children were then allotted a certain amount of time to work on a particular test. Teachers were advised by instruction in the test manual that they should be of no further assistance to their students. Tests were graded by teachers and scores were placed on cumulative record cards in the office of each school.

The tests were administered and scored independent of this thesis project.
Analysis of Data

The difference between the second grade test scores and the third grade test scores were determined in order to detect if kindergarten participants in Sullivan's Programmed Reading, Series E, formalized reading reflected more growth than kindergarten non-participants by the beginning of third grade. The chi square method for analyzing data was employed to determine if differences in test performance between different groups of children were statistically reliable. The level of significance of testing differences was at the .05 level.

Test performance scores were indicative of the grade level at which the child was reading. Thus, a score of 1.0 indicated a beginning or minimal first grade performance. In contrast, a score of 2.5 would indicate a performance midway between the second and third grade.

The growth of each child was determined by subtracting his/her first test score from his/her second test score (1.0 from 2.0 would indicate a growth of 1.0). A chart was prepared upon which was recorded each child's first and second test score, as well as the difference between them. Then, children were placed in different categories which indicated degrees of growth. Initially, the categories were based on one-half year's growth resulting in six clusters of scores: "Minus to 1.4;" "1.5 to .9;" "1.0 to 1.4;" "1.5 to 1.9;" "2.0 to 2.4;" and "2.5 plus." This chart was refined to indicate two basic growth areas, "minus to 1.4," and "1.5 plus." (See Appendix B)

This basic procedure was followed to make several comparisons. First, children who participated in the formal reading program were
compared to those who did not. A second comparison was based on the mother's highest educational level in relationship to participating and non-participating children in the formal reading program. A third comparison was made based on the mother's educational level in relationship to sex of participating children and non-participating children. Finally, a comparison was made based on the sex of participants and non-participants.
FINDINGS

Analysis of Data

The hypothesis that there will be no significant difference in reading ability between children who participated in a formalized reading program and those who did not by the time both groups enter third grade was confirmed.

As is noted in Table 1 and Figure 1, 65 participating children fell into the category of "minus to 1.4" while only 24 of those same participating children ranged in "1.5 plus" category. Of those children who did not participate in the programmed reading, 35 fell into the "minus to 1.4" category. However, 35 non-participating children as compared to 24 participating children ranged in "1.5 plus" category. Consequently, a slightly larger number of children who did not participate in the formalized reading program in kindergarten scored in the higher category.

Table 1. Growth in reading performance by participation in formalized reading instruction for all children.

<table>
<thead>
<tr>
<th>Group</th>
<th>minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating</td>
<td>65</td>
<td>24</td>
</tr>
<tr>
<td>Non-Participating</td>
<td>61</td>
<td>35</td>
</tr>
</tbody>
</table>
All Children

minus to 1.4

1.5 and above

P = Participant

NP = Non-Participant

Figure 1. Growth in reading performance by participation in formalized reading instruction for all children.
Although kindergarten teachers in schools where Sullivan's Programmed Reading, Series E, did not participate in any of the formal training that was given teachers instructing in the program, it is possible that they adopted some activities and methods used by other Sullivan teachers in their schools. This might account for the fact that no significance was noted in this particular area.

The fact that non-participating children began work related to programmed reading in the late spring concentrating only on six alphabet letters, their names and sounds, might also account in part for the fact that no significant difference was indicated.

The second hypothesis that there will be no significant difference in reading ability of children based on the mother's highest educational level was confirmed.

As is indicated by Tables 2 and 3, and Figure 2, the numerical differences related to this hypothesis are so slight that any comment would be inappropriate.

Table 2. Growth in reading performance by participation in formalized reading instruction based on mother's highest educational level

<table>
<thead>
<tr>
<th>Education</th>
<th>Participants</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>minus to 1.4</td>
<td>1.5 and above</td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Less than grade 12</td>
<td>13</td>
<td>4</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>High school graduation</td>
<td>35</td>
<td>14</td>
<td></td>
<td>49</td>
</tr>
<tr>
<td>College</td>
<td>15</td>
<td>8</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>89</td>
</tr>
</tbody>
</table>
Table 3. Growth in reading performance by non-participation in formalized reading instruction based on mother's highest educational level

<table>
<thead>
<tr>
<th>Education</th>
<th>minus to 1.4</th>
<th>1.5 and above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than grade 12</td>
<td>9</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>High school graduation</td>
<td>37</td>
<td>21</td>
<td>58</td>
</tr>
<tr>
<td>College</td>
<td>17</td>
<td>9</td>
<td>26</td>
</tr>
</tbody>
</table>

The third hypothesis that there will be no significant difference in reading ability based upon the sex of those children selected was not confirmed.

Two separate bar graphs (Figures 3 and 4) were designed to indicate differences that might be due to sex.

Figure 3 indicates that participating females scored higher than participating males (18 to 7) in the "1.5 plus" category. However, in the same "1.5 plus" category, non-participating males scored significantly higher than non-participating females. Interestingly, participating females scored higher in the "1.5 plus" category than participating males, but participating males scored higher than females in the same category.

Tables 4 and 5 indicate differences that exist between participating and non-participating males and between participating and non-participating females.
Figure 2. Growth in reading performance based on mother's highest educational level.
Figure 3. Growth in reading performance by sex among participating and non-participating groups
Figure 4. Growth in reading performance among participants and non-participants as delineated by sex.
Table 4. Growth in reading performance by participation in formalized reading program by males and females

<table>
<thead>
<tr>
<th>Sex</th>
<th>Participants</th>
<th>minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Growth in reading performance by non-participation in formalized reading program by males and females

<table>
<thead>
<tr>
<th>Sex</th>
<th>Non-Participants</th>
<th>minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>30</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Slightly more participating males scored in the "minus to 1.4" category than non-participating males. However, higher number of non-participating males fell into the category "1.5 plus." In this category it appears that non-participating children held somewhat higher scores.

Participating females, on the other hand, scored slightly lower in the "minus to 1.4" category than did non-participating females, and they scored significantly higher than non-participating females in the "1.5 plus" category.
It would appear that in this particular study that Sullivan's Programmed Reading, Series E, was beneficial to participating females, while, at the same time, it appears that the more unstructured program was beneficial to non-participating males. It is possible that young females in this society function more adequately with structure than do young males due to their prescribed sex roles learned both at home and in the public schools. Frazier and Sadker note that:

If the young girl has experienced sex typing at home, it is likely she will enter school already somewhat compliant and passive. These characteristics are well in line with the norms of the elementary school; it seems that the young female student should feel very much at home there. (Sadker, 1973, p. 94)

Frazier and Sadker (1973, p. 75) also make mention of the fact that girls in the public schools are "reinforced for silence, for neatness, for conformity." Certainly it seems that these qualities might help a young female to adapt to structure.

Bruner has noted that:

... Observant anthropologists have suggested that the basic values of the early grades are a stylized version of the feminine role in society, cautious rather than daring, governed by lady-like politeness ... Girls in the early grades who learn to control their fidgeting earlier are rewarded for excelling in their feminine values. The reward can be almost too successful in that in later years it is difficult to move girls beyond the orderly virtues they learned in their first school encounters. The boys, more fidgety in the first grades get no such reward, and as a consequence may be freer in their approach to learning in the later grades. (Bruner, 1966, p. 123)

An additional study was done in which the educational level of the mother was held constant, and comparisons between the sex of all participating females, and participating and non-participating males was made. The distribution was very similar indicating no reliable difference.
SUMMARY AND CONCLUSIONS

Summary

In past years, many educators have come to recognize that some young children are capable of reading in preschool and kindergarten years. Part of this knowledge has grown out of work done by pioneers in early childhood education such as Montessori and Piaget; part of it has come as a result of work done by the cognitive psychologists such as Bloom and Hunt; and part of it has grown out of the recognition that, more and more, young children are learning to read in their preschool years.

The question concerning when children can or should learn to read has been most controversial, but perhaps more controversial has been the question of methods of instruction. Should preschool and kindergarten children begin formal instruction in reading in their formative years, or should only those children who indicate the interest and maturational level learn to read and then by informal methods of instruction. Basically, this study has grown out of those questions.

The study proposed to assess two kindergarten programs, one which involved children in a formalized reading situation and the other which maintained a more traditional approach and that offered reading readiness activities. The purpose of the study was to determine if formal reading in kindergarten would increase the ability of participating children to read at a higher level by the time they entered third grade than non-participating children.
One hundred eighty-five children from four schools were selected for this study. Eighty-nine children from two schools had formalized training in kindergarten while the ninety-six remaining children from the other two schools were not involved in a formal reading program in kindergarten.

Following are the hypotheses tested and their results:

There will be no significant difference in reading ability between children who participated in Sullivan's Programmed Reading, Series E, and those who did not by the time both groups of children enter third grade. This hypothesis was confirmed.

There will be no significant difference in reading ability of children based on the mother's highest educational level. This hypothesis was confirmed.

There will be no significant difference in reading ability of children based upon the sex of those children selected. This hypothesis was not confirmed. In the "1.5 plus" category, non-participating males scored significantly higher than non-participating females. Also, participating females scored significantly higher than non-participating females in the "1.5 plus" category. (See Appendix F and G)

Conclusions

In order to have concluded that participating children in this study benefited from Sullivan's Programmed Reading, Series E, in kindergarten, it would have been necessary for them to have indicated superior test results when compared to non-participating children. Because no significant difference was discovered to favor those who had participated in the Sullivan program, one cannot conclude that formalized instruction
did increase the growth in reading for participating children. In fact, where differences were of any consequence at all between the two groups of children, it appears that those children who did not experience Sullivan's Programmed Reading, Series E, achieved more growth, except in the case of participating females as compared to non-participating children. It appears possible to conclude, therefore, that formalized reading experience of the type used in this particular study seems not to be suitable for general utilization among young children.

The potential benefits of other types of planned reading instruction have not been assessed by this study.

Recommendations for Further Study

Since this study was designed basically to research with disadvantaged children, a similar study might be done in middle-class schools with middle-class children. The purpose of the study would be to determine if formalized reading in kindergarten as compared to a more formal approach renders the same results as this particular study.

Bereiter and Englemann (Pines, 1967) have worked mainly with disadvantaged children. In one instance, however, they reported having worked with middle-class children and noted that advantaged children had more difficulty adjusting to the structure than the disadvantaged youngsters with whom they had worked. Research might be done comparing kindergarten children of middle-class parents with disadvantaged children of kindergarten age, all of whom would participate in a highly formalized reading program. As it is apparent that no one program or approach can be recommended for all children, the purpose of such a study would be to determine if formalized instruction is more helpful to one group of children than to another.
LITERATURE CITED


Durkin, Dolores. 1964b. Early readers--reflections after six years of research. Reading Teacher 18:3-7, October.


Leeper, Sarah L. 1967. Early reading in kindergarten. University of Maryland, College of Education, College Park, Maryland. (Original not seen; abstracted in ERIC ED 038 258)


Sheldon, William D. 1962. Teaching the very young to read. The Reading Teacher, December 163-169.


ADDITIONAL LITERATURE


Hancock, Viola J. 1975. Telephone interview, August 8.


### Appendix A

Table 6. Continuum indicating degrees of formal and informal instructional materials

<table>
<thead>
<tr>
<th>Behavioral-Environmental Emphasis</th>
<th>Cognitive-Transactional Emphasis</th>
<th>Normative-Maturational Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific, prescribed objectives</td>
<td>Broadly expressed objectives</td>
<td></td>
</tr>
<tr>
<td>Limited pupil choice and</td>
<td>Wide pupil choice and</td>
<td></td>
</tr>
<tr>
<td>initiative</td>
<td>initiative</td>
<td></td>
</tr>
<tr>
<td>Extensive teaching directing</td>
<td>Limited teacher directing</td>
<td></td>
</tr>
</tbody>
</table>

Placement of programs on the above continuum was made on the basis of information regarding (a) their stated views of learning, (b) the degree of pupil initiative and choice of activities, and (c) the amount of teacher direction of pupil activities required. The placements are approximate and intended to be illustrative rather than definitive.
Appendix B

Table 7. Six initial degrees of growth refined into two basic growth areas

<table>
<thead>
<tr>
<th>Grade Performance Level</th>
<th>Participant</th>
<th>Non-Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minus</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>0 to .4</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>.5 to .9</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>1 to 1.4</td>
<td>32</td>
<td>26</td>
</tr>
<tr>
<td>1.5 to 1.9</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>2 to 2.4</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>2.5 and above</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Totals:</td>
<td>89</td>
<td>96</td>
</tr>
</tbody>
</table>

| Minus to 1.4            | 65          | 61             |
| 1.5 and above           | 24          | 35             |
### Appendix C

Table 8. Growth in reading performance by participation in formalized reading instruction for all children

<table>
<thead>
<tr>
<th></th>
<th>Growth in Reading Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>minus to 0.4</td>
</tr>
<tr>
<td>Participants</td>
<td>13</td>
</tr>
<tr>
<td>Non-Participants</td>
<td>14</td>
</tr>
</tbody>
</table>

Degrees of freedom = 4  
\[ \chi^2 = 2.71 \]  
\[ (.70 < .50) \]
Appendix D

Table 9. Growth in reading performance by participation in formalized reading program by males and females

<table>
<thead>
<tr>
<th>Sex</th>
<th>Minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>Male</td>
<td>37</td>
<td>7</td>
</tr>
</tbody>
</table>

$\chi^2 = 6.39$  Degree of freedom = 1  Significant at .02
Appendix E

Table 10. Growth in reading performance by participation in formalized reading program for males as compared to non-participating males in the formalized reading program

<table>
<thead>
<tr>
<th></th>
<th>Minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
<td>37</td>
<td>7</td>
</tr>
<tr>
<td>Non-Participant</td>
<td>30</td>
<td>21</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 7.4 \quad \text{Degree of freedom} = 1 \quad \text{Significant at .05} \]
### Appendix F

Table 11. Growth in reading performance by participation in formalized reading program for females as compared to non-participating females in the formalized reading program

<table>
<thead>
<tr>
<th></th>
<th>Minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>Non-Participant</td>
<td>35</td>
<td>10</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 3.33 \]

Degree of freedom = 1  
Significant at .05
Appendix G

Table 12. Growth in reading performance by non-participation in formalized reading program by males and females

<table>
<thead>
<tr>
<th>Sex</th>
<th>Minus to 1.4</th>
<th>1.5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>Males</td>
<td>30</td>
<td>21</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 3.97 \]
Degree of freedom = 1
Significant at .05
VITA

M. Diane Brewster-Thomas

Candidate for the Degree of

Master of Science

Thesis: Reading Abilities of Third Grade Children as Influenced by Kindergarten Instruction

Major Field: Family and Child Development

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