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THE EFFECT OF CHILDREN'S LITERATURE AND ORAL DISCUSSION ON
THE READING ACHIEVEMENT OF FIRST AND SECOND GRADE CHILDREN

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

BY
Patricia Anne Lyons, B.A., M.A.

The Ohio State University
1972

Approved by
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CHAPTER I

Introduction

1. **Background and Need for the Study**

The effectiveness of reading instruction has always received more than its share of study and criticism. Reading has been extensively investigated from many points of view such as readiness, relationship to the other language arts, and methodology for teaching. Such investigations have not resulted in solutions to the problems encountered in teaching reading. New methods of teaching reading are, for a time, regarded as ultimate solutions only to be replaced by other innovations. Especially since the late 1950's, there has been an increase in public pressures to improve the quality of reading instruction. Several developments of the past decade are evidence of the urgency with which the problem is viewed. The twenty-seven First Grade Reading Studies, for example, were a cooperative attempt to gauge the relative effectiveness of various methods of teaching beginning reading. Another indication of the national concern for the effective teaching of reading was the assertion by

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U. S. Commissioner of Education, James E. Allen Jr., that "... the provision of the right to read for all..." should be the highest "... nationwide priority in the field of education..." in the 1970's.2

There is agreement and ample research evidence that there is a substantial correlation between reading and other language abilities such as ability in oral language and control of vocabulary.3 More recent studies by Strickland and Loban confirm the relationship between oral language ability and reading achievement. Strickland found a relationship at the sixth grade level between reading comprehension and the child's skill in using moveables, subordination, and elaboration in his oral language.4 Loban found that children rated high in general language ability were also advanced in reading ability.5 Many authorities in the field of reading view language

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4Ruth Strickland, The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children. Bulletin of The School of Education, Indiana University (Bloomington, Indiana, July 1962), XXXVIII.

development as the single most important element which contributes to readiness for reading.\(^\text{6}\)

Despite the fact that the relationship between reading and oral language ability has been established for years, this knowledge has not led to identification of the most efficient procedures for influencing reading achievement. Developing oral language abilities, as a way of improving reading, has not been fully understood or exploited. This may be attributed, in part, to the fact that not enough attention has been given by researchers to the nature of the reading process.\(^\text{7}\) The recent trend toward interdisciplinary cooperation in reading research may provide some needed answers. Psycholinguistic theory and research, for example, might be particularly fruitful since the focus is on the process. Research, utilizing a psycholinguistic framework, has succeeded in identifying some of the specific language competencies contributing to the global general language ability which is related to reading achievement.


Psycholinguistic models of the reading process are exemplified by those of Goodman and Frank Smith. Goodman, for example, describes reading as a "psycholinguistic guessing game." According to Goodman, reading is not a precise process but a selective process. The reader uses the graphic input and syntactic and semantic information to predict or anticipate the text. This prediction strategy is possible because of the redundancy and sequential constraints in language. Greater control over language structure would contribute to successful prediction. Frank Smith, too, characterizes reading as a process of prediction based on prior expectations. The child uses the same rule discovery skills which he used in the language acquisition process to discover the distinctive features which enable him to reduce his uncertainty about the printed text. The semantic and syntactic redundancy of the language aid the child in the process. Meaning is contained in the deep structure. Syntax is the bridge between the surface structure and meaning.

A number of psycholinguistic studies have related skill in controlling specific aspects of syntax to reading achievement. Ruddell has explored the various facets of oral language and their

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9Ibid.

relationship to reading ability. For example, he found that fourth
graders were more successful in comprehending material written with
high frequency oral language patterns than they were in comprehending
material written with low frequency patterns. In another study, he
found that first grade children's control over syntax was significantly
related to their comprehension and vocabulary achievement. 11

Language maturity and reading performance were also studied by
Brittain. She compared the performance of first and second grade
children on a revised form of Berko's test of ability to inflect with
their reading achievement. She found correlations of .41 at first
grade level and .71 at the second grade level. 12 Bougere investigated
the relationship of factors which previous research had identified as
indicators of language maturity to first grade reading achievement.
She found that all seven linguistic predictors added to the value of
the Metropolitan Readiness Test in predicting achievement in
comprehension. 13 These representative studies are part of a growing

11Robert Ruddell, "Language Acquisition and the Reading Process"
in Theoretical Models and Processes of Reading ed. by Harry Singer and
Robert Ruddell, (Newark, Delaware, International Reading Association,
1970), pp. 1-19; ___________. "Variations in Syntactical Language
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12Mary Brittain, "Inflectional Performance and Early Reading
Achievement" Reading Research Quarterly, VI, (Fall 1970), pp. 34-49.

13Marguerite B. Bougere,"Selected Factors in Oral Language
Related to First Grade Reading Achievement," Reading Research
Quarterly, V, (Fall 1969), pp. 31-58.
body of literature which confirms the psycholinguistic contention that stored knowledge of language structure affects skill in reading.

The theoretical statements and the research evidence concerning the interrelationship of the language arts and the psycholinguistic nature of the reading process lead to the assumption that activities which result in increased language maturity also should positively affect reading achievement. Activities designed to influence language development must be evaluated against knowledge of the way in which children acquire language. Recent psycholinguistic investigations indicate that the child learns language by processing what he hears to induce its latent structure. The semantic and syntactic structure which the child induces is the basis for the internalized set of rules with which he produces language. There is evidence which indicates that the sequence of acquisition is predictable but that the rate varies. Several recent studies have shown that active

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language acquisition continues into the elementary school years. Acquisition should be facilitated by providing a language environment containing varied syntactic structures and vocabulary. Reading and discussing stories is one way of providing varied syntactic input which should have positive effects on linguistic maturity, vocabulary development, and through them positive effects on reading achievement. Cohen found that reading stories, selected in part because they contained varied syntactic structures and rich vocabulary, increased both the vocabulary development and reading achievement of second grade children.

Early research on children's language development established the fact that children who interacted primarily with adults were linguistically more mature. These findings could be interpreted as support for the view that the linguistic data provided by the adult is the crucial factor in language acquisition. However, an alternate interpretation seems equally viable. The crucial factors could be

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the opportunity for active interaction with an adult and the chance to practice language. Some recent proposals for enhancing language development have emphasized interaction and active use. Dixon, representing the viewpoint of The Dartmouth Conference participants, identifies interaction with others and opportunity for self expression as factors affecting language development. Moffett views the child's active involvement in using language as the crucial element in language learning. Weir's observations indicate that children engage in self imposed language practice apparently to increase competence with known structures.

Criticism of the measurement techniques used in past studies of language development and beginning reading also support further investigation of their relationship. The measures of language maturity used in many earlier studies, measures such as number of sentences, length of sentence, and type-token ratio, have been labeled inaccurate or inappropriate because they gave no attention to syntax. Language measures which involve syntax seem to be more reliable indices of


language maturity. The child's control over syntax does seem to be closely related to his reading achievement.

Clearly, a study was needed that would investigate simultaneously many of the facets of this relationship between language maturity and reading achievement; and specifically, the relative influence of different kinds of adult language input. Which is more influential, adult reaction to children's language and supporting their verbalizations or adult language input that is of high literary quality and contains varied syntactic structures and rich vocabulary?

This study investigated the influence of a planned program of verbal input through reading and discussing children's books on reading achievement at the first and second grade levels compared to the influence of a planned program of verbal output through sharing and discussing with others as language practice. This study also examined the relationships between reading comprehension, word recognition, and total reading achievement and the measures of vocabulary and language maturity obtained from a companion dissertation which used the same experimental base.

II. Statement of the Problem

Psycholinguists contend that the most crucial factor in language acquisition is the availability of language with varied syntactic structures for the child to process rather than the opportunity to practice using structures. If this is the case, providing input of varied syntactic structures through reading aloud stories of high literary quality should be a more effective method of influencing
language development and through it influencing reading than a program with less emphasis on varied input and more emphasis on practice in using structures. However, if, as some authorities contend, active use of language and interaction with an adult are the crucial factors, then the program of verbal output through sharing and discussion should be a more effective method of influencing language development and reading.

Evidence indicates that the child's success in reading is closely related to his linguistic maturity or control over language structures and his vocabulary development. If this is the case, children who score high in reading achievement should also have high scores on measures of linguistic maturity and vocabulary development.

The objectives of this study are: (1) to determine if a program of reading aloud and discussing high quality children's literature and/or a program of sharing and discussion will significantly increase the reading comprehension of first and second grade children, (2) to determine if either or both of those same programs will significantly affect their word recognition ability, (3) to determine if either or both of those same programs will significantly affect their total reading achievement, (4) to determine the relationship between the three reading achievement scores and measures of linguistic maturity and vocabulary development.

The following hypotheses will be tested separately for the measures of word recognition, comprehension and total reading using scores for the entire experimental group - grades one and two combined:
1. There will be no significant difference between the group receiving the literature program, the group receiving the sharing and discussion program, and the no treatment control group.

2. There will be no significant interaction effect between type of program and grade level.

3. There will be no significant interaction effect between type of program and sex.

4. There will be no significant interaction effect between type of program, grade level, and sex.

5. There will be no significant difference between first and second grade students.

6. There will be no significant difference between boys and girls.

The following hypotheses will be tested separately for the total group and for the first and second grade groups:

7. There will be no significant relationship between the measure of comprehension and the measure of vocabulary.

8. There will be no significant relationship between the measure of word recognition and the measure of vocabulary.

9. There will be no significant relationship between the measure of total reading and the measure of vocabulary.

10. There will be no significant relationship between the measure of comprehension and the measure of language maturity.

11. There will be no significant relationship between the measure of word recognition and the measure of language maturity.

12. There will be no significant relationship between the measure of total reading and the measure of language maturity.
III. Definition of Terms

The following terms will be used as defined throughout the dissertation.

**Literature program emphasizing rich verbal input:** This program involved reading stories to children and discussing them. The stories were selected from those frequently recommended for children at these ages with two additional criteria: the variety of syntactic structures included and the difficulty of vocabulary used. The focus in the brief discussion was on the major elements in the story.

**Program of sharing time language experiences:** This program involved opportunities for the children to use and practice their own language. It provided a variety of interesting topics and problems for discussion emphasizing the children's language output. The activities involved included discussing and making up stories about pictures and other visual materials, discussing imaginary topics or those related to every day activities, and participating in chain stories as well as participation in regular sharing activities.

**Reading comprehension scores:** These are comprehension subtest scores from *The California Achievement Test, Reading, 1970 Edition, Level 1*. Form A was used for the immediate posttest. Form B was used for the delayed posttest administered in May 1972.

**Word recognition scores:** These are vocabulary (word skills) subtest scores from the same reading test.

**Total reading scores:** These are the total raw scores from the same reading test.
Acquisition of syntactic structures: This is an indication of language maturity in the sense of the number of syntactic structures within the child's own linguistic system as measured by a sentence repetition test, The Linguistic Structures Repetition Test, devised specifically for this study and a companion dissertation and based on linguistic research in child language acquisition.\(^{23}\)

IV. Summary of Procedures

Four schools in the Madison Local School District in Franklin County, Ohio were selected to participate in the experiment. They were selected because of their proximity to each other and because of the similar socio-economic populations which they serve. The schools were paired to minimize socio-economic differences between treatment groups. One group of two schools was randomly assigned to experimental treatment 1 (the literature program), and the other group of two schools was assigned to experimental treatment 2 (the sharing and discussion program). Arrangements for a first and second grade class at each school to participate were made through the building principals. One class at each grade level from the pool of first and second grade classes in the experimental treatment 2 (sharing and discussion program) schools was assigned as a no treatment control class. The

\(^{23}\)The test was developed by Carol J. Fisher with this investigator's assistance. Carol Jean Fisher, "The Effect of Children's Literature and Oral Discussion in Developing Oral Language of Kindergarten, First, and Second Grade Children," (Unpublished Doctoral Dissertation, The Ohio State University, 1972), pp. 15-16.
no treatment control classes were tested on all measures to control for the effect of maturation. The two experimental treatments were assigned to separate schools to avoid possible duplication of programs by classroom teachers assigned to either treatment group.

The two experimental treatments were administered by eight undergraduate students in the Department of Early and Middle Childhood Education at The Ohio State University. Students worked in groups of four. Each group was assigned to work in two schools, one assigned to each experimental treatment. Within a school, pairs of students were assigned to work with first or second grade classes. This arrangement allowed each student to administer both experimental treatments. Working in pairs within a classroom permitted smaller groups and more interaction. The undergraduates also attended a weekly group seminar in which they planned their activities for both groups.

The literature program involved reading and discussion of children's literature. Thirty-six lessons, three each week, were presented during the twelve weeks of treatment. The books selected for the study were used to plan lessons in the weekly seminar. The sharing and discussion program also consisted of thirty-six lessons taught in twelve weeks. They were also planned at the weekly seminar meetings.

The posttest, The California Achievement Test, Reading, 1970 Edition, Level 1, was administered within ten days after the treatments were concluded. A delayed posttest was administered in May 1972,
five months after the completion of the treatments. Level 1 of the test is appropriate for use in grades one and two. Form A was used in the immediate posttest. Form B was used in the delayed posttest. The test provided subtest scores for comprehension and vocabulary (word skills). Scores on the tests of linguistic maturity and vocabulary were used with the reading scores for correlational analysis.

V. Scope and Limitations

There were several uncontrolled factors in this experiment which might have affected the results. Although the pairs of schools used were randomly assigned to treatments, the schools were not randomly selected from those in the Madison District. The teachers and classes who participated in the programs were not randomly selected either, but were chosen by the building principals.

No attempt was made to control for the intelligence of the child or his previous or concurrent experiences. Except for participation in one of the experimental programs, the classroom teacher's activities were not controlled in any way. No attempt was made to insure that the teachers selected were of comparable effectiveness.

The fact that the experimental programs were administered for only a twelve week period may influence the results. Results might not be apparent unless the programs were continued for a longer period of time.

The undergraduate students who administered the experimental programs were volunteers selected from a group of students recommended by Education 460 and 461 instructors. No attempt was made to
pre-screen the students on the basis of their effectiveness in working with children. Differences in their actual effectiveness may influence the results.

A final limitation might be the nature of the standardized reading test used to measure the effectiveness of the experimental programs. Theoretically, either or both of the programs could have influenced reading achievement by increasing the child's control over syntactic structures and vocabulary. Because of the limited variety of syntactic structures used in standardized reading tests at the primary level, these instruments might not have been sensitive enough to pick up evidence of increased control of language structures.
CHAPTER II

REVIEW OF RELATED LITERATURE

1. Introduction

Since this study is based on the relationship between oral language ability and reading achievement, the review of related literature will begin with an examination of the evidence pertaining to this relationship. A representative sample of traditional views and research studies relating reading achievement to general language ability and vocabulary development will be reviewed briefly. However, the major focus will be on psycholinguistic theories of the reading process and the investigations utilizing that framework which have identified specific aspects of syntactic control and its relationship to reading.

The final portion of the review will deal with suggested strategies for influencing language development and reading. Conflicting authoritative opinions regarding the value of allowing the child greater opportunity for active use of language and verbal interaction with adults or enriching the language environment by reading children's literature aloud will be examined. Experimental evidence which demonstrates the effectiveness of these two approaches in influencing language development or reading will be included where appropriate.
11. The Relationship Between Reading and Oral Language

Traditional Views

Traditionally, the relationship between reading achievement and oral language ability has been described in broad global terms. Hildreth, for example, classified all of the language arts as related skills because they employed "common word symbols." The child's skill in comprehending and using oral language was viewed as one determinant of his readiness for reading. More recently, Hildreth has described reading as a linguistic process in which the child must be able to grasp sentence meanings.

Oral language competence has been identified by Artley as an essential element in reading readiness and a necessary support to reading throughout the elementary school years. The child's facility in oral expression and his ability to organize ideas, according to Artley, place limits on his reading ability. He described the language arts as interrelated by a "common base of meaning and symbolism" which enables each to contribute to the growth of the others.

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25 Ibid.

26 Gertrude Hildreth, "Linguistic Factors in Early Reading Instruction," The Reading Teacher, XVIII, (December 1964), pp. 172-78.


28 A. Sterl Artley, "Research Concerning Interrelationships Among the Language Arts," p. 528.
General agreement exists among reading authorities that oral language ability is a very important aspect of reading readiness. Strickland and Nila Banton Smith both described language facility or the level of language development as the most important factor in reading readiness. Durkin, too, described reading as an extension of the child's earlier oral language skills. The point was often made that the control over oral language considered necessary for success in reading has two aspects. In addition to control over language structures, an extensive vocabulary is also essential for comprehension of written material.

Traditional Research

In an article written in 1953, Artley surveyed the literature and research concerning the interrelationships among the language arts. He summarized the then available knowledge regarding the various interrelationships in a series of generalizations for each and indicated the support for them. Of the generalizations identified, those which are most pertinent to this study are the following:


1. Reading comprehension bears a close relation to the extent of word knowledge. [Hildreth, Hughes, Monroe, Lorge]

2. Complexity of language structure is a prime factor in determining the difficulty of material read. This factor seems to operate independently of vocabulary difficulty. [Monroe, Lorge, Francis Robinson]

3. Achievement in reading is significantly related to the ability to see the relationships among the parts of a sentence. Moreover, the relation between ability to see the relationships among the parts of a sentence and the ability to understand the sentence is even more significant. [Thorndike, Cook, Gibbons, Lorge]

5. The correlations that exist between reading and other language abilities are substantial even though the influence of intelligence is removed. [Frederick Davis, Garrison and Bivens, Hughes]

7. Reading achievement is conditioned by the extent to which one has achieved or achieves growth in general language ability. [Buckingham, Gates, Hildreth, Monroe, Guilfoile, McCarthy, Willard Olson]

Research which indicated the importance of control of language structures and vocabulary for successful comprehension can be traced back to Thorndike's classic study reported in 1917. Thorndike analyzed the errors made by 500 children in grades 5-8 in answering questions about a series of paragraphs which they read. He found an inability to use relational words to fit ideas together, and a failure to assign the correct potency to various sentence elements. In his conclusion, Thorndike likened comprehension to problem solving

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32Artley, "Research Concerning Interrelationships Among the Language Arts," pp. 528-29.
and described it as a task which included all the elements of reasoning. In factor analytic studies of reading comprehension, first reported in the early forties, Davis reached similar conclusions about the component skills which contribute to reading comprehension. Approximately 50% of the unique variance in comprehension ability was accounted for by two components which Davis described as memory for word meanings and reasoning in reading.

Control over language structure has long been recognized as a partial determinant of reading achievement. In 1941, Gibbons investigated the correlation between the ability to see the relationship between the parts of a sentence and achievement in reading and, also, between the ability to see relationships between parts of a sentence and the ability to understand that sentence. The subjects were twenty-five third grade children. Ability to see the relationships between the parts of a sentence was measured using a disarranged phrase test in which the phrases in each of fifteen sentences of varying difficulty and structure were listed in columns in mixed order. The child's task was to rearrange the phrases to form good sentences. Ability to understand the sentences used in the first test were measured using

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34 Frederick B. Davis, "Research in Comprehension in Reading," Reading Research Quarterly, III, (Summer 1968), pp. 499-545.
sentence completion and question tests. A standardized reading test and an intelligence test were also administered. When the effects of intelligence were partialled out, the results indicated a correlation of .89 between the ability to see relationships between parts of a sentence and understanding and a correlation of .72 between that same ability and reading achievement.35

Several other studies have related reading achievement to various general syntactic and semantic factors in language development. Shire, for example, found significant differences in the language of first grade children who were high or low achievers in reading. Differences were noted in average sentence length, number of complete grammatical sentences, number of different words, number of elaborated sentences, and in the number of nouns and conjunctions used.36 Morrison correlated children's language maturity as evidenced by their use of varied types of sentence structures with their scores on a standardized readiness test. She collected language samples during sharing periods and classified utterances as incomplete sentences, simple sentences, sentences with compound subjects or predicates or both, and complex sentences containing at least one main and one subordinate clause. Each utterance was weighted according to its complexity and scores

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were correlated with raw scores on the Lee-Clark Reading Readiness Test. A correlation of .72 was found.\(^{37}\)

Hughes investigated the relationships between reading achievement and multiple language abilities. He examined the correlations between the Iowa Reading Test and Iowa battery subtests of spelling, word meaning, language usage, capitalization, punctuation, sentence sense, and paragraph organization, at the fifth grade level. Significant correlations found included, .61 between reading and word meaning, .67 between reading and language usage, and .60 between reading and sentence sense.\(^{38}\) Martin compared the oral language of first grade children with their reading achievement at the end of grade one. Language samples were collected at the beginning and end of the school year in show and tell situations. Samples were analyzed and the total number of words, the number of different words and the average sentence length were determined for each child in the sample of 100. Number of different words was the only variable which showed a low but positive correlation with reading achievement.\(^{39}\)


A number of studies have focused specifically on the factor of vocabulary control and its relationship to reading achievement. In 1925, Goodenough obtained a correlation of .79 between the ability to understand and explain word meanings and scores on a standardized reading test. Several more recent studies have substantiated the relationship between the two factors. Potts constructed a multiple choice picture vocabulary test and administered it to 200 Infant's School students between the ages of six years and six and one half years. He correlated the scores with those which the children obtained on two reading tests. A correlation of .34 was obtained between vocabulary scores and the scores on the Burt-Vernon Reading Test. The correlation of the vocabulary scores with scores on the Schonell Reading Test was .44. Raulin matched a group of 30 high achievers in reading with a group of low achievers on the basis of sex, age, and I.Q. She elicited an oral language sample from each child using a film strip as a stimulus. She found significant differences between the two groups in the total number of words spoken, number of different words, and number of different words not in Rinsland's list of the 3000 most frequently used words. Svedman used four classes

40Hildreth, "Interrelationships Among the Language Arts," p. 539.

41Eric Potts, "A Factorial Study of the Relationship Between the Child's Vocabulary and His Reading Progress at the Infant's Stage," The British Journal of Educational Psychology, XXX, (February 1960), pp. 84-96.

of sixth grade students to validate a test of semantic sensitivity which required a knowledge of homonyms, multiple meanings, colloquialisms and slang. Since Svedman contended that higher level comprehension skills depend on knowledge of various word meanings and the ability to select the particular meaning required by a specific context, she correlated her test results with scores on the California Reading Test and the Gates-MacGinitie Survey. In both instances, the obtained correlation was .72.43

Summary. Traditional theory and research indicated the importance of facility in oral language as a partial determinant of reading achievement. Language development, in terms of control over varied sentence structures and vocabulary, has been acknowledged as perhaps the most important factor in readiness for reading. However, in general, this traditional research has failed to identify specific aspects of language maturity which influenced reading achievement. Language maturity has been most often defined in terms of categories such as incomplete sentences, simple sentences, complex sentences, average sentence length and sentence sense, and emphasis has been on quantitative and normative descriptions of children's language.

More recent research based on psycholinguistic theories of language acquisition and reading has succeeded in specifying aspects

of linguistic maturity which contribute to success in reading. Those theories and research which clarify the relationship between reading and language will be discussed next.

**Psycholinguistic Theories**

Psycholinguistic theories of reading focus on the reading act as a cognitive as well as a language process. Utilizing such a framework, psycholinguistic theory has the potential to clarify more precisely the relationship between reading and language. Psycholinguistic descriptions of the reading process generally characterize it not as a precise, sequential process but, rather, as a process which involves prediction based on the reader's stored knowledge of language. The concepts of deep and surface language structure first introduced by Transformational grammarians are central to most psycholinguistic descriptions of reading.

Ruddell defined reading as "... a complex psycholinguistic behavior which consists of decoding written language units, processing the resulting language counterparts through structural and semantic dimensions, and interpreting the deep structure data relative to an individual's established objectives." In his view, the ability to interpret meaning at the deep structure level is essential for comprehension.

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45 ibid., p. 70.
Wardhaugh, too, contended that comprehension of a sentence is not possible unless the reader can relate the deep structure, or the relationships between the basic elements of the sentence, to the surface structure, or the graphic representation of the sentence. The consistency of the semantic reading which the reader projects on the individual words is also a factor in the success of comprehension.46

Simons has critically reviewed past approaches to research which sought to determine the nature of the comprehension process. He claimed that the seven major approaches used in past research, i.e., skills, measurement, factor analysis, correlation, readability, introspection, and model building, have not added much to knowledge of the nature of the process because they were not based in theory. Simons suggested that future research should be based on linguistic theory and psycholinguistic research. He proposed that an examination of the reader's ability to recover the deep structure of sentences might be a productive research technique.47

Such interpretations of the reading process illustrate the psycholinguistic contention that comprehension is not merely a "... set of mental processes which can be defined independent of


Comprehension can only be adequately defined as a response made to specific features of the language system.

One of the most comprehensive explanations of the psycholinguistic nature of the reading process has evolved from the theorizing and research of Goodman and his associates. Goodman characterized reading as a "psycholinguistic guessing game" in which the reader selects from the available graphic, syntactic, and semantic cues in order to predict or anticipate the text. The predictions made are confirmed, rejected, or modified as reading continues. The redundancy and the sequential constraints which exist in language make it possible for the reader to use a selection-prediction strategy rather than a technique which requires precise identification of letters and words. The reader's stored knowledge of language structure is an aid in his efforts to predict. Awareness of the devices in language which signal meaning, inflectional changes, patterns of word order, and function words - should also increase the efficiency of the prediction strategies. Syntactic context is essential for the development and exercise of effective prediction strategies.

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49 Ibid.


Goodman described decoding as a process which requires moving from code to meaning. Since he characterized oral language as a code, Goodman explained the reader's task as one of determining underlying grammatical structure and assigning meaning. Oral reading would require the additional task of encoding from the deep structure. Through analysis of miscues, mistakes made in oral reading, Goodman expects to refine knowledge about how the reader uses the language structure he possesses for processing. Goodman will modify his construct of the reading process, if necessary, on the basis of his research.

Perhaps the most detailed psycholinguistic analysis of the reading process has been contributed by Frank Smith who contends that the reading process is one of reducing uncertainty with regard to letters, words and meanings. He sees great similarity between the reading process and the process by which the child acquired his language. In reading, the child uses the same "rule discovery" skills which he used in the language acquisition process. He uses them in reading to discover the distinctive features which enable him to reduce his


54 Athey, "Language Models and Reading," p. 62.

uncertainty about the printed text. Smith further contends that, to a large extent, the child must discover these distinctive features by himself. The child makes use of the syntactic and semantic redundancy of the language to aid him in the process. Smith views all reading as a process of categorization — assigning letters, words, and meanings to categories on the basis of their distinctive features. Reading is not a predominantly visual process. The brain makes a greater contribution than the eye. It contains feature lists for letters, words and meanings. The eye cannot take in information fast enough to allow normal reading speed unless the brain contributes information and directs the eye to the most productive areas of the text. Perception involves more than the visual stimulus. It also involves prediction — filling in the gaps on the basis of prior expectations. Information from the page is transferred from the sensory store to the short term memory. This creates a bottleneck because the short term memory has a capacity of only four or five discrete items. Because of this, the larger the units that can be transferred, the more efficient the reader. The fluent reader does not normally identify individual letters or words. He goes straight to meaning. The reduction of uncertainty regarding letter, word, and meaning cannot occur simultaneously because the same channels must be utilized.

Comprehension, as defined by Smith, is the reduction of uncertainty regarding meaning. The reader's stored knowledge about language reduces the amount of visual information he needs to read. Meaning is contained in the deep structure. Syntax is the bridge between the surface structure and meaning. Word and meaning identification can be
immediate or mediated through letters or words. The beginning reader, until he learns where to look for the distinctive features, depends too much on the graphic representations and surface structure and is not as efficient as he might be.\textsuperscript{56}

Research Utilizing a Psycholinguistic Framework

Recent research based on psycholinguistic theories of language acquisition and reading differs from earlier studies in that it 1) supports the importance of syntactic context for most efficient comprehension, 2) suggests a new interpretation of the significance of oral reading errors, 3) indicates that the match between patterns in the child's language and those in his reading material is a significant factor in successful comprehension, and 4) explores the relationship between control over specific aspects of language structure and reading readiness or achievement. Major methodological differences between these studies and earlier traditional research include the use of measures of language maturity such as the T-unit which more accurately reflect syntactic complexity,\textsuperscript{57} the concepts of deep and surface structure, and identification and determination of the frequency of particular patterns in the language of children at various ages or in their reading material.

\textsuperscript{56}Smith, Understanding Reading - A Psycholinguistic Analysis of Reading and Learning to Read.

\textsuperscript{57}Kellog W. Hunt in Grammatical Structures Written at Three Grade Levels, Research Report No. 3, (Champaign, Illinois, N.C.T.E., 1965), defines the T-unit or minimal terminable unit as one main clause plus the subordinate clauses attached to or embedded within it.
The studies reported by Loban and Strickland in the early 1960's were, in many ways, transitions between the traditional research on reading and language and more recent investigations based in psycholinguistic theories. Even though the major psycholinguistic theories had not yet been rigorously formulated, the analytical tools and procedures employed by Loban and Strickland were quite similar to some used in recent investigations based on psycholinguistic theory. Loban, in his longitudinal study of children's language in kindergarten through grade six, examined the relationship between reading achievement and the child's effectiveness in using oral language. Characteristics of the subgroup rated high in oral language ability included greater dexterity of substitution within patterns, use of a greater number of clauses and multiples as movable elements, more complicated constructions as subjects, and more expression of tentativeness. Loban found that students who were proficient in oral language were also superior in reading achievement. Strickland studied the quality of the oral language of 575 children in grades one through six and compared it with reading ability at grades two and six. At second grade level, she found that children who scored low in reading ability made more use of simple language patterns and fixed slots, while children who scored high in reading ability used common patterns in extended and elaborated forms. At the sixth grade level, children who ranked high

58 Loban, The Language of Elementary School Children, p. 87.
in reading achievement made significantly greater use of moveables and elements of subordination and elaboration than children who ranked low.\textsuperscript{59}

The significance of oral reading errors. Goodman studied the oral reading of 100 children in grades one through three. Each child read words from an isolated list and then read the story on which his word list was based. The results showed that almost all of the subjects in all three grades could read correctly in story context at least 50\% of the words which they had failed to recognize on the lists. Goodman explained this result as a function of the additional cues which are available in the flow of language in the story but not in the lists.\textsuperscript{60}

In a second study, Burke and Goodman examined the miscues, deviations between actual and expected oral reading, of a fourth grade child. In reading a story with a graded difficulty approximately one year above his tested achievement level, the boy made 179 miscues. He made no attempt to correct 75\% of the miscues, probably because the syntax of 82\% of his miscues was acceptable in the passages he was reading, and 61\% of his miscues were semantically acceptable. The boy did correct or make an attempt to correct 41\% of the miscues which

\textsuperscript{59}Strickland, \textit{The Language of Elementary School Children}.

were totally unacceptable. Burke and Goodman drew several conclusions regarding the significance of oral reading errors from analysis of this child's reading. They did not find a close relationship between the number of miscues made and success in comprehension. Many of the miscues did not affect meaning and those which did were more likely to be corrected. 61 Weber's analysis of the oral reading errors of first grade children produced similar results. Substitutions accounted for 80% of the children's errors. More than 90% of the errors were semantically acceptable in the sentence and most errors were also syntactically acceptable. 62

**Control over syntactic structures and reading achievement.** The largest group of psycholinguistically based studies investigated some facet of the relationship between awareness of or control over specific aspects of language structure and reading readiness or achievement. Ruddell compared first grade children's control over certain items of syntax early in the school year with their sentence meaning comprehension, paragraph meaning comprehension, and vocabulary achievement at the end of first grade. His subjects were 160 randomly selected students of varying socio-economic status. A modification of


the Test of Syntax developed by Fraser, Brown, and Bellugi was administered at the beginning of the school year and the children were scored on their ability to produce the grammatical contrasts included. Nine months later, a sentence comprehension test developed by the investigator, and both the paragraph meaning and vocabulary subtests of the Stanford Achievement Test were administered. Correlations of these scores with scores on the Test of Syntax were significant and were .68, .41, and .67 respectively.\(^6^3\)

Several studies have attempted to assess the relationship between performance on Berko's test of ability to inflect or a modification of that test and reading achievement. Brittain administered a revision of Berko's test and word recognition, word attack, and comprehension subtests of the Primary Reading Profile to first and second grade students. Correlations were computed between the composite score on the reading test and the score on the test of ability to inflect. With intelligence controlled, significant correlations were found. The correlations between the two measures were .41 at the first grade level and .71 at the second grade level.\(^6^4\) Cordes studied a random sample of 351 first grade boys to determine the value of various measures as

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\(^6^4\)Brittain, "Inflectional Performance and Early Reading Achievement."
predictors of readiness. Readiness measures used included chronological age, performance on Berko's test, intelligence, and the mean length of the five longest remarks and the total number of words spoken in response to a picture stimulus. Determination of the most effective predictors involved comparison of the readiness measures with reading achievement at the end of grade one as measured by a standardized reading test. Although age and intelligence were found to be the best predictors, the group which achieved the highest reading scores was also most successful on the Berko test.65

Other aspects of syntax have also been investigated to determine their value as predictors of reading achievement. Bougere attempted to assess the value of seven linguistic predictors as compared with that of the Metropolitan Readiness Test in predicting reading achievement at the end of grade one. Her subjects were 60 first grade students from a range of socio-economic levels. The reading achievement measures used were the Gray Oral Reading Test and reading subtests of the Stanford Achievement Test. Oral language samples were gathered in individual interview situations in which the child responded to three visual stimuli. The seven linguistic measures applied to the language samples were determination of number of T-units, mean length of T-unit, ratio of sentence combining transformations to T-units, ratio

of subordinate clause length to T-unit length, percentage of words at frequency levels 1 and 2 on the Thorndike-Lorge List of 30,000 Words, percentage of words at levels 3-5 on that same list, and type token ratio. Results indicated that the Metropolitan Readiness Test was a better predictor of achievement than the linguistic measures. However, addition of a measure of vocabulary range and diversity to the Metropolitan added significantly to its value in predicting word recognition achievement. Addition of a measure of syntactic complexity, mean length of T-unit, added significantly to the value of the Metropolitan in predicting comprehension achievement. Addition of all seven linguistic measures added significantly to the value of the Metropolitan in predicting both word recognition and comprehension.66 Walker constructed a test of syntax to measure aspects of the language development of children in kindergarten and grade one. He also compared the test to the Metropolitan Readiness Test as a predictor of reading achievement. Results indicated that the Metropolitan was the best predictor of reading achievement in kindergarten and the test of syntax was the best predictor of reading achievement in first grade. Syntax combined with the Metropolitan significantly improved the prediction of achievement.67

66 Marguerite Bougere, "Selected Factors in Oral Language Related to First Grade Reading Achievement."

Sauer studied fourth grade children's knowledge of four basic sentence patterns at three levels of complexity. The patterns were among those first identified by Strickland. The test of grammatical structure which Sauer developed varied the level of complexity by using words, clauses, and phrases to fill sentence slots. The test was composed of nonsense words and the child's task was to translate them into English sentences. The test of pattern awareness was correlated with reading comprehension and the resulting coefficient was .64. Knowledge of certain patterns makes more of a contribution to reading comprehension than knowledge of other patterns tested.

Nurss investigated the effect of sentences of varying structural complexity on the oral reading, silent reading, and listening comprehension of second grade children. Structural complexity was defined in three ways, according to Yngve's Depth Hypothesis, Allen's Sector Analysis, and the traditional structural organization of simple, compound, and complex sentences. The test developed consisted of 36 one sentence stories with controlled length and vocabulary. In half of the sentences, complexity was achieved through use of one of the measures of structural depth, and in the other half, it was achieved according to traditional definitions of structural organization. The sentences were randomly rotated through three modes of presentation so

that each child tested read 12 sentences aloud, read 12 silently and listened as the other 12 were read to him. Comprehension was measured by a picture selection task. From a group of three pictures, the child selected the picture which he felt correctly depicted the situation described in each sentence. Correlations of the picture comprehension test scores with comprehension subtest scores on the Gates-MacGinitie Reading Test ranged from .57-.61. The children's errors in oral reading were also analyzed. Results indicated that structural depth did affect comprehension. Other analyses showed that listening comprehension was easier than either oral or silent reading comprehension and that there was an interaction effect between level of structural complexity and mode of presentation. When subjects read orally or silently, complex structures were more difficult to comprehend. However, when subjects listened to sentences read aloud, simpler structures seemed more difficult to comprehend.\(^{69}\)

Simons contended that comprehension involved recovery of the deep structure or logical subject and object of sentences. To test this hypothesis, he constructed a deep structure recovery test and administered it to 87 fifth grade students. The test consisted of 25 three sentence items in which the subject was to select the one

sentence that was not a paraphrase of the other two. Correlation of scores on this test with scores on a Cloze comprehension test was .73.70

Ruddell reported the results of a longitudinal study in grades 1-3 in which he compared the effects of four programs of reading instruction with varying amounts of emphasis on language structure. One program controlled regularity of grapheme-phoneme correspondences, a second did not. The other two programs added a supplement that emphasized the meaning relationships between the key structural elements in and across sentences to the two programs previously described. The program which controlled grapheme-phoneme correspondences and supplemented with emphasis on language structure produced significantly greater sentence and paragraph meaning comprehension at the third grade level.71

The effect of pattern match between oral language and reading materials on comprehension. Several studies have attempted to gather evidence which would support Strickland's suggestions that the match between patterns in the child's oral language and those in his reading material may significantly affect comprehension.72 Ruddell used

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72Strickland, The Language of Children.
patterns identified by Strickland as frequent and infrequent in the oral language of fourth grade children to construct a series of reading passages in which structure, vocabulary, sentence length, content, and passage length were controlled. Passages were written with either frequent or infrequent patterns. Cloze comprehension tests administered to 131 fourth grade students indicated that they were significantly more successful in comprehending passages written with patterns frequent in their oral language.\(^7\) Tatham studied the same problem using both second and fourth graders as subjects. Patterns used in her tests were drawn from Strickland's study. One test consisted of sentences written with frequent patterns, and the other of sentences written with patterns infrequent in the oral language of children at these grade levels. The children were required to read each sentence and select one picture, from a group of three, which best represented the content of the sentence. Results indicated that both second and fourth graders were significantly more successful in comprehending sentences written with patterns frequent in their oral language.\(^7\)

Semantic acquisition and reading achievement. Recently, attention has been given to the influence of semantic acquisition on


reading comprehension. The focus has been on understanding of word classes such as connectives and conjunctions which are essential for correct interpretation of the relationships between parts of a sentence. Robertson studied intermediate grade children's understanding of connectives. Her subjects were 402 children in grades 4-6. In order to determine which connectives were frequently used at these grade levels, Robertson analyzed three basal series used by children in the sample to identify connectives and sentence structures in which they were used. Results of the analysis identified 17 connectives and indicated that approximately 1/3 of the sentences in the basals examined made use of connectives. The investigator constructed a connective reading test which used 17 different connectives in 150 items. Each item consisted of a sentence up to and including the connective and four choices from which the subjects could select to complete the sentence. Only one of the four choices used the connective correctly and didn't contain a grammatical error, or fail to make sense with the context of the sentence. Other tests administered were a written connectives test in which the subjects supplied the connective which had been deleted from a sentence, and S.T.E.P. tests of reading, writing, and listening achievement. The results indicated that the total group understood 67% of the connectives tested, and that the level of understanding rose each year with respective levels of understanding being 57%, 66%, and 75%. Significant relationships were
found, also, between understanding of connectives and sex, mental age, reading, listening and writing ability.\textsuperscript{75}

Stoodt investigated the relationship between understanding of conjunctions and comprehension at the fourth grade level. She constructed two tests to measure understanding of selected conjunctions. One was a multiple choice test and the other was a Cloze test which contained passages written with different percentages of conjunctions. The Stanford Achievement Test - Reading and the Pinter Mental Ability Test were also administered. Results indicated a significant correlation of .24 between scores on the comprehension of conjunctions test and the standardized reading test. Scores on the Cloze tests indicated that the passages written with a high percentage of conjunctions were significantly more difficult to comprehend. The most difficult conjunctions were when, so, but, or, where, while, how, that, and if. Stoodt speculated that the reason for the difficulty may be that most of these conjunctions involve either incorporation, or contrasting ideas. The former involves seeing the relation of two entities and the latter requires holding several ideas in mind at the same time.\textsuperscript{76}

Summary. Psycholinguistic theories and research have attempted to specify and clarify the relation between reading and language. A


result has been a new conception of reading as a selective prediction process based on the reader's stored syntactic and semantic knowledge of language and his ability to assign the correct deep structure to the surface representations on the printed page. Research has identified specific language competencies such as control over specific items of syntax or semantics which are related to reading achievement, supported the importance of context and familiar language patterns as essentials for maximal success in comprehension, and suggested a different interpretation of children's errors in oral reading.

III. Strategies for Influencing Language Development and/or Reading

The final area of related literature pertinent to this investigation concerns the effectiveness of two specific strategies in increasing language maturity and, through such development, positively influencing reading achievement. Consideration will be given to the opinions of recognized authorities in the fields of language and reading regarding the value of allowing the child more opportunity for active language use and interaction, enriching the linguistic environment by reading children's literature aloud, or using a combined strategy. Finally, research evidence which supports the value of either or both strategies will be reviewed.
The Views of Various Authorities

Several authorities have stressed the importance of both strategies as techniques for influencing language development. Loban for example, suggested that teachers should read aloud more often and that children need frequent opportunities to verbalize in situations where they feel the need to successfully communicate. Cazden has advocated richness of verbal stimulation as a critical element in language acquisition. She bases this conclusion on the results of her research which indicated that expatiation, or enlarging upon an utterance with a related idea, was more effective in increasing language maturity than expansion of utterances into grammatical sentences. She also suggested that the child needs opportunities for conversation with adults in the context of activities such as story reading. Dawson, too, suggested that attaining the level of language development necessary for success in reading can be aided by giving children opportunities to talk with their peers and also by exposing them to good literature.


Reading to children, in the opinion of many experts, has several values. Literature read aloud presents the child with word in meaningful context and is recognized as a means of increasing vocabulary.\(^8\) In addition to enriching the child's vocabulary, literature can also develop in the child a sensitivity to language.\(^8\) Markwardt has suggested that the language patterns which the child has acquired prior to age six may interfere with his learning to read unless he has been frequently read to and is therefore accustomed to patterns other than those in conversation.\(^8\)

The child's ability to understand and use oral language is widely recognized as a basic prerequisite for success in reading. The necessity for providing many opportunities for the child to develop this facility in oral expression has often been stressed.\(^8\)

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suggested that children only develop the ability to read complicated sentences by either speaking them or hearing them spoken by someone else. He also remarked that "patterns of sound linked to thought" transfer more easily to reading than those presented in isolated drill. 84

The importance of the child's active use of language was stressed by Dixon in his summary of the prevalent viewpoints expressed by participants at the Anglo-American Dartmouth Conference. He contended that language is learned in actual operation and not by what he called "dummy runs." 85 The fact that conversation provides the child with immediate feedback concerning the effectiveness of his language was also stressed. 86 Moffett reflected this same attitude about the importance of the child's active use of language. He would place the emphasis on active language output and response to the language of others. He suggested small group interaction as a technique which would provide enough opportunity for language use and sufficient feedback. Moffett considered expatiation, as defined by Cazden, to be the goal of effective discussion. Ideally, the student would eventually learn to pose questions which required elaboration.


86Ibid., pp. 25-26.
clarification, and qualification by following the example set by the teacher. Learning to read, according to Moffett, is largely dependent on the child's growth in oral language.87

Wilkinson identified the interaction between child and adult as the most essential factor for linguistic growth. He characterized the adult's role as one of "stretching" the child's language and cited early research evidence such as that provided by Smith and McCarthy which indicated that children used longer utterances and more advanced language patterns when talking with adults.88

Research Related to Strategies for Language Stimulation

Combined strategies. There are several studies which deal with both reading aloud to children and providing them with increased opportunities for active language use and verbal interaction. Unfortunately, in such cases, it is not possible to isolate the effect of either variable. Cazden, for example, compared the effects of expanding the speech of children between the ages of 28 and 38 months with the effects of responding to the child's utterances with expatiations. Her subjects were twelve Negro children who spent 8-10 hours a day in a day care center where they received little individual attention from adults. Four children received each treatment and

87Moffett, A Student-Centered Language Arts Curriculum, pp. 11-31, 45-65.

another four served as a no treatment control. Each child interacted with a tutor for 40 minutes a day for twelve weeks. The expatiation treatment included the reading of a story each day. Results indicated that children who received the expatiation treatment gained more on all six measures of language development which she used.\textsuperscript{89}

Lissitz and Cohen conducted a language development program which involved kindergarten and first grade children in three schools. They attempted to teach auditory discrimination skills and to provide experiences in language comprehension and expression. Classroom teachers worked with children for 30 minutes twice each week. Activities included story telling, reading stories and poetry aloud, creative drama, and sharing time. After one year, posttesting with an instrument devised by the investigators revealed significant differences in favor of the experimental group. Eighty percent of the test items measured auditory discrimination or articulation and only 20% measured achievement in language comprehension or expression.\textsuperscript{90}

Carter matched 32 pairs of Negro first grade children on the basis of language age, mental age, chronological age, sex and social class. One member of each pair was assigned to the experimental group and the other to the control group. The experimental treatment involved working


with children for 45-50 minutes a day for ten weeks. During this time, the first 40 lessons from The Peabody Language Development Kit were used and the children were also read a story each day. Results of the immediate posttest indicated that the experimental program did produce significant differences in favor of the experimental group on measures of language age and mental age, but not on measures of reading achievement. Delayed posttests administered 20 months later indicated that the experimental group maintained their superiority on measures of language and mental age and also obtained significantly greater reading achievement scores than the control group.91

The importance of being read to often and of having frequent opportunities for conversation with adults is indicated by Milner's investigation. She identified first grade children who were high and low achievers in reading. Through interviews with these children and their parents, she determined that the home environment of superior readers was characterized by certain features. Superior readers came from a highly verbal environment in which there were more books available, they were often read to, and they had more opportunity for conversation with their parents.92


Emphasis on active language use. Experimental evidence to support the effectiveness of providing increased opportunities for active language use or interaction with adults as techniques for increasing language development or reading is meager. Opportunities for increased verbalization or interaction were a part of the treatment in the studies of Cazden, Lissitz and Cohen, and Carter which have been reviewed. But, in all three cases, it is not possible to isolate the effects of active language use and interaction because the confounding factor of reading literature aloud was present in all cases.

O'Donnell and Raymond described a conceptual language approach to developing reading readiness in kindergarten and compared it to a basal reader workbook approach. The experimental program was conducted for 20 minutes daily and consisted of a series of informal experiences designed to foster concept attainment and language development. The content of the program involved presenting major concepts from the fields of science, economics, and geography in the form of experiences which could be understood by kindergarten children. These experiences were then used as the basis for further language experiences. Post-testing revealed that the experimental group scored significantly higher on The Metropolitan Readiness Test and that the experimental program was especially effective for children of below average intelligence. The investigators attribute the effectiveness of their program to the fact that it provided the children opportunities to use language which was accepted in small group or individual interactions.
However, the investigators do mention the use of stories read to the children as one means of presenting concepts. From their report of the research, there is no way to determine the frequency of story reading or its possible confounding effect.93

Riehm attempted to determine effects of increasing the verbal interaction between first grade children and their teachers on the children's language development. Six children were randomly selected from each of nine first grade classrooms located in three schools in disadvantaged areas. Three children from each room were assigned to the experimental treatment and three to the control group. The children in the experimental group participated in conversations with their teacher which focused on their experiences and interests for 20 minutes each day for a period of six months. Pretest and posttest data were gathered from one hour audio tapes of the experimental and control groups in the classroom setting. Riehm analyzed the language samples using selected variables first identified by Loban. He compared the average number of words per communication unit, number of communication units, total number of words, language-maze ratio, and type-token ratio. Analysis of this data did not indicate significant differences between the experimental group and the control group.94


Emphasis on reading to children. There is a greater amount of evidence available that reading to children can positively influence their language development and through it their reading achievement. The majority of these investigations have been conducted using a population of disadvantaged children, some of whom spoke a non-standard dialect or were learning English as a second language. Cullinan, Jaggar, and Strickland, for example, worked with 500 black children in kindergarten through grade three who spoke a non-standard dialect. Their sample was drawn from 20 classrooms in four New York City schools. The experimental group was exposed to daily reading of literature followed by a directed oral language activity such as puppetry, creative drama, story telling, discussion, role playing, choral speaking, and oral repetition games. The aim of these oral language activities was to give the children the opportunity to use standard English forms. The control group was read to from the same books and participated in follow-up activities which stressed concept development and enrichment but not directed oral language activities. Pretest and posttest scores on the Education Study Center Bidialectal Proficiency Task were analyzed to determine the effect of the two treatments on the children's ability to produce both standard English and non-standard dialect structures. Gain scores on standard structures were statistically significant in favor of the experimental group at the kindergarten level and for the total group. The experimental group exhibited greater gain scores at all grade levels. Analysis of changes in ability to reproduce non-standard structures indicated that
even though the children had increased their facility with standard structures, they had not lost facility in their dialect. Strickland reported the results of these same programs at the kindergarten level with regard to their effects on reading readiness as well as language expansion. The effects on language have been reported above. Analysis of the results of the New York City Prereading Assessment indicated that the experimental treatment did not significantly affect reading readiness, as defined by that instrument.

Bailey assessed the effectiveness of a library resource program in improving language abilities of disadvantaged first grade children. Twenty-five children from a school in a low socio-economic area were selected to participate in the experimental program and another 25 were selected as a control group. In addition, 25 children from a higher socio-economic area school were selected as a second control group. The activities involved in the library resource program utilized children's books and story telling. The program was administered for an hour each day for a twelve week period. The Illinois Test of Psycholinguistic Abilities was administered as a pretest and posttest measure. Results indicated that the experimental group

\[95\text{Bernice E. Cullinan, Angela Jaggar, and Dorothy Strickland, Expanding Language Power of Black Children Who Speak a Non-Standard Dialect, mimeographed abstract, New York University, May 1971.}\]

scored significantly higher than the disadvantaged control group on the visual decoding, motor encoding, and vocal encoding subtests and the total battery. The experimental group also scored significantly higher than the non-disadvantaged control group on the vocal encoding subtest.97

McDonald conducted a literature program designed to stimulate the language abilities of Spanish speaking children in prekindergarten through grade three. The experimental and control groups each contained 60 children. The literature program made use of picture storybooks, songs and story telling. The investigator initiated the experimental program to enhance motivation to read, listening skills, vocabulary development, concept development and syntactic maturity. Evaluation consisted of teacher observations of each child's attention span, and language attitudes, skills, and abilities during the first and last weeks of the program and also examination of scores on the *Peabody* and *Watts-Loban* vocabulary tests. Analysis of the data indicated that both the experimental and control groups made significant gains with greater gains for the experimental group.98

At least three studies have provided evidence that a program of reading literature aloud to elementary school children is an effective

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method of increasing their reading achievement. Porter, for example, studied the effects of such a program on the reading achievement and interest in reading of students in grades 4-6. The experimental and control groups consisted of children from 42 classrooms in six inner city schools. Pupils in the 21 experimental group classrooms were read to twice each week by high school juniors who had received special training in using children's literature effectively with intermediate grade students. At the conclusion of the twenty week program, pre and posttest data on reading achievement and attitude toward reading were analyzed. Reading scores from the California Comprehensive Tests of Basic Skills revealed that the literature program did increase reading achievement and that more significant differences in favor of the experimental group were found in the fourth grade than in either of the other grades. Greater differences were noted in comprehension scores and total reading scores than in vocabulary scores. Sirotta examined the effects of a program of daily oral reading by classroom teachers on the reading achievement and amount of voluntary reading done by fifth grade pupils. Comparison of pre and posttest data for the experimental group and a control group indicated increases in both reading ability and amount of voluntary reading for students in the experimental group.


The most direct evidence that a regular program of reading aloud is an effective method of increasing the reading achievement of primary grade children is provided by Cohen's study. She proposed that such a program would increase motivation to read and positively influence the vocabulary achievement and verbal readiness of disadvantaged second grade children. Her subjects were 20 second grade classes from 7 Special Service Schools in New York City. Such schools are characterized by a high percentage of minority group students, a student population drawn from low socio-economic areas, and extensive academic retardation. The literature program was conducted by the classroom teachers for a period of one year. The teachers were provided with a collection of 50 books which had been selected on the basis of conceptual appropriateness, and plot complexity and length appropriate for the student's level of maturity. There were no restrictions placed on the complexity of sentences or vocabulary except that they be "intrinsically related to the theme and character of the story." The teachers read every day and conducted follow-up activities suggested in a manual provided by the investigator. These activities included discussion, drama, and, in addition, activities which did not involve oral language responses. Pre and posttest data were provided by the Metropolitan Reading Test and a free association

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vocabulary test which required the student to write as many words as he could think of in 20 minutes without regard to spelling. From the vocabulary test, lists of the total number of different words for the experimental and control groups were compiled. These words were compared with Rinsland's list of frequencies of words used by children in their free compositions. Cohen assigned quality ratings to the words obtained with less frequent words on Rinsland's list being assigned higher quality ratings. Results showed that the experimental group achieved significantly higher scores than the control group in vocabulary, word knowledge, comprehension, and quality of vocabulary. Since classes which participated in the experiment were homogeneously grouped, scores from the three lowest classes in the experimental and control groups were compared. This analysis also indicated significant differences in word knowledge, comprehension, and quality of vocabulary in favor of the experimental group.102

A range of expert opinion attests to the value of two strategies for influencing language development and reading achievement. Both reading to children and providing them with increased opportunities to use language and interact with adults are recognized as effective techniques for building the language competence necessary for success in reading. Experimental evidence confirms the effectiveness of these

two strategies. Unfortunately, in several studies which incorporated both strategies it is impossible to isolate the effects of either factor. There is little experimental evidence to support the effectiveness of a strategy which emphasizes increased opportunities for language use and verbal interaction. More positive evidence exists to support the effectiveness of reading aloud to children as a technique to increase both language abilities and achievement in reading.

IV. Summary

Language development has long been recognized as an important factor in readiness for reading. Traditional theory and research, in general, described the necessary language competence in global terms and failed to identify specific aspects of syntactic and semantic maturity which contributed to reading achievement.

More recent psycholinguistic theories have attempted to clarify the relationship between reading and language. Psycholinguistic theories of reading characterize it as a process of prediction based on the reader's stored knowledge of language. The reader's syntactic and semantic knowledge enable him to assign the correct deep structure to surface representations on the printed page. Research based in psycholinguistic theories has identified specific language competencies which are related to reading achievement. These include control over specific sentence patterns and inflections. Such research has also indicated the importance of familiarity with the patterns in reading.
materials and the importance of context for maximal success in comprehension.

The search for effective strategies to influence language development has produced a range of opinion and evidence to support the use of two particular strategies. Both reading to children and providing them with increased opportunities for active language use and adult-child interaction can positively influence language maturity and reading achievement. Several studies have incorporated both strategies and make it difficult to determine the effects of each of the strategies. In studies where an attempt has been made to examine the effectiveness of a single strategy, there is a growing amount of evidence which supports the effectiveness of reading aloud to children as a method of increasing language maturity and reading achievement.
CHAPTER III

PROCEDURES

1. Introduction

This investigation was an attempt to compare the effects of two kinds of adult stimulation of child language on the reading achievement of first and second grade children. A program of rich linguistic input through reading aloud and discussing children's literature was compared with a program emphasizing child verbal output through sharing and discussion which provided the children with increased opportunities for active language use under the guidance of an adult. This study also examined the relationship between word recognition scores, comprehension scores, and total reading achievement and measures of vocabulary and language maturity obtained from a companion study.

The two experimental programs were chosen because they exemplify different emphases often recommended as effective strategies for influencing language development and reading achievement. If, as psycholinguists contend, the crucial factor in language acquisition is the language data which the child processes from his environment, then, enriching the environment with varied input through reading
children's literature should be more effective. If, on the other hand, the crucial factors which affect language maturity are the opportunities available for active language use and verbal interaction; then, the program of output through sharing and discussion should be more effective.

The available evidence that a child's success in reading is related to his language maturity or control over language structures and vocabulary supports the expectation that children who score high on the measure of reading achievement should also obtain high scores on the measures of language maturity and vocabulary.

II. Selection and Description of the Sample

With the cooperation of local administrators and a county reading consultant, four schools in the Madison Local School District, Franklin County, Ohio, were selected to participate in the investigation. The principal of each school identified one first and one second grade class to participate in the experiment. Since a posttest only-control group design was used in this investigation, several attempts were made to insure pretreatment equivalence of groups. First, data on parental occupations was gathered from the cumulative records of children in the classes identified to participate. The occupations were classified according to the nine category scale used in The Dictionary of Occupational Titles. ¹⁰³

Based on this classification, schools were paired to minimize socio-economic differences. Pairs of schools were then randomly assigned to treatments. Principals of the two schools assigned to the sharing treatment were each asked to identify an additional class to participate in the experiment as a no treatment control group. Data on parental occupation was also gathered from the cumulative records of the additional first and second grade class which were assigned to the no treatment control group. The occupational classifications for the three groups were arranged in an 8 X 3 contingency table, Table 1, and a chi square was computed to determine if the three groups were significantly different in socio-economic status as indicated by parental occupation.
TABLE 1
PARENTAL OCCUPATIONS FOR THE THREE TREATMENT GROUPS
CATEGORIZED ACCORDING TO
THE DICTIONARY OF OCCUPATIONAL TITLES

<table>
<thead>
<tr>
<th>Program</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature</td>
<td>41</td>
<td>18</td>
<td>9</td>
<td>9</td>
<td>20</td>
<td>14</td>
<td>26</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>37</td>
<td>20</td>
<td>10</td>
<td>8</td>
<td>24</td>
<td>13</td>
<td>24</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>18</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

\[X^2 = 9.8031\]  \[df = 14\]  \[X^2 (0.05) = 23.685\]

The chi square value computed for the contingency table was 9.8031. With 14 degrees of freedom, a chi square value of 23.685 would be necessary to indicate differences significant at the .05 level. Results of this analysis, therefore, indicate that there were no significant differences in socio-economic status, defined in terms of parental occupation, between the three treatment groups.

As an additional indication of pretreatment equivalence of groups, existing reading achievement scores for second grade children were analyzed using one way analysis of variance. The scores were obtained from cumulative records and were total raw scores on the test designed to follow *Fun With Our Friends*, part of the Scott Foresman series of basal readers. The test had been administered in the Spring of 1971. The means and standard deviation for the three groups are listed in Table 2, and the summary table for the analysis of variance is presented in Table 3.
As indicated in the table, the F ratio is not significant and therefore, it can be assumed that there were no significant differences in reading achievement between treatment groups, at the second grade level, as measured by existing reading scores.

The final sample consisted of 269 children, 123 first graders and 146 second graders. They were distributed as follows: two first grade classes in the literature program (N = 26 and 25), two first grade classes in the sharing and discussion program (N = 25 and 23), and one first grade class as a no treatment control group (N = 24);
two second grade classes in the literature program \( (N = 29 \text{ and } 29) \),
two second grade classes in the sharing and discussion program
\( (N = 29 \text{ and } 28) \), and one second grade class as a no treatment control
group \( (N = 31) \).

III. Experimental Programs
General Procedures and Personnel

Each of the experimental programs was administered for a period
of 12 weeks during the Fall of 1971. Both programs involved 20
minute sessions three times each week. Eight undergraduate students
from the department of Early and Middle Childhood Education at the
Ohio State University administered both experimental programs. These
students were volunteers from a group recommended by instructors in
two Education methods courses during Spring Quarter 1971. Each of
the eight students elected to work with either first or second grade
classes. Students worked in pairs within a classroom, and each pair
administered both treatments in an attempt to control for experimenter
effect. Assigning two students to work in a classroom permitted them
to work with smaller groups and encouraged interaction.

The students met with the investigator each week for a 2-3 hour
seminar. These seminars began prior to the beginning of the experi­
mental treatments and continued throughout the treatment period. At
the seminar, the activities for both programs were planned. The
students developed lesson plans for use with the books selected for
the literature program, and planned appropriate activities for the
program of sharing and related language experiences. Details of seminar activities will be reported as part of the detailed discussion of each program.

The investigator regularly observed the administration of the experimental programs. Visits to each of the classrooms were made at least once each week.

General procedures applicable to both programs which were discussed in the seminar included procedures for flexible grouping and guidelines for handling discipline problems. Students were requested to regroup pupils frequently and were given several practical suggestions for accomplishing this with a minimum of disruption. It was suggested that groups could be formed on the basis of such factors as sex, location in the room, color of hair, eyes, or clothing, birthday month or free choice.

Literature Program

Selection of books. A preliminary sample of 50 books was selected in consultation with Dr. Charlotte Huck, a recognized authority on children's literature. All 50 books were considered good children's literature, interesting and appropriate for reading aloud to children in grades one and two. The 50 books selected appeared, on visual examination, to contain rich vocabulary and varied syntactic structures. However, they were analyzed to determine richness of vocabulary and mean length of T-unit which is an accepted indicator of syntactic complexity. The following procedure was used in the analysis:
1. The language sample used for analysis was the first 20 sentences from each book.

2. The sentences in each sample were divided into T-units and garbles. Garbles were defined as words which were not a part of any T-unit. The determination of T-units and garbles was verified by Dr. Sharon Fox, who has worked extensively with the T-unit.

3. The number of T-units, garbles, and words in garbles were counted and recorded for each sample.

4. The total number of words in each 20 sentence sample was counted and recorded.

5. Every word in each of the 50 samples was checked against A List of 1400 Words Known By 75% or More of First Grade Children in the Enrichment Program of the Columbus (Ohio) Public Schools, compiled by Edgar Dale and Emily Schuh, March 1970. In using the vocabulary list, the following rules were formulated and used consistently:

   a) If the singular of a regular noun appears on the list, assume knowledge of the plural and possessive forms.

   b) If the infinitive of a regular verb appears on the list, assume knowledge of the present tense third person singular, the present participle, and the past tense.

   c) Do not assume knowledge of the past tense of an irregular verb, unless it appears on the list.

   d) If a contracted form appears on the list, assume knowledge of the root word.
6. Each word in the sample which did not appear on the list was marked. If such a word appeared more than once, it was marked each time it appeared.

7. For each sample, the total number of words not on the list was counted and recorded.

8. For each sample, a percentage of words not on the vocabulary list was determined by dividing the number of words not on the list by the total number of words in the sample.

9. The fifty books were then ranked 1-50 on this variable. The book with the greatest percentage of words not on the vocabulary list received the rank of 1.

10. For each sample, the mean length of T-unit was computed by dividing the total number of words in the selection, minus any words in garbles, by the number of T-units.

11. The fifth books were then ranked 1-50 on this variable. The book with the greatest mean length of T-unit received the rank of 1.

12. For each sample, the two ranks were added together.

13. The samples were then placed in numerical order, from lowest to highest, on the basis of the resulting combined totals and reranked from 1-50. Since a low final rank based on the combined totals indicated that a book contained relatively rich vocabulary and complex syntactic structures, the 36 books with the lowest final rank constituted the selection of books for use in the literature program.
Results of the analysis of the book samples are presented in Table 4. Books are listed in the final order obtained in the combined ranking, to facilitate examination of the table.

**TABLE 4**

SYNTACTIC COMPLEXITY AND VOCABULARY ANALYSES OF SAMPLES FROM FIFTY BOOKS CONSIDERED FOR LITERATURE PROGRAM

<table>
<thead>
<tr>
<th>Combined Rank of Difficulty</th>
<th>Author and Title</th>
<th>T-Unit Rank</th>
<th>Mean T-Unit Length</th>
<th>Voc. Rank</th>
<th>% Words Not on List</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Burton-Mike Mulligan and His Steam Shovel</td>
<td>3</td>
<td>15.82</td>
<td>2</td>
<td>31.6%</td>
</tr>
<tr>
<td>2nd</td>
<td>Zemach-Salt</td>
<td>2</td>
<td>15.95</td>
<td>6</td>
<td>29.8%</td>
</tr>
<tr>
<td>3rd</td>
<td>Anderson-The Emperor's New Clothes</td>
<td>1</td>
<td>18.19</td>
<td>19</td>
<td>24.2%</td>
</tr>
<tr>
<td>4th</td>
<td>Palmer-The Three Billy Goats Gruff</td>
<td>18</td>
<td>11.13</td>
<td>4</td>
<td>31.0%</td>
</tr>
<tr>
<td>5th</td>
<td>Galdone-The Three Wishes</td>
<td>10</td>
<td>12.95</td>
<td>13</td>
<td>25.8%</td>
</tr>
<tr>
<td>6th</td>
<td>Lent-Pistachio</td>
<td>13</td>
<td>12.00</td>
<td>12</td>
<td>26.1%</td>
</tr>
<tr>
<td>7th</td>
<td>Tresselt-Hide and Seek Fog</td>
<td>16</td>
<td>11.39</td>
<td>10</td>
<td>28.2%</td>
</tr>
<tr>
<td>8th-9th</td>
<td>Lent-John Tabor's Ride</td>
<td>22</td>
<td>10.81</td>
<td>5</td>
<td>30.2%</td>
</tr>
<tr>
<td>8th-9th</td>
<td>Smith-Long Ago Elf</td>
<td>12</td>
<td>12.15</td>
<td>15</td>
<td>25.5%</td>
</tr>
<tr>
<td>10th</td>
<td>Titus-Anatole</td>
<td>27</td>
<td>10.16</td>
<td>1</td>
<td>32.8%</td>
</tr>
<tr>
<td>11th</td>
<td>Ness-Josefina February</td>
<td>7</td>
<td>13.20</td>
<td>22</td>
<td>23.7%</td>
</tr>
<tr>
<td>12th-14th</td>
<td>Kahl-Plum Pudding for Christmas</td>
<td>28</td>
<td>10.11</td>
<td>3</td>
<td>31.3%</td>
</tr>
<tr>
<td>12th-14th</td>
<td>Yashima-Crow Boy</td>
<td>5</td>
<td>14.07</td>
<td>26</td>
<td>23.1%</td>
</tr>
<tr>
<td>12th-14th</td>
<td>Ward-The Biggest Bear</td>
<td>4</td>
<td>14.85</td>
<td>27</td>
<td>22.5%</td>
</tr>
<tr>
<td>15th</td>
<td>Freeman-Dandelion</td>
<td>23</td>
<td>10.78</td>
<td>14</td>
<td>25.7%</td>
</tr>
<tr>
<td>16th</td>
<td>Ness-Mr. Micca</td>
<td>14</td>
<td>11.52</td>
<td>24</td>
<td>23.2%</td>
</tr>
<tr>
<td>17th</td>
<td>Fatio-The Happy Lion</td>
<td>11</td>
<td>12.45</td>
<td>28</td>
<td>21.7%</td>
</tr>
<tr>
<td>18th</td>
<td>McCloskey-Blueberries for Sal</td>
<td>9</td>
<td>13.08</td>
<td>32</td>
<td>19.2%</td>
</tr>
<tr>
<td>19th</td>
<td>Tresselt-A Thousand Lights and Fireflies</td>
<td>6</td>
<td>13.35</td>
<td>39</td>
<td>17.3%</td>
</tr>
<tr>
<td>Position</td>
<td>Title</td>
<td>Number</td>
<td>Sales</td>
<td>Rating</td>
<td>Percent</td>
</tr>
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<td>----------</td>
<td>--------------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>20th</td>
<td>Bishop-The Five Chinese Brothers</td>
<td>15</td>
<td>11.42</td>
<td>31</td>
<td>20.1%</td>
</tr>
<tr>
<td>21st-23rd</td>
<td>Kahl-The Dutchess Bakes a Cake</td>
<td>40</td>
<td>9.05</td>
<td>7</td>
<td>29.6%</td>
</tr>
<tr>
<td>21st-23rd</td>
<td>Caudill-A Pocketful of Cricket</td>
<td>13*</td>
<td>12.00</td>
<td>34</td>
<td>18.8%</td>
</tr>
<tr>
<td>21st-23rd</td>
<td>Turtle-Obadiah The Bold</td>
<td>38</td>
<td>9.18</td>
<td>9</td>
<td>28.3%</td>
</tr>
<tr>
<td>24th</td>
<td>Fisher-Listen, Rabbit</td>
<td>19</td>
<td>11.10</td>
<td>29</td>
<td>21.1%</td>
</tr>
<tr>
<td>25th-26th</td>
<td>Jucker &amp; Ziegler-Squats the Moonling</td>
<td>32</td>
<td>9.79</td>
<td>18</td>
<td>24.3%</td>
</tr>
<tr>
<td>25th-26th</td>
<td>Thayer-The Blueberry Pie Elf</td>
<td>20</td>
<td>10.92</td>
<td>30</td>
<td>20.2%</td>
</tr>
<tr>
<td>27th-28th</td>
<td>Lionni-Frederick</td>
<td>35</td>
<td>9.44</td>
<td>16</td>
<td>20.2%</td>
</tr>
<tr>
<td>27th-28th</td>
<td>Freeman-Corduroy</td>
<td>30</td>
<td>10.04</td>
<td>21</td>
<td>23.9%</td>
</tr>
<tr>
<td>29th</td>
<td>Chaconas-The Way The Tiger Walked</td>
<td>29</td>
<td>10.05</td>
<td>23</td>
<td>23.3%</td>
</tr>
<tr>
<td>30th-31st</td>
<td>Burton-The Little House</td>
<td>8</td>
<td>13.19</td>
<td>45</td>
<td>14.3%</td>
</tr>
<tr>
<td>30th-31st</td>
<td>Massie-Dazzle</td>
<td>45</td>
<td>8.00</td>
<td>8</td>
<td>28.7%</td>
</tr>
<tr>
<td>32nd-33rd</td>
<td>Holl-The Runaway Giant</td>
<td>43*</td>
<td>8.18</td>
<td>11</td>
<td>27.7%</td>
</tr>
<tr>
<td>32nd-33rd</td>
<td>McCloskey-Make Way for Ducklings</td>
<td>17</td>
<td>11.29</td>
<td>37*</td>
<td>17.3%</td>
</tr>
<tr>
<td>34th-35th</td>
<td>Binzen-Migue1's Mountain</td>
<td>31</td>
<td>9.82</td>
<td>25</td>
<td>23.1%</td>
</tr>
<tr>
<td>34th-35th</td>
<td>Suess-And To Think That I Saw It On Mulberry Street</td>
<td>39</td>
<td>9.17</td>
<td>17</td>
<td>25.0%</td>
</tr>
<tr>
<td>36th</td>
<td>Zion-Harry The Dirty Dog</td>
<td>21</td>
<td>10.84</td>
<td>37*</td>
<td>17.3%</td>
</tr>
<tr>
<td>37th</td>
<td>Suess-McElligot's Pool</td>
<td>41</td>
<td>8.47</td>
<td>20</td>
<td>24.1%</td>
</tr>
<tr>
<td>38th</td>
<td>Udry-What Mary Jo</td>
<td>26</td>
<td>10.42</td>
<td>36</td>
<td>17.8%</td>
</tr>
<tr>
<td>39th</td>
<td>Armour-Animals on The Ceiling</td>
<td>24</td>
<td>10.52</td>
<td>40</td>
<td>16.6%</td>
</tr>
<tr>
<td>40th</td>
<td>Bemelmans-Hadeline</td>
<td>34</td>
<td>9.54</td>
<td>35</td>
<td>18.3%</td>
</tr>
<tr>
<td>41st</td>
<td>Zemach-Nail Soup</td>
<td>37</td>
<td>9.23</td>
<td>33</td>
<td>18.8%</td>
</tr>
<tr>
<td>42nd</td>
<td>Gag-Millions of Cats</td>
<td>25</td>
<td>10.45</td>
<td>47</td>
<td>12.8%</td>
</tr>
<tr>
<td>43rd</td>
<td>Lindgren-The Tomten</td>
<td>36</td>
<td>9.43</td>
<td>38</td>
<td>17.3%</td>
</tr>
<tr>
<td>44th</td>
<td>Hill-Evan's Corner</td>
<td>33</td>
<td>9.71</td>
<td>43</td>
<td>14.9%</td>
</tr>
<tr>
<td>45th</td>
<td>Brown-Stone Soup</td>
<td>44</td>
<td>8.10</td>
<td>41</td>
<td>16.1%</td>
</tr>
<tr>
<td>46th</td>
<td>Hoban-A Baby Sister</td>
<td>46</td>
<td>7.96</td>
<td>42</td>
<td>15.1%</td>
</tr>
<tr>
<td>47th</td>
<td>Scott-Sam</td>
<td>43*</td>
<td>8.18</td>
<td>46</td>
<td>13.3%</td>
</tr>
<tr>
<td>48th</td>
<td>Garelick-Where Does The Butterfly Go When It Rains?</td>
<td>42</td>
<td>8.42</td>
<td>48</td>
<td>8.8%</td>
</tr>
</tbody>
</table>
TABLE 4 (Cont'd.)

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Score</th>
<th>Age</th>
<th>Reading Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>49th</td>
<td>Bourne-Emilio's Summer Day</td>
<td>47</td>
<td>7.38</td>
<td>44</td>
<td>14.7%</td>
</tr>
<tr>
<td>50th</td>
<td>Preston-Monkey in The Jungle</td>
<td>48</td>
<td>5.33</td>
<td>49</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

*Indicates tied ranking

Description of a typical literature lesson. Lesson plans for the first twelve books were written by the investigator before the start of the experimental period. Plans for the remaining twenty-four books were developed by the undergraduate students in the seminar, in consultation with the investigator. The procedure for developing the lesson plans began by having all of the students read each book for which plans were to be developed during that session. The groups then discussed each book and identified questions to be asked during and after reading and possible vocabulary items to be developed. The number of questions and vocabulary items varied with the length of the book. In general, questions asked during the reading emphasized prediction and interpretation of the character's feelings. It was felt that questions such as these would sustain the children's attention and interest in the book. Questions asked after reading generally highlighted an important element in the book such as theme or plot, character delineation, and if time permitted, recalling important events in the story. If time permitted, vocabulary development was attempted through discussion of a few words from the book with the aim of eliciting synonyms or descriptive words related to a particular
setting. The lesson plan developed for Freeman's *Corduroy* is reproduced below. Additional lesson plans can be found in Appendix A.

Freeman  *Corduroy*

1. **Questions to ask while reading** (refer to pages marked)

   1. Compare Corduroy with the other toys in the first picture. Does he look happy? Why do you think he isn't happy?
   2. (p. 8) Do you think the little girl feels as badly as Corduroy?
   3. Where do you think Corduroy will look for his button? Do you think he will find it?
   4. What do you think Corduroy will do when he hears the watchman coming?
   5. What do you think Corduroy will do if the watchman finds him?

2. **Questions/Activities after reading**

   1. Before he looked for his button, did Corduroy know much about the store in which he lived? How do you know?
   2. Where did he look? How did the watchman know something was wrong?
   3. What were the two things which Corduroy found that he really wanted?

3. **Vocabulary to be developed**

   - escalator - try to elicit the names of other things found in a department store
   - toppled - try to elicit other words for fall
   - corduroy - (swatch to feel) - try to elicit the names of other kinds of cloth

Program of Sharing Time Language Experiences

Several general techniques for maximizing pupil involvement in the sharing and discussion program were presented to the undergraduate students in the seminar prior to the beginning of the experimental period. One technique discussed was that of attempting to wait at least five seconds before responding to a pupil. It was felt that
the period of silence would give the pupil an opportunity to make additional comments or expand on what had been said and that, in general, this technique would result in an increased amount of pupil talk. A second aim was to encourage the pupils to ask questions of each other. It was suggested that this could be accomplished at first through teacher modeling of questions and prompting students to ask specific questions. The undergraduate students worked toward creating a sharing or discussion situation in which the children would respond to each other instead of perpetuating the teacher-pupil-teacher pattern of response.

An attempt was made to stress the importance of asking varied types of questions, in sharing and discussion situations. As a framework, students were presented with the Cunningham Model of Questioning.\(^{104}\) This model divides questions into two basic types, broad and narrow. Subdivisions under the general heading of narrow questions are cognitive memory, and convergent questions. Cognitive-memory questions call for responses such as recalling facts, identifying or observing, answering yes or no, defining, naming and designating. Convergent questions ask for explanation, statement of relationships, and the making of comparison or contrasts. Subtypes under the general category of broad questions are divergent and evaluative questions. Divergent

questions require predicting, hypothesizing, inferring and reconstructing. Evaluative questions call for judging, valuing, defending or justifying a choice. Cunningham suggests several strategies to improve the quality of teacher questions. These include asking fewer questions but keeping a balance between broad and narrow questions, balancing participation by calling on non-volunteers as well as volunteers, using questions that allow responses from more than one child, and using questions which make the pupil extend, clarify or correct his answer.

After the Cunningham Model had been presented and discussed, it was applied to the sharing situation. The investigator provided several hypothetical situations. For the first, appropriate questions of each type and subtype had been provided. After discussion and clarification, the undergraduates selected another hypothetical situation and prepared several broad and narrow questions which would be appropriate. These questions were shared and discussed with the group.

Description of typical program activities. Several specific and varied activities were a regular part of the program of sharing time language experiences.

One activity used was what is usually described as show and tell. Pupils were encouraged to bring an object from home to share with the group. In general, it was found that the quality of the discussion was improved if pupils were encouraged to bring something which they had made or collected.
The undergraduates regularly brought in pictures for the pupils to discuss. Those which prompted the most discussion were pictures which contained an incongruous or problem element. Pupils were also encouraged to talk about experiences of their own related to the picture content and to make up stories about the pictures.

Discussion was also stimulated by questions which the undergraduates asked about the children's interests and activities outside of school. Role playing activities were sometimes an outgrowth of such discussions.

A final activity used in this program was the technique of having a child start to tell a story. Each child in the group then picked up and extended the story from the point at which the previous child had stopped.

IV. Data Collection

Immediate posttesting was completed within ten days after the conclusion of the experimental treatments. Students in the three treatment groups were administered the California Achievement Tests - Reading, Level 1, Form A by their classroom teachers. Level 1 is appropriate for students in grades 1 and 2 and is normed for administration as early as December of grade one.105 The test yields subtest scores for

vocabulary (word skills) and comprehension and a total raw score. The vocabulary subtest contains seven parts which test recognition of objects which words represent, ability to discriminate sounds and identify—beginning and ending letters of words heard, letter discrimination, visual discrimination between similar words, matching words and pictures, word recognition, and choosing alternative words which are synonymous with words presented in context. The comprehension subtest consists of four stories of increasing difficulty each followed by six multiple choice questions. The tests were scored by the investigator using the standard rules for scoring presented in the examiner's manual.106

This investigation also used scores of vocabulary knowledge and language maturity collected for a companion dissertation using the same experimental base.107 Vocabulary scores were from the Peabody Picture Vocabulary Test which is individually administered and measures receptive vocabulary. Language maturity was measured by performance on a 36 sentence repetition test which checked knowledge of 15 syntactic structures identified by research as those likely to be still in the process of being acquired by children in the primary grades. The test was devised specifically for use in the companion dissertation.108

106 Ibid, pp. 53-54.

107 Fisher, "The Effect of Children's Literature and Oral Discussion."

A delayed posttest in reading, Level 1 Form B, of the California Achievement Test was administered in May 1972, five months after the completion of the experimental treatments. There were two reasons for the administration of the delayed posttest. The first was to determine if any differences found at the end of the experimental treatment were maintained over time. The second reason was to determine if any differences would be apparent after a period of time as a possible result of the consolidation of gains in language development brought about by the experimental programs or the continuation of similar activities by the classroom teachers on a regular basis. In order to determine whether similar activities were continued and to gather information about the teacher's literature reading habits, each teacher completed a questionnaire at the time of the delayed posttest. The questionnaire asked for information about activities similar to the experimental program including a description and an indication of frequency, an estimation of how often children's literature was read, criteria for selection of books, a list of representative titles, and a description and estimation of the frequency of oral language activities used as follow-ups after reading literature.

In order to insure uniformity of test administration, the delayed posttest in reading was administered by the investigator with the assistance of Carol Fisher.*

*Co-investigator.
This change in the personnel administering the reading test was considered necessary because of apparent inconsistency in the way teachers administered the December posttest. Despite efforts to insure that all teachers would administer the test according to the directions in the Examiner's Manual, inconsistencies were noted when the tests were scored. These included failure to administer a subtest or part of a subtest to the entire class or a group of students.

V. Analysis of the Data

All analyses were performed on the data collected in December 1971 and again using the scores on the delayed posttest administered in May 1972.

1. Word recognition, comprehension, and total reading scores for the total experimental group were each analyzed using three way analysis of variance to test for the main effects of treatment, grade level, and sex and possible interactions between various combinations of these factors.

2. When the three way analysis of variance revealed significant differences by experimental group or interaction effects involving experimental program, the Scheffe method of multiple comparisons was used as a post hoc test to identify specific group differences which were significant.

3. Pearson Product Moment Correlations were computed between each of three reading scores and both the vocabulary and sentence repetition test scores.
VI. Summary of Procedures

In an effort to determine the relative effectiveness of two strategies for influencing language development and reading achievement in the primary grades, two experimental programs were devised and administered in first and second grade classrooms in four schools in the Madison Local School District, Franklin County, Ohio. Schools were paired to minimize socio-economic differences indicated by parental occupations and randomly assigned to experimental treatments. One first and one second grade class from each school participated in the program. An additional first and second grade class served as a no treatment control group. Pretreatment equivalence of groups was established by a chi square analysis of parental occupations by treatments using categories suggested in The Dictionary of Occupational Titles and by analysis of existing reading scores for the second grade students by treatment groups using a one way analysis of variance.

Both experimental programs were administered by volunteer undergraduate students from The Ohio State University, Department of Early and Middle Childhood Education who worked in pairs within a classroom and were trained and supervised by the investigator. Treatments were administered for a 20 minute period, three times each week for a period of twelve weeks.

The literature program involved reading aloud and discussing 36 books which had been preselected because they contained rich vocabulary and varied syntactic structures. Discussion during and after reading emphasized prediction, interpretation of character's feelings and important elements in the books.
The program of sharing time language experiences, instead of emphasizing rich language input which was the focus in the literature program, placed the emphasis on the child's active use of language. This was accomplished in the context of activities such as show and tell, discussion of pictures, topics of interest to the children, role playing and the creation of chain stories. The undergraduate students were trained to use varied questions and other techniques to maximize pupil participation and interaction.

At the end of the experimental period and again in May 1972, *The California Achievement Tests - Reading, 1970 Edition, Level 1* was administered to all pupils. Scores on tests of vocabulary and language maturity were also collected from the measures administered for the companion dissertation.

Statistical tests were performed separately using the two sets of reading scores. Three way analysis of variance was used to determine the main effects of treatment, grade level, and sex and interactions between various combinations of these factors. Where significant differences involving experimental program were found, post hoc tests were used to identify specific group differences which were significant. Correlations were computed between reading scores and measures of vocabulary and language maturity to determine the relationship between these abilities.
A teacher questionnaire was also filled out at the time of the delayed posttest. The information obtained regarding regular use of oral language activities and reading of children's literature was used to aid in interpretation of results of the delayed posttest.
CHAPTER IV

FINDINGS

1. Introduction

This study examined the effects of two experimental programs designed to stimulate child language, and selected because they exemplify different emphases recommended for influencing language development, on the reading achievement of first and second grade children. One program emphasized rich linguistic input through reading aloud and discussing children's literature, and the other provided the children with increased opportunities for active language use.

Data collected in this investigation was subjected to several statistical analyses to extract a range of information. First, the data was analyzed to determine the main effect of treatment for the total experimental group, sex and grade level differences in reading ability, and the interaction effects of sex, grade level and experimental program in their various combinations on the three measures of reading ability. When the initial analysis indicated significant differences between the three treatments, additional statistical procedures were employed to identify the specific differences which were significant. Finally, statistical analyses
were used to determine the relationship between the three reading measures and measures of vocabulary and linguistic maturity collected in a companion dissertation which used the same experimental base.

All of the analyses were carried out twice, once using the December 1971 reading scores and again using scores on the reading measures obtained in May 1972. For each of the reading measures, results on both the immediate and delayed posttests will be reported together in tabular form in order to facilitate comparison. Summary tables of the analyses of variance performed on the scores will also be presented together. In the discussion, the six hypotheses will be discussed separately for the immediate and delayed posttests.

Correlational data which used both December and May scores will be presented and discussed separately for the total experimental group, first grade, and second grade.

II. Treatment, Grade Level and Sex Differences and Interaction Effects

Word recognition, comprehension, and total reading scores from the December test were each examined using three way analysis of variance. The same statistical procedure was applied to each of the May reading scores.

The same six null hypotheses were tested separately for the word recognition, comprehension and total reading measures.

1. There will be no significant difference between the group receiving the literature program, the group receiving the sharing and discussion program, and the no treatment control group.
2. There will be no significant interaction effect between type of program and grade level.

3. There will be no significant interaction effect between type of program and sex.

4. There will be no significant interaction effect between type of program, grade level, and sex.

5. There will be no significant difference between first and second grade students.

6. There will be no significant difference between boys and girls.

Word Recognition

The six null hypotheses were tested for the December and May word recognition scores. Table 5 presents the mean scores on the measure by grade level, experimental program and sex for both posttests. Table 6 summarizes the three way analysis of variance of the December and May word recognition scores.

TABLE 5

MEAN SCORES ON THE WORD RECOGNITION MEASURE BY GRADE LEVEL, EXPERIMENTAL PROGRAM, AND SEX - IMMEDIATE AND DELAYED POSTTESTS

Grade 1

<table>
<thead>
<tr>
<th>Program</th>
<th>N</th>
<th>Mean-Girls</th>
<th>N</th>
<th>Mean-Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing</td>
<td>21</td>
<td>55.86</td>
<td>24</td>
<td>52.13</td>
</tr>
<tr>
<td>Literature</td>
<td>23</td>
<td>56.09</td>
<td>21</td>
<td>50.29</td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>61.92</td>
<td>9</td>
<td>59.44</td>
</tr>
<tr>
<td>Program</td>
<td>N</td>
<td>Mean-Girls</td>
<td>N</td>
<td>Mean-Boys</td>
</tr>
<tr>
<td>-------------</td>
<td>---</td>
<td>------------</td>
<td>---</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>20</td>
<td>70.20</td>
<td>24</td>
<td>64.04</td>
</tr>
<tr>
<td>Literature</td>
<td>20</td>
<td>65.15</td>
<td>24</td>
<td>62.38</td>
</tr>
<tr>
<td>Control</td>
<td>10</td>
<td>72.70</td>
<td>10</td>
<td>70.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Grade 2</strong></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>December</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>27</td>
<td>80.00</td>
<td>30</td>
<td>76.10</td>
</tr>
<tr>
<td>Literature</td>
<td>33</td>
<td>81.94</td>
<td>24</td>
<td>76.58</td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>79.33</td>
<td>15</td>
<td>79.07</td>
</tr>
</tbody>
</table>

| **May**     |   |            |   |           |
| Sharing     | 25| 83.64      | 28| 80.11     |
| Literature  | 31| 85.97      | 23| 82.83     |
| Control     | 12| 82.42      | 13| 84.77     |
### TABLE 6

SUMMARY OF THREE WAY ANALYSES OF VARIANCE ON WORD RECOGNITION SCORES BY GRADE LEVEL, EXPERIMENTAL PROGRAM, AND SEX FOR IMMEDIATE AND DELAYED POSTTESTS

December 1971

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade level</td>
<td>35310.598</td>
<td>1</td>
<td>35310.598</td>
<td>278.133</td>
<td>.001&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Program</td>
<td>473.000</td>
<td>2</td>
<td>236.500</td>
<td>1.863</td>
<td>.157</td>
</tr>
<tr>
<td>Sex</td>
<td>1097.749</td>
<td>1</td>
<td>1097.749</td>
<td>8.647</td>
<td>.004&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>P x G</td>
<td>425.844</td>
<td>2</td>
<td>212.922</td>
<td>1.677</td>
<td>.189</td>
</tr>
<tr>
<td>G x S</td>
<td>4.478</td>
<td>1</td>
<td>4.478</td>
<td>0.035</td>
<td>.851</td>
</tr>
<tr>
<td>P x S</td>
<td>151.289</td>
<td>2</td>
<td>75.645</td>
<td>0.596</td>
<td>.552</td>
</tr>
<tr>
<td>P x G x S</td>
<td>11.242</td>
<td>2</td>
<td>5.621</td>
<td>0.044</td>
<td>.957</td>
</tr>
<tr>
<td>Within cells</td>
<td>30342.434</td>
<td>239</td>
<td>126.956</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>67816.634</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

May 1972

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade level</td>
<td>16978.441</td>
<td>1</td>
<td>16978.441</td>
<td>192.822</td>
<td>.001&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Program</td>
<td>330.714</td>
<td>2</td>
<td>165.357</td>
<td>1.878</td>
<td>.155</td>
</tr>
<tr>
<td>Sex</td>
<td>640.774</td>
<td>1</td>
<td>640.774</td>
<td>7.277</td>
<td>.008&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>P x G</td>
<td>670.646</td>
<td>2</td>
<td>335.323</td>
<td>3.808</td>
<td>.024&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>G x S</td>
<td>50.394</td>
<td>1</td>
<td>50.394</td>
<td>0.572</td>
<td>.450</td>
</tr>
<tr>
<td>P x S</td>
<td>184.637</td>
<td>2</td>
<td>92.318</td>
<td>1.048</td>
<td>.352</td>
</tr>
<tr>
<td>P x G x S</td>
<td>57.954</td>
<td>2</td>
<td>28.977</td>
<td>0.329</td>
<td>.720</td>
</tr>
<tr>
<td>Within cells</td>
<td>20075.934</td>
<td>228</td>
<td>88.052</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38909.494</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Results significant at or beyond the required .05 level.

Critical value of $F (.05)$ 1 and 200 df = 3.89; critical value of $F (.05)$ 2 and 200 df = 3.04
Discussion of December Results

The three way analysis of variance on the December word recognition scores did not indicate significant differences between the experimental programs. Null hypothesis 1 can, therefore, be accepted. The analysis did not reveal any significant interaction effects between type of program and grade level, type of program and sex, or type of program, grade level, and sex on word recognition scores. Null hypotheses 2, 3, and 4 are accepted.

The analysis did reveal grade level differences in word recognition scores significant at the .001 level. The grade one mean score on this measure was 54.98 (N = 110), and the grade two mean score was 78.89 (N = 141). Since the analysis revealed that the second graders scored significantly higher than the first graders on the word recognition measure, null hypothesis 5 is rejected.

There were also significant sex differences on the word recognition score at the .004 level. Girls mean score on the measure was 70.49 (N = 128), and the mean score for boys was 66.25 (N = 123). Since girls scored significantly higher than boys on the word recognition measure, null hypothesis 6 is rejected.

Discussion of May Results

The three way analysis of variance on the May word recognition scores did not reveal significant differences between the three experimental programs, and null hypothesis 1 is accepted.
The analysis did reveal a significant program-grade level interaction on word recognition scores. Null hypothesis 2 can, therefore, be rejected. May posttest scores on the word recognition measure by grade level and experimental program are presented in Table 7.

**TABLE 7**

**MEAN SCORES ON THE WORD RECOGNITION MEASURE BY GRADE LEVEL AND EXPERIMENTAL PROGRAM - MAY POSTTEST**

<table>
<thead>
<tr>
<th>Program</th>
<th>Grade One</th>
<th>Grade Two</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Sharing</td>
<td>44</td>
<td>66.84</td>
</tr>
<tr>
<td>Literature</td>
<td>44</td>
<td>63.63</td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>71.45</td>
</tr>
</tbody>
</table>

In order to identify the group means responsible for the significant interactions found, it was necessary to perform additional statistical analyses. At each grade level, the Scheffe method of multiple comparisons was applied to the three different pairs of means in order to locate those which were significantly different.109

---

Results of the Scheffe test, presented in Table 8, indicate that only one pair of means at the first grade level was significantly different. The control group mean on the measure of word recognition is significantly higher than the literature group mean. At the second grade level, none of the means differ significantly.

### TABLE 8
**Scheffe Tests Between Pairs of Means at a Grade Level—Word Recognition Measure—May Posttest**

<table>
<thead>
<tr>
<th>Means Compared</th>
<th>Grade One</th>
<th>Grade Two</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Scheffe's Difference</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>Ratio</td>
</tr>
<tr>
<td>Literature/Control</td>
<td>7.82</td>
<td>3.0908a</td>
</tr>
<tr>
<td>Sharing/Control</td>
<td>4.61</td>
<td>1.8221</td>
</tr>
<tr>
<td>Literature/Sharing</td>
<td>3.21</td>
<td>1.6046</td>
</tr>
</tbody>
</table>

*Critical value of comparative ratio (.05) = 2.450*

The three way analysis of variance did not reveal significant interaction effects between experimental program and sex or between program, grade level, and sex on word recognition scores. Null hypotheses 3 and 4 are accepted.

Again, there were grade level differences at the .001 level on the word recognition measure. The grade one and grade two means are 66.39 (N = 108), and 83.30 (N = 132) respectively. Since second graders scored significantly higher on this measure than first graders, null hypothesis 5 is rejected.
The analysis of variance also indicated sex differences on the word recognition measure significant at the .008 level. The mean scores for girls and boys were 77.79 (N = 118), and 73.66 (N = 122) respectively. Since the girls scored significantly higher than boys on the word recognition measure, null hypothesis 6 is rejected.

**Comprehension**

Null hypotheses 1-6 were also tested for the measure of comprehension. Again, scores on the December and May posttests were each analyzed using three way analysis of variance. Significant differences revealed by these analyses were further examined to identify specific significant differences. Table 9 presents the mean scores on the comprehension measure, for both posttests, by grade level, experimental program and sex. The results of the analysis of variance are summarized in Table 10.

**TABLE 9**

MEAN SCORES ON THE COMPREHENSION MEASURE BY GRADE LEVEL, EXPERIMENTAL PROGRAM, AND SEX - IMMEDIATE AND DELAYED POSTTESTS

<table>
<thead>
<tr>
<th>Grade 1</th>
<th>Program</th>
<th>N</th>
<th>Mean-Girls</th>
<th>N</th>
<th>Mean-Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
<td>Sharing</td>
<td>16</td>
<td>3.75</td>
<td>18</td>
<td>5.06</td>
</tr>
<tr>
<td></td>
<td>Literature</td>
<td>22</td>
<td>5.32</td>
<td>21</td>
<td>5.14</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>12</td>
<td>5.83</td>
<td>9</td>
<td>5.78</td>
</tr>
</tbody>
</table>
## TABLE 9 (Cont'd.)

<table>
<thead>
<tr>
<th>Program</th>
<th>N</th>
<th>Mean-Girls</th>
<th>N</th>
<th>Mean-Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>20</td>
<td>6.45</td>
<td>24</td>
<td>7.46</td>
</tr>
<tr>
<td>Literature</td>
<td>20</td>
<td>6.80</td>
<td>24</td>
<td>7.04</td>
</tr>
<tr>
<td>Control</td>
<td>10</td>
<td>7.70</td>
<td>10</td>
<td>6.90</td>
</tr>
<tr>
<td>Grade 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>27</td>
<td>13.07</td>
<td>30</td>
<td>12.23</td>
</tr>
<tr>
<td>Literature</td>
<td>33</td>
<td>15.36</td>
<td>24</td>
<td>11.50</td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>12.92</td>
<td>15</td>
<td>15.53</td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>25</td>
<td>15.48</td>
<td>28</td>
<td>14.46</td>
</tr>
<tr>
<td>Literature</td>
<td>31</td>
<td>19.48</td>
<td>23</td>
<td>16.52</td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>17.42</td>
<td>13</td>
<td>20.15</td>
</tr>
</tbody>
</table>
## TABLE 10

### SUMMARY OF THREE WAY ANALYSES OF VARIANCE ON COMPREHENSION SCORES BY GRADE LEVEL, EXPERIMENTAL PROGRAM, AND SEX FOR IMMEDIATE AND DELAYED POSTTESTS

**December 1971**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade level</td>
<td>4011.507</td>
<td>1</td>
<td>4011.507</td>
<td>172.073</td>
<td>.001*</td>
</tr>
<tr>
<td>Program</td>
<td>90.074</td>
<td>2</td>
<td>45.037</td>
<td>1.932</td>
<td>.147</td>
</tr>
<tr>
<td>Sex</td>
<td>25.876</td>
<td>1</td>
<td>25.876</td>
<td>1.110</td>
<td>.293</td>
</tr>
<tr>
<td>G x P</td>
<td>1.750</td>
<td>2</td>
<td>0.875</td>
<td>0.038</td>
<td>.963</td>
</tr>
<tr>
<td>G x S</td>
<td>43.905</td>
<td>1</td>
<td>43.905</td>
<td>1.883</td>
<td>.171</td>
</tr>
<tr>
<td>P x S</td>
<td>127.567</td>
<td>2</td>
<td>63.784</td>
<td>2.736</td>
<td>.067</td>
</tr>
<tr>
<td>P x G x S</td>
<td>80.301</td>
<td>2</td>
<td>40.150</td>
<td>1.722</td>
<td>.181</td>
</tr>
<tr>
<td>Within cells</td>
<td>5291.996</td>
<td>227</td>
<td>23.313</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9672.976</td>
<td>238</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**May 1972**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade level</td>
<td>5933.977</td>
<td>1</td>
<td>5933.977</td>
<td>259.514</td>
<td>.001*</td>
</tr>
<tr>
<td>Program</td>
<td>222.940</td>
<td>2</td>
<td>111.470</td>
<td>4.875</td>
<td>.008*</td>
</tr>
<tr>
<td>Sex</td>
<td>13.530</td>
<td>1</td>
<td>13.530</td>
<td>0.592</td>
<td>.443</td>
</tr>
<tr>
<td>G x P</td>
<td>166.059</td>
<td>2</td>
<td>83.029</td>
<td>3.631</td>
<td>.028*</td>
</tr>
<tr>
<td>G x S</td>
<td>30.742</td>
<td>1</td>
<td>30.742</td>
<td>1.344</td>
<td>.247</td>
</tr>
<tr>
<td>P x S</td>
<td>59.834</td>
<td>2</td>
<td>29.917</td>
<td>1.308</td>
<td>.272</td>
</tr>
<tr>
<td>G x P x S</td>
<td>89.381</td>
<td>2</td>
<td>44.690</td>
<td>1.954</td>
<td>.144</td>
</tr>
<tr>
<td>Within cells</td>
<td>5213.387</td>
<td>228</td>
<td>22.866</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11729.850</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Results significant at or beyond the required .05 level. Critical value of F (.05) 1 and 200 df = 3.89; critical value of F (.05) 2 and 200 df = 3.04.
Discussion of December Results

The three way analysis of variance did not indicate significant differences between treatment groups on the measure of comprehension. Null hypothesis 1 is, therefore, accepted.

There were no significant interaction effects between experimental program, grade level, or sex in any of their combinations on the comprehension scores. Null hypotheses 2, 3, and 4 are all accepted.

Significant grade level differences were found at the .001 level. The mean scores for grades one and two were 5.08 (N = 98), and 13.41 (N = 141) respectively. Since the performance of second graders on the comprehension measure was significantly better than that of the first grade students, null hypothesis 5 is rejected.

The analysis of variance indicated that there were no significant sex differences on the measure of comprehension. Null hypothesis 6 is accepted.

Discussion of May Results

For the May comprehension scores, the analysis of variance did reveal significant differences between the experimental programs at the .008 level. Null hypothesis 1 is rejected. The mean scores for the three treatment groups on this measure are presented in Table 11.
TABLE 11

MEAN SCORES ON THE MAY MEASURE OF COMPREHENSION BY EXPERIMENTAL PROGRAM - TOTAL EXPERIMENTAL GROUP

<table>
<thead>
<tr>
<th>Program</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing</td>
<td>97</td>
<td>11.33</td>
</tr>
<tr>
<td>Literature</td>
<td>98</td>
<td>13.15</td>
</tr>
<tr>
<td>Control</td>
<td>45</td>
<td>13.71</td>
</tr>
</tbody>
</table>

In order to identify the group means responsible for the significant differences found, the Scheffe method of multiple comparisons was applied to the three pairs of means in order to locate those which differed significantly. Results are summarized in Table 12.

TABLE 12

SCHEFTE TESTS BETWEEN PAIRS OF MEANS FOR THE TOTAL EXPERIMENTAL GROUP - COMPREHENSION MEASURE - MAY POSTTEST

<table>
<thead>
<tr>
<th>Means Compared</th>
<th>Mean Difference</th>
<th>Scheffe Comparative Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature/Control</td>
<td>.56</td>
<td>.6503</td>
</tr>
<tr>
<td>Sharing/Control</td>
<td>2.38</td>
<td>2.7594&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Literature/Sharing</td>
<td>1.82</td>
<td>2.6573&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>Critical value of comparative ratio (.05) = 2.450.

Results of the Scheffe tests reveal that for the total experimental group on the May measure of comprehension, both the control group and the literature group scored significantly higher than the
sharing group. The literature and control group means did not differ significantly.

The three way analysis of variance also revealed an interaction between program and grade level significant at the .028 level. Null hypothesis 2 is, therefore, rejected for the May comprehension measure. The mean scores on this measure by grade level and experimental program are presented in Table 13.

**TABLE 13**

**MEAN SCORES ON THE COMPREHENSION MEASURE BY GRADE LEVEL AND EXPERIMENTAL PROGRAM - MAY POSTTEST**

<table>
<thead>
<tr>
<th>Program</th>
<th>Grade One</th>
<th></th>
<th>Grade Two</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>7.30</td>
<td>25</td>
<td>18.84</td>
</tr>
<tr>
<td>Sharing</td>
<td>44</td>
<td>6.93</td>
<td>53</td>
<td>14.94</td>
</tr>
<tr>
<td>Literature</td>
<td>44</td>
<td>7.00</td>
<td>54</td>
<td>18.22</td>
</tr>
</tbody>
</table>

Scheffe tests were again used to locate the pairs of means at a grade level which differed significantly, and the results are summarized in Table 14.
TABLE 14
Scheffe Tests Between Pairs of Means at a Grade Level -
Comprehension Measure - May Posttest

<table>
<thead>
<tr>
<th>Means Compared</th>
<th>Grade One</th>
<th>Grade Two</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Difference</td>
<td>Scheffe's Comparative Ratio</td>
</tr>
<tr>
<td>Literature/Control</td>
<td>.37</td>
<td>.2869</td>
</tr>
<tr>
<td>Sharing/Control</td>
<td>.30</td>
<td>.2326</td>
</tr>
<tr>
<td>Literature/Sharing</td>
<td>.07</td>
<td>.0687</td>
</tr>
</tbody>
</table>

^aCritical value of comparative ratio (.01) = 3.0692.

The Scheffe tests indicate that, at the first grade level, none of the group means on the comprehension measure differ significantly from each other. At the second grade level, both the control and literature group means differ significantly from the sharing group mean at the .01 level. Again, the literature and control group means do not differ significantly.

Since the analysis of variance did not reveal significant interactions between program and sex or program, sex, and grade level on the measure of comprehension, null hypotheses 3 and 4 are accepted.

The analysis did reveal grade level differences in comprehension scores significant at the .001 level. The grade one mean score on this measure was 7.03 (N = 108) and the grade two mean score was 17.02 (N = 132). Since the analysis indicated that students in the second grade scored significantly higher on the comprehension measure than those in first grade, null hypothesis 5 is rejected.
No significant sex differences on the measure of comprehension were indicated by the analysis of variance, and therefore, null hypothesis 6 is accepted.

**Total Reading**

Null hypotheses 1-6 were tested for the measure of total reading achievement. As in the case of word recognition and comprehension scores, total reading scores on the December and May posttests were each analyzed using three way analysis of variance. Significant differences revealed by these analyses were further examined to identify specific significant differences. The scores on this measure by grade level, experimental program, and sex are reported in Table 15 and the results of the analysis of variance are summarized in Table 16.

### Table 15

**Mean scores on the total reading measure by grade level, experimental program, and sex - immediate and delayed posttests**

**Grade 1**

<table>
<thead>
<tr>
<th>Program</th>
<th>N</th>
<th>Mean-Girls</th>
<th>N</th>
<th>Mean-Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>December</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>67.75</td>
<td>9</td>
<td>65.22</td>
</tr>
<tr>
<td>Sharing</td>
<td>16</td>
<td>61.06</td>
<td>18</td>
<td>60.78</td>
</tr>
<tr>
<td>Literature</td>
<td>21</td>
<td>62.14</td>
<td>19</td>
<td>57.37</td>
</tr>
<tr>
<td><strong>May</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>10</td>
<td>80.90</td>
<td>10</td>
<td>77.10</td>
</tr>
<tr>
<td>Sharing</td>
<td>20</td>
<td>76.65</td>
<td>24</td>
<td>71.50</td>
</tr>
<tr>
<td>Literature</td>
<td>20</td>
<td>71.95</td>
<td>24</td>
<td>69.42</td>
</tr>
</tbody>
</table>
### TABLE 15 (Cont'd.)

#### Grade 2

<table>
<thead>
<tr>
<th>Program</th>
<th>N</th>
<th>Mean-Girls</th>
<th>N</th>
<th>Mean-Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>92.25</td>
<td>15</td>
<td>94.60</td>
</tr>
<tr>
<td>Sharing</td>
<td>27</td>
<td>93.04</td>
<td>30</td>
<td>88.33</td>
</tr>
<tr>
<td>Literature</td>
<td>33</td>
<td>97.30</td>
<td>24</td>
<td>88.08</td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>12</td>
<td>99.67</td>
<td>13</td>
<td>104.92</td>
</tr>
<tr>
<td>Sharing</td>
<td>25</td>
<td>99.12</td>
<td>28</td>
<td>94.57</td>
</tr>
<tr>
<td>Literature</td>
<td>31</td>
<td>105.45</td>
<td>23</td>
<td>99.35</td>
</tr>
</tbody>
</table>

### TABLE 16

#### SUMMARY OF THREE WAY ANALYSES OF VARIANCE ON TOTAL READING SCORES BY GRADE LEVEL, EXPERIMENTAL PROGRAM, AND SEX FOR IMMEDIATE AND DELAYED POSTTESTS

December 1971

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level</td>
<td>52890.070</td>
<td>1</td>
<td>52890.070</td>
<td>271.222</td>
<td>.001&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Program</td>
<td>573.156</td>
<td>2</td>
<td>286.578</td>
<td>1.468</td>
<td>.233</td>
</tr>
<tr>
<td>Sex</td>
<td>1079.637</td>
<td>1</td>
<td>1079.637</td>
<td>5.530</td>
<td>.020&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>G x P</td>
<td>311.899</td>
<td>2</td>
<td>155.949</td>
<td>0.799</td>
<td>.451</td>
</tr>
<tr>
<td>G x S</td>
<td>86.690</td>
<td>1</td>
<td>86.690</td>
<td>0.444</td>
<td>.506</td>
</tr>
<tr>
<td>P x S</td>
<td>500.894</td>
<td>2</td>
<td>250.447</td>
<td>1.283</td>
<td>.279</td>
</tr>
<tr>
<td>P x G x S</td>
<td>199.526</td>
<td>2</td>
<td>99.763</td>
<td>0.511</td>
<td>.601</td>
</tr>
<tr>
<td>Within Cells</td>
<td>43731.059</td>
<td>224</td>
<td>195.228</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>99432.931</td>
<td>235</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 16 (Cont'd.)

May 1972

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level</td>
<td>42791.098</td>
<td>1</td>
<td>42791.098</td>
<td>273.494</td>
<td>.001&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Program</td>
<td>902.787</td>
<td>2</td>
<td>451.394</td>
<td>2.885</td>
<td>.058</td>
</tr>
<tr>
<td>Sex</td>
<td>853.514</td>
<td>1</td>
<td>853.514</td>
<td>5.455</td>
<td>.020&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>G x P</td>
<td>1120.522</td>
<td>2</td>
<td>560.261</td>
<td>3.581</td>
<td>.029&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>G x S</td>
<td>4.138</td>
<td>1</td>
<td>4.138</td>
<td>0.026</td>
<td>.871</td>
</tr>
<tr>
<td>P x S</td>
<td>316.343</td>
<td>2</td>
<td>158.172</td>
<td>1.011</td>
<td>.366</td>
</tr>
<tr>
<td>G x P x S</td>
<td>302.236</td>
<td>2</td>
<td>151.118</td>
<td>0.966</td>
<td>.382</td>
</tr>
<tr>
<td>Within Cells</td>
<td>35673.098</td>
<td>228</td>
<td>156.461</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>81963.736</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Significant at or beyond the required .05 level. Critical value of F (.05) 1 and 200 df = 3.89; critical value of F (.05) 2 and 200 df = 3.04.

Discussion of December Results

Since the three way analysis of variance did not reveal significant differences between the three treatment groups on the measure of total reading achievement, null hypothesis 1 is accepted. The analysis did not indicate any significant interaction effects between type of program and grade level, type of program and sex, or type of program, grade level, and sex on total reading scores. Therefore, null hypotheses 2, 3, and 4 are also accepted.

The analysis of variance did reveal grade level differences on the total reading measure significant at the .001 level. The grade one mean on this measure was 61.75 (N = 95) and the grade two mean was 92.29 (N = 141). Since second graders scored significantly higher on the measure of total reading than first graders did, null hypothesis 5 is rejected.
Finally, the analysis indicated significant sex differences on the measure of total reading. The mean score for girls and boys on this measure were 82.02 (N = 121), and 77.86 (N = 115), respectively. Since the analysis revealed that girls scored significantly higher than boys on the measure of total reading achievement, null hypothesis 6 is rejected.

Discussion of May Results

The three-way analysis of variance revealed differences approaching significance at the .058 level between the three treatment groups on the measure of total reading achievement. Null hypothesis 1 is, however, accepted.

The three-way analysis of variance indicated that there was a grade level - experimental program interaction effect significant at the .029 level on total reading achievement scores. Null hypothesis 2 is rejected. The mean scores on this measure by grade level and experimental program, are presented in Table 17 and the results of the Scheffe tests are summarized in Table 18.

TABLE 17

MEAN SCORES ON THE TOTAL READING MEASURE BY GRADE LEVEL AND EXPERIMENTAL PROGRAM - MAY POSTTEST

<table>
<thead>
<tr>
<th>Program</th>
<th>Grade One</th>
<th>Grade Two</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>79.00</td>
</tr>
<tr>
<td>Sharing</td>
<td>44</td>
<td>73.84</td>
</tr>
<tr>
<td>Literature</td>
<td>44</td>
<td>70.57</td>
</tr>
</tbody>
</table>
TABLE 18
Scheffe Tests Between Pairs of Means at a Grade Level - Total Reading Measure - May Posttest

<table>
<thead>
<tr>
<th>Means Compared</th>
<th>Grade One</th>
<th></th>
<th></th>
<th>Grade Two</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Difference</td>
<td>Scheffe's</td>
<td>Mean</td>
<td>Difference</td>
</tr>
<tr>
<td>Literature/Control</td>
<td>8.43</td>
<td>2.4990(^a)</td>
<td>.45</td>
<td></td>
<td>.1497</td>
</tr>
<tr>
<td>Sharing/Control</td>
<td>5.16</td>
<td>1.5297</td>
<td>5.69</td>
<td></td>
<td>1.8749</td>
</tr>
<tr>
<td>Literature/Sharing</td>
<td>3.27</td>
<td>1.2262</td>
<td>6.14</td>
<td></td>
<td>2.5387(^a)</td>
</tr>
</tbody>
</table>

\(^a\)Critical value of comparative ratio (.05) = 2.450.

The results of the Scheffe tests performed on the pairs of means on the total reading measure at the first grade level indicated that the control group mean was significantly higher than the literature group mean. At the second grade level, the only significant difference was between the literature and sharing group means. The literature group mean on the total reading measure was significantly higher.

Since the three way analysis of variance revealed no significant interaction effects between experimental program and sex or experimental program, grade level, and sex, on total reading scores, null hypotheses 3 and 4 are accepted.

The analysis did reveal grade level differences in total reading achievement significant at the .001 level. The first grade mean on the measure of total reading achievement was 73.46 (N = 108) and the second grade mean was 100.30 (N = 132). Since second graders scored
significantly higher than first graders on the measure of total reading, null hypothesis 5 is rejected.

The three way analysis of variance also indicated that there were sex differences on the total reading measure significant at the .020 level. The mean scores on this measure for girls and boys were 90.88 (N = 118) and 85.66 (N = 122), respectively. Since girls scored significantly higher than boys on the measure of total reading, null hypothesis 6 is rejected.

III. Analysis of the Relationship Between Each of the Three Reading Measures and the Measures of Vocabulary and Language Maturity

Pearson product moment correlation coefficients were computed between the word recognition (WR), comprehension (C), and total reading (TR) scores obtained in December and both the measures of vocabulary and language maturity. The measure of vocabulary used was the Peabody Picture Vocabulary Test, and the measure of language maturity was the Linguistic Structures Repetition Test which consisted of thirty-six sentences and was developed by the co-investigator for use in the companion dissertation. Correlations between the various measures were computed for the total experimental group and for the first and second grade groups separately. The three reading scores obtained in the May posttest were also correlated with both the measures of vocabulary and language maturity. Results for the total group and for the first and second grade groups will be reported and discussed separately. Correlations between the measures specified by
the hypotheses will be presented in tabular form and then discussed. The sample size for each coefficient is indicated in the tables in parentheses. The complete correlation matrix, including critical values, for each of the three groups is included in Appendix B.

**Total Experimental Group**

Six null hypotheses were tested for the total group:

7. There will be no significant relationship between the measure of comprehension and the measure of vocabulary.

8. There will be no significant relationship between the measure of word recognition and the measure of vocabulary.

9. There will be no significant relationship between the measure of total reading and the measure of vocabulary.

10. There will be no significant relationship between the measure of comprehension and the measure of language maturity.

11. There will be no significant relationship between the measure of word recognition and the measure of language maturity.

12. There will be no significant relationship between the measure of total reading and the measure of language maturity.

Correlations of the three reading measures with both the measures of vocabulary and language maturity for the total experimental group are presented in Table 19.
**TABLE 19**

**CORRELATIONS OF THE MEASURES OF WORD RECOGNITION, COMPREHENSION, AND TOTAL READING WITH BOTH THE MEASURES OF VOCABULARY AND LANGUAGE MATURITY - TOTAL EXPERIMENTAL GROUP - DECEMBER AND MAY POSTTESTS**

<table>
<thead>
<tr>
<th></th>
<th>December</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WR</td>
<td>C</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>.430&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.348&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>(246)</td>
<td>(234)</td>
</tr>
<tr>
<td>Language</td>
<td>.424&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.348&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Maturity</td>
<td>.424&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.348&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>(244)</td>
<td>(236)</td>
</tr>
</tbody>
</table>

<sup>a</sup><sub>p &lt; .01</sub>

For the total experimental group, all correlations between the December and May reading measures and both the measure of vocabulary and the measure of language maturity are significant at the .01 level. All of the correlations increase from December to May. Null hypotheses 7-12 are rejected for both the December and May data.

**First Grade Group**

The same six null hypotheses were tested for the first grade group, using both the December and May reading test scores, and the results are reported in Table 20.
TABLE 20

CORRELATIONS OF THE MEASURES OF WORD RECOGNITION, COMPREHENSION, AND TOTAL READING WITH BOTH THE MEASURES OF VOCABULARY AND LANGUAGE MATURITY - FIRST GRADE GROUP - DECEMBER AND MAY POSTTESTS

<table>
<thead>
<tr>
<th></th>
<th>December</th>
<th></th>
<th></th>
<th>May</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WR</td>
<td>C</td>
<td>TR</td>
<td>WR</td>
<td>C</td>
<td>TR</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>0.397a</td>
<td>0.016</td>
<td>0.385a</td>
<td>0.509a</td>
<td>0.154</td>
<td>0.489a</td>
</tr>
<tr>
<td></td>
<td>(109)</td>
<td>(97)</td>
<td>(94)</td>
<td>(108)</td>
<td>(108)</td>
<td>(108)</td>
</tr>
<tr>
<td>Language</td>
<td>0.457a</td>
<td>-0.032</td>
<td>0.421a</td>
<td>0.403a</td>
<td>0.070</td>
<td>0.375a</td>
</tr>
<tr>
<td>Maturity</td>
<td>(105)</td>
<td>(97)</td>
<td>(94)</td>
<td>(102)</td>
<td>(102)</td>
<td>(102)</td>
</tr>
</tbody>
</table>

\( a_p < .01. \)

For the first grade group, the measures of comprehension and vocabulary do not correlate significantly either for the December or May data. Null hypothesis 7 is accepted for both sets of data. Both the word recognition and total reading scores correlate significantly with the measure of vocabulary in December and May. Null hypotheses 8 and 9 are rejected for both sets of data.

There are no significant correlations between the measure of comprehension and the measure of language maturity in December or May, and null hypothesis 10 is, therefore, accepted for both sets of data. Since the correlations between both the measures of word recognition and total reading and the measure of language maturity are significant at the .01 level, using December and May scores, null hypotheses 11 and 12 are rejected for both sets of data.
Second Grade Group

The same six null hypotheses were tested for the second grade group using both the December and May reading test scores, and the results are summarized in Table 21.

<table>
<thead>
<tr>
<th></th>
<th>December</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WR</td>
<td>C</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>.137</td>
<td>.216(^b)</td>
</tr>
<tr>
<td>Language</td>
<td>.425(^a)</td>
<td>.450(^a)</td>
</tr>
<tr>
<td>Maturity</td>
<td>(139)</td>
<td>(139)</td>
</tr>
</tbody>
</table>

\(^{a}p < .01\)
\(^{b}p < .05\)

The measure of comprehension correlates significantly with the measure of vocabulary, using both the December and May scores. Null hypothesis 7 is rejected for both sets of data. The December word recognition score is not significantly correlated with the measure of vocabulary. Null hypothesis 8 is, therefore, accepted for the December data. The May word recognition score and the measure of vocabulary are significantly correlated. Null hypothesis 8 is rejected for the May data. The total reading measure and the measure of vocabulary are significantly correlated for both sets of data. Null hypothesis 9 is rejected.
For the second grade group, correlations between the three reading measures and the measure of language maturity were all significant at the .01 level, using both the December and May scores. Null hypotheses 10, 11, and 12 are, therefore rejected for both sets of data.

IV. Teacher Responses to the Questionnaire

At the time of the delayed posttest, all teachers whose classes had participated in one of the three treatment groups filled out a brief questionnaire designed by the investigator to gather information about their continuation on a regular basis of activities similar to those which comprised the experimental program, the frequency with which they read children's literature aloud, their criteria for selecting books, a list of representative titles, and an indication of the kinds of oral language activities they used as follow ups to the reading of literature and the frequency of such activities. Table 22 summarizes teacher responses by grade level and experimental program to the questions regarding the frequency with which they read literature aloud and the kinds and frequency of oral language activities used after such reading. A copy of the questionnaire can be found in Appendix C.
TABLE 22

SUMMARY BY GRADE LEVEL AND TREATMENT OF QUESTIONNAIRE RESPONSES REGARDING FREQUENCY OF LITERATURE READING, NATURE AND FREQUENCY OF ORAL LANGUAGE ACTIVITIES USED AS FOLLOW-UPS

Grade One

<table>
<thead>
<tr>
<th></th>
<th>Literature</th>
<th>Sharing</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Literature Reading</td>
<td>Several times weekly/Several times daily</td>
<td>Daily/Daily</td>
<td>Daily</td>
</tr>
<tr>
<td>Type of Oral Language Activity Used After Reading Literature and Frequency</td>
<td>Discussion* Role Playing Puppet Shows* Several times weekly/Daily</td>
<td>Discussion</td>
<td>Discussion</td>
</tr>
</tbody>
</table>

Grade Two

<table>
<thead>
<tr>
<th></th>
<th>Literature</th>
<th>Sharing</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Literature Reading</td>
<td>Daily/Several times daily</td>
<td>Several times weekly/In spurts</td>
<td>Daily</td>
</tr>
<tr>
<td>Type of Oral Language Activity Used After Reading Literature and Frequency</td>
<td>Discussion* Drama Role Playing Several times weekly/Several times monthly</td>
<td>Discussion</td>
<td>Discussion</td>
</tr>
</tbody>
</table>

*Listed by both teachers in treatment group.
Responses to the questionnaire indicate that the four teachers whose classes participated in the literature program regularly read children's literature aloud. This is not interpreted as an effect of the experimental program since several of these teachers indicated that they had modified their literature reading schedule during the experimental period but had re-established it after the investigation. Only one of the four teachers in the sharing and discussion program indicated that she had continued a similar activity on a regular basis.

Several generalizations can be drawn from a comparison of responses to questions regarding the frequency with which literature is read aloud, the types of oral language activities used after reading literature and the frequency of such activities. When the three treatment groups are compared at the first grade level, it is apparent that the frequency of reading does not differ greatly. However, teachers whose classes participated in the literature program use a wider range of oral language activities after reading and use such activities more regularly. One of the teachers in the sharing and discussion treatment responded that she seldom used oral language activities after reading, and the control status teacher did not indicate how frequently she used such activities. Comparison of the three treatment groups at the second grade level shows that literature is more frequently read by literature and control teachers than by teachers in the sharing and discussion program. The activities listed are similar across groups, but the literature group teachers appear to use them most frequently. Both report a frequency of
several times weekly. One of the sharing and discussion group
teachers reports a similar frequency, and the other reported that
she seldom used oral language activities after reading. The control
status teacher indicated that she used such activities several
times each month.

Teacher responses to the question which asked how they selected
the books they read are summarized in Table 23 and indicated that
varied criteria were used. In general, teachers in all groups
showed some awareness of books recommended by librarians and those
recommended in courses in children's literature. In some cases,
the criteria listed were vague. For example, one teacher in the
sharing and discussion group indicated that she read books which
were "superior children's literature" but gave no indication of how
she determined a book's merit. The grade one control group teacher
listed no selection criteria.

| TABLE 23 |

TEACHER CRITERIA FOR SELECTING BOOKS TO READ ALOUD
BY GRADE LEVEL AND EXPERIMENTAL PROGRAM

<table>
<thead>
<tr>
<th>Program</th>
<th>Grade One</th>
<th>Grade Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature</td>
<td>Award books, librarian recommendations, children's favorites, interest appeal, related to social studies or science</td>
<td>Books recommended in college children's literature courses, books recommended for use with children of a certain age, children's interests</td>
</tr>
</tbody>
</table>
TABLE 23 (Cont'd.)

<table>
<thead>
<tr>
<th>Program</th>
<th>Grade One</th>
<th>Grade Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing</td>
<td>Size of pictures, superior children's literature, books requested by the children</td>
<td>Books remembered from own childhood, children's requests, books recommended by librarians or in children's literature courses</td>
</tr>
<tr>
<td>Control</td>
<td>No criteria listed</td>
<td>Books above children's independent reading level, longer stories, well known favorites</td>
</tr>
</tbody>
</table>

The majority of books listed as representative titles by grade one teachers in all three groups were picture books recognized as good children's literature and considered appropriate for reading aloud to primary grade children. Books listed included The Snowy Day and Goggles by Keats, Madeline by Bemelmans, McCloskey's Make Way for Ducklings, Lionni's Swimmy, Curious George by Rey, and The Story About Ping by Flack.

Grade two teachers in all three groups included some books usually recommended for use with children in the intermediate grades or above. Books listed by these teachers included E.B. White's Charlotte's Web and Stuart Little, books from the Henry Huggins series by Cleary, Lindgren's Pippi Longstocking, and Charlie and the Chocolate Factory by Dahl. About half of the books listed by the sharing and literature group teachers were of this type and all of those listed by the control group teacher are usually recommended for use in grade three and above. Charlotte's Web was read by teachers in
all three groups. Stuart Little and Henry Huggins were also read across groups.

V. Summary of Findings

Word Recognition

1. Analysis of the December and May word recognition scores did not reveal significant differences between students in the literature program, those in the sharing and discussion program, and those in the no treatment control group.

2. Analysis of the December word recognition scores indicated no significant interaction effects between the factors of grade level, experimental program, and sex in any combination on these scores.

3. Analysis of the May word recognition scores revealed that the only significant interaction was a grade level - program effect. Post hoc tests indicated that the only significant difference between treatment group means existed at the first grade level. The control group scored significantly higher than the literature group on the measure of word recognition.

4. Analysis of both December and May word recognition scores revealed grade level differences at the .001 level in favor of grade two.

5. Significant sex differences in favor of girls on the word recognition measure were revealed by analysis of both sets of data.

Comprehension

6. Analysis of the December comprehension scores did not reveal significant differences between treatment groups.
7. Analysis of May comprehension scores did indicate significant differences between treatment groups. Post hoc tests showed that both the literature and control groups scored significantly higher than the sharing discussion group on this measure.

8. Analysis of December comprehension scores indicated that there were no significant interaction effects between the factors of program, grade level, and sex, in any combination, on these scores.

9. Analysis of May comprehension scores revealed that the only significant interaction effect was between experimental program and grade level. Post hoc tests established that the only significant difference between treatment group means existed at the second grade level. Both the literature and control group means were significantly higher than the sharing and discussion group mean.

10. Significant grade level differences on the measure of comprehension in favor of grade two were revealed by analysis of the December and May data.

11. No significant sex differences on the measure of comprehension were revealed by analysis of December or May data.

**Total Reading**

12. Analysis of December scores on the measure of total reading indicated that there were no significant differences between treatment groups.

13. Analysis of May scores on the measure of total reading did reveal differences approaching significance between treatment groups.
14. Analysis of the December scores on the measure of total reading did not reveal any significant interaction effects between the factors of grade level, experimental program, and sex, in any combination, on these scores.

15. The only significant interaction effect revealed by analysis of May scores on the total reading measure was between the factors of grade level and experimental program. Post hoc tests established that there were significant differences between means at both the first and second grade levels. At the first grade level, the control group mean was significantly higher than the literature group mean. At the second grade level, the literature group mean was significantly higher than the sharing and discussion group mean.

16. Analysis of both December and May scores on the measure of total reading revealed significant grade level differences in favor of second grade.

17. Significant sex differences on the measure of total reading in favor of girls were indicated by analysis of both sets of data.

**Relationships Between Reading Measures and Measures of Vocabulary and Language Maturity**

18. For the total experimental group, all three reading measures on both the December and May posttests were significantly correlated with the measure of vocabulary (The Peabody Picture Vocabulary Test) and the measure of language maturity (The Linguistic Structures Repetition Test.) Significant correlations ranged from .430-.506 for vocabulary and word recognition; .348-.411 for vocabulary and
comprehension; .423-.504 for vocabulary and total reading; .424-.444 for language maturity and word recognition; .348-.371 for language maturity and comprehension; and .419-.446 for language maturity and total reading.

19. For the first grade group, the measures of vocabulary and comprehension did not correlate significantly for either December or May data. The measure of comprehension and the measure of language maturity were not significantly correlated for either December or May data. The measures of word recognition and total reading did correlate significantly with both the measures of vocabulary and language maturity for the December and May data. Significant correlations ranged from .397-.509 for vocabulary and word recognition; .385-.489 for vocabulary and total reading; .403-.457 for language maturity and word recognition; and .375-.421 for language maturity and total reading.

20. For the second grade group, the December word recognition score is not significantly correlated with the measure of vocabulary. The May word recognition score and the vocabulary measure are significantly correlated. Both the December and May comprehension and total reading scores are significantly correlated with the measure of vocabulary. The measure of language maturity and all December and May reading scores are significantly correlated at the .01 level. Significant correlations ranged from .216-.260 for vocabulary and comprehension; .177-.268 for vocabulary and total reading; .425-.516 for language maturity and word recognition; .450-.473 for language maturity and comprehension; and .461-.525 for language maturity and total reading.
21. Teachers whose classes participated in the experimental programs or as control groups differed in their routine practices regarding the frequency of reading literature aloud, and the type and frequency of oral language activities used after reading literature. At the first grade level, teachers in the literature group used a wider range of oral language activities and used them more regularly than teachers in the other groups. At the second grade level, the frequency of reading aloud was greater for the literature and control groups, and the most consistent use of oral language activities after reading was in the literature group.
CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS
FOR FURTHER RESEARCH

1. Summary

Purpose

On the basis of existing evidence regarding the interrelationship of all the language arts and oral language and reading in particular, recent theoretical formulations which characterize reading as a process of prediction based on stored knowledge of language, and psycholinguistic theories of language acquisition, this study investigated the influence of two programs designed to enhance language development on the reading achievement of children in grades one and two. The first program provided rich adult linguistic input through reading aloud and discussing high quality children's literature. The second provided increased opportunities for active language use by the child in the context of sharing, discussion, and other oral language activities.

Sample

The sample consisted of 269 children in grades one and two in four schools in the Madison Local School District, Franklin County, Ohio. These schools were chosen because of their proximity to each
other and because they served similar socio-economic populations. The principal of each school selected a first and second grade class to participate in the investigation. Parental occupations were examined and the schools were paired to minimize socio-economic differences. Pairs of schools were then randomly assigned to treatments. The principals of the schools assigned to the sharing and discussion treatment designated either a first or second grade class which served as a no treatment control group. Pretreatment equivalence of the three groups was established by chi square analysis of parental occupations by treatment group, and analysis of variance on existing second grade reading scores by treatment group. Both analyses indicated no significant difference between treatment groups.

Methods and Procedures

Both experimental programs were administered for a twelve week period in the Fall of 1971. Each involved a twenty minute lesson, three times each week. The programs were administered by eight undergraduate students in the Department of Early and Middle Childhood Education at The Ohio State University who were selected from a group of volunteers. The students were assigned to work in pairs within a classroom and also administered both treatments, since they were assigned to work in two schools. Training of the undergraduates and planning for both experimental programs took place in a weekly seminar with the investigator.

The literature program consisted of thirty-six lessons which emphasized adult input of rich language through reading aloud and briefly discussing high quality children's literature. The books
used were all recommended as appropriate to be used at these grade levels, and were selected from a preliminary sample of fifty books on the basis of the syntactic complexity of the language they contained and the richness of the vocabulary.

In the sharing and discussion program, the emphasis was on the child's verbal output in the context of sharing, discussion of pictures or topics of interest, role playing, or creating stories.

Data Collection

The immediate posttest, the California Achievement Tests - Reading, 1970 Edition, Level 1, Form A, was administered by the classroom teachers within ten days after the end of the experimental period. Scores on the Peabody Picture Vocabulary Test and the Linguistic Structures Repetition Test collected for use in a companion study were also obtained to be used in correlational analysis. The reading test is appropriate for grades one and two and yields subtest scores for vocabulary (word skills), and comprehension, as well as a total score.

A delayed posttest, Level 1, Form B, of the same instrument was administered five months later, in May 1972. This test was administered by the investigator with the assistance of the co-investigator because of the inconsistencies which were noted in the December test administration. The delayed posttest was designed to determine if differences noted in the immediate posttest were maintained over time and also to determine if differences became apparent after a period of time because of consolidation of gains in language development.
brought about by the experimental programs or because of the continuation of similar programs on a regular basis by the classroom teachers. At the time of the delayed posttest, all teachers completed a questionnaire which requested information about their reading of literature to their classes and the activities which they used after reading.

Statistical Analysis

All analyses were done using the December reading scores and again using the May reading scores.

The same six null hypotheses were tested separately for each of the three reading measures yielded by the test to determine the main effects of treatment, grade level, and sex, and to determine the interaction effects of treatment and grade level, treatment and sex, and treatment, grade level and sex. This analysis was performed, in each case, using three way analysis of variance.

Where the analysis of variance indicated significant differences between treatment groups or a significant interaction effect which involved treatment, the Scheffe method of multiple comparisons was used to pinpoint the group means which were significantly different.

Three null hypotheses regarding the relationship between the three reading measures and the measure of vocabulary were tested separately for the total experimental group, the first grade group, and the second grade group by computing Pearson Product Moment correlation coefficients. Three null hypotheses regarding the relationship between each of the three reading measures and the
measure of language maturity were tested separately for the same
three groups using the same statistical procedure.

II. Findings

December

The only significant findings which resulted from the analysis
of the December reading scores were grade level differences on all
three reading measures at the .001 level, in favor of the second
grade, and sex differences favoring girls on the measures of word
recognition and total reading.

Correlational analysis indicated that for the total experimental
group, all three reading measures were correlated significantly with
both the measure of vocabulary and the measure of language maturity.
For the first grade group, the measure of comprehension was not
significantly correlated with either the measure of vocabulary or
the measure of language maturity. Word recognition and total reading
scores were significantly correlated with both vocabulary and language
maturity measures. For grade two, the measures of word recognition
and vocabulary were not significantly correlated. All other measures
were significantly correlated.

May

Data analysis using the May reading scores indicated the same
grade level and sex differences which had been found in the December
analysis. In addition, several significant differences by treatment
and several significant grade level treatment interactions were found
in the May analysis.
On the word recognition measure, a significant grade level-treatment interaction existed. The Scheffe test indicated that the only significant difference was at first grade level where the control group mean was significantly higher than the literature group mean.

On the comprehension measure, there were significant differences between treatment groups. Scheffe tests indicated that, for the total experimental group, both the literature and control group means were significantly higher than the sharing and discussion group mean. The means for the literature and control groups were not significantly different.

There was also a significant grade level-treatment interaction effect on comprehension scores. The post hoc tests revealed that the only significant difference between group means existed at the second grade level where both the literature and control group means were significantly higher than the sharing and discussion group mean.

On the total reading measure, analysis indicated that there were differences approaching significance between treatment groups. There was also a significant grade level-treatment interaction effect on the total reading scores. The post hoc tests indicated that significant differences between treatment groups existed at both grade levels. At the first grade level, the control group mean was significantly higher than the literature group mean. At the second grade level, the literature group mean was significantly higher than the sharing group mean.
Results of the correlational analysis indicated that for the total experimental group and for the second grade group, all three reading measures were significantly correlated with both the measure of vocabulary and the measure of language maturity. For the first grade group, the measure of comprehension did not correlate significantly with either the vocabulary measure or the measure of language maturity. All other correlations were significant at the .01 level.

III. Conclusions

The findings reported in this investigation lead to several conclusions regarding the experimental treatments, the existence of sex differences in reading ability, and the relationship between reading achievement and both vocabulary and language maturity. The conclusions will be stated and discussed. Where necessary, the discussion will explore possible explanations for the findings and make inferences regarding the existence of confounding variables.

1. Neither of the twelve week experimental treatments significantly affected the language development or reading achievement of first and second grade children, as measured by a standardized reading test.

The length of the experimental period in the present investigation was twelve weeks. Several other studies which demonstrated the positive effects of literature read aloud on language development or reading, such as those of Cohen, Porter, and Cullinan, Jagger and
Strickland, conducted the experimental program for a longer time period. Time periods, in these studies, ranged from five months to an entire school year. Cazden worked with preschool children for only twelve weeks, but in her study, and in those of Carter, and Bailey who worked with first grade children for ten and twelve weeks, the treatment was administered daily for a period of forty-five minutes or an hour. An experimental period of twelve weeks was used in the present investigation for several reasons. In an effort to maintain tight control over the content and mode of administration of the experimental programs, the decision was made to use undergraduate students to administer them. This choice of personnel limited the length of the experimental period. By starting the programs two weeks before the beginning of the Autumn quarter, it was possible to conduct the programs for twelve weeks. This decision regarding the time period was considered defensible, by the investigator, since evidence from available research regarding the optimal period of time or the frequency and duration of contacts with children necessary to positively influence language development or reading achievement through the use of literature read aloud is not definitive.


The socio-economic class of the subjects in this study may have been a confounding factor which affected the results. Many of the other studies which used literature read aloud as part of the experimental treatment and which demonstrated its positive effects on language development or reading achievement worked with a population of disadvantaged children many of whom spoke a non-standard dialect. Studies such as those by Cohen, Cullinan, Jagger and Strickland, Cazden, and Carter used such populations. In such cases, the language provided by the literature read was in greater contrast to the child's daily linguistic environment than it would be to the linguistic environment of lower middle class children such as those used in the present study. Such children would normally be exposed to Standard English in the home.

It can be inferred from the results of this investigation that a short period of specialized treatment is not sufficient to override the general nature of the teaching practices. The teacher's daily practices over an extended period of time, and the special emphases that exist in the classroom appear to be the more important influence.

Aside from their participation in the experimental programs, the investigator made no attempt to control for the skill of the

classroom teachers or their activities. The undergraduate students who administered the programs were not prescreened for effectiveness. However, observations by the investigator indicated that they were all administering the programs in an acceptable manner. It is possible that there were adverse effects produced by the interruption of the morning program three times each week. It cannot be determined what effect this had on regular reading instruction during the experimental period. The significant differences in favor of the control group over the literature group, at the first grade level might be due to the possible adverse influence of interrupting the morning program three times each week during the first twelve weeks of school. Perhaps these results are a reflection of the superior decoding skills acquired by the control group partly because there were no interruptions of the ongoing instructional program during the first three months of school.

Data gathered in the teacher questionnaire provides some support for the premise that reading aloud to children regularly over an extended period of time might positively influence their reading achievement. Across grades one and two, teachers in the literature group used a wider range of oral language activities and used them more frequently. In grade two, both the literature and control group teachers read aloud more frequently and made use of many books usually recommended for higher grades. Results of the May reading test indicated that, when the total experimental group was examined and also at the second grade level, the literature and control groups were superior to the sharing and discussion group on the measure of
comprehension. The teacher responses and the test results considered together demonstrate that spending considerable time reading literature aloud will not hamper the reading growth of primary grade children. It is possible that the consistent program of reading high quality children's literature aloud which was followed by the second grade control group teacher diluted the effects of the experimental literature program at the second grade level. The teacher responses might also lead to speculation that the cruciality of the combination of reading aloud followed by oral language activities was underestimated by the investigator. The frequent use of oral language activities after reading by the literature group teachers, and the results of the Cullinan, Jaggar, and Strickland study which indicated that the reading of literature followed by oral language activities produced significantly greater acquisition of Standard English than the reading of the same books without the oral language activities afterwards, leads this investigator to conclude that too much emphasis might have been placed on the aspect of adult input.  

Another factor which might have influenced the results was the nature of the instrumentation. Theoretically, either of the experimental programs could have positively influenced reading achievement by increasing the child's control over language structures.

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113Cullinan, Jaggar, and Strickland, "Expanding Language Power."
It is possible that primary grade standardized reading tests lack the sensitivity to reflect the increase reading ability related to greater control over language structure. The range of syntactic patterns present in such tests, at the primary level, is small. In the process of conducting a follow up study on the relationship of the reading miscues made by second grade students in the original sample and their scores on the measure of language maturity, it was found that there were at least thirteen pairs of students who had equivalent reading scores but had scores which were one standard deviation above and below the mean on the measure of language maturity.

An additional problem existed with the first grade performance on the comprehension subtest. Especially in December, most first grade children were not reading well enough to successfully cope with this subtest. On the December test, none of the treatment groups in grade one achieved a mean score above the chance level score of six. On the May test, scores for all first grade groups are only slightly above chance level on the comprehension subtest.

Questions have been raised recently regarding the cognitive tasks required of a child to perform successfully on a standardized reading

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Meier, for example, contends that such tests are biased against the way children of seven or eight think. The directions involve skills inappropriate for children of these ages. The child's inability to de-center in the sense described by Piaget, can lead to wrong answers even if the child can read and correctly use all of the words involved. In her interviews, Meier has found that children often don't understand the relationship between the stories and the questions in the comprehension subtests. Children, at these ages, have a tendency to answer the questions following the passages egocentrically, on the basis of personal experience.\textsuperscript{115}

In a review of the state of measurement in reading, Farr contends that standardized reading tests arbitrarily divide the reading act into subskills on the basis of meager research evidence. He makes the point that standardized reading subtests lack discriminant validity. He also questions the validity of presenting words out of context in vocabulary subtests. Farr lists the factors usually involved in comprehension subtests. These include length of passage, interest, subject matter, organization, reader purpose, and type of questions asked. Farr expresses the hope that psycholinguistic research into the nature of the reading process may lead to a more

\textsuperscript{115}Deborah Meier, "What's Wrong With Reading Tests?" \textit{Notes from City College Advisory Service to Open Corridors}, (New York, March 1972), pp. 3-17.
solid base for test construction. An attempt to base test construction in psycholinguistic research has been made by Simons who proposed that comprehension be measured by the ability to recover the deep structure of sentences.

Another possible reason for the lack of effectiveness of the experimental programs was the choice of books for use in the literature program. The books selected are recognized by authorities as appropriate for use with first and second grade children. However, it is possible that the syntax and vocabulary in the books was not challenging enough for middle class children at either grade level or across grade levels. Perhaps books with more complex syntax and richer vocabulary should have been selected for use at both grade levels or different books should have been selected to use with each grade.

2. In the primary grades, girls perform significantly better than boys on standardized reading tests.

The finding that girls perform significantly better than boys on the measures of word recognition and total reading is not surprising, in light of existing research evidence. Two recent reviews of research on sex differences in reading ability indicate

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117 Simons, "Reading Comprehension: The Need for a New Perspective."
that most investigations have revealed the superiority of girls in the early school years. Such differences usually disappear in the later elementary grades and are attributed largely to environmental and cultural factors.\footnote{Farr, Reading: What Can Be Measured?, pp. 11-12; Theodore L. Harris, "Reading," Encyclopedia of Educational Research, ed. by Robert L. Ebel (Fourth Edition, New York, The Macmillan Company, 1969), p. 1079.}

3. The reading achievement of primary grade children is significantly correlated with their listening vocabulary and language maturity.

It was expected that the three reading measures would be correlated with the measure of vocabulary, since vocabulary is a recognized factor influencing achievement in both word recognition and comprehension. Since control over language structures has also been shown to be a factor in reading achievement, it was expected that the reading measures would be positively correlated with the measure of language maturity.

There were several instances in which the expected significant correlations were not found. In grade one, the measure of comprehension was not significantly correlated with either the vocabulary or language maturity measures in December or May. This is understandable in light of the difficulty which the first grade subjects experienced with the comprehension task. At the second grade level, the word recognition measure and the vocabulary measure were not significantly correlated in December. One possible explanation for
this finding is the fact that Fisher, in a companion study which used the same subjects, found significant sex differences in favor of boys on the measure of vocabulary. She concludes that this finding might be due in part to the stimulus words used. On the basis of Dale's suggestion that boys know more action and sports words, Fisher analyzed items 26 through 65 of both forms of the test. She classified twenty-three words as boy's words (e.g., saddle, bronco, arrow), eight words as girl's words (e.g., queen, pea pod, tweezers), and forty-nine words as neutral (e.g., time, envelope, accident). In this investigation, significant sex differences on the word recognition measure favored girls. Such results would lead to the expectation of a low correlation, if any, between the two variables. It is also important to note that the Peabody is a measure of listening vocabulary not reading vocabulary. One would expect a positive correlation between the two measures, but not as high a correlation as expected between two measures of reading vocabulary.

IV. Recommendations for Further Research

On the basis of the findings of this study and the conclusions drawn regarding them, the following recommendations are made for further research:

1. Replication of this study using a longer experimental period and/or more frequent contacts with the children would aid in establishing guidelines regarding the most efficient combinations of these factors for use with primary grade, middle class children. Replication with lower class children at these same grade levels, maintaining the present experimental period and frequency of contact, would help to assess the validity of the assumption that the programs used would have demonstrated more significant results with a disadvantaged population.

2. A study should be carried out comparing the effectiveness of literature read aloud and sharing and discussion on the reading achievement of primary grade children using the teachers to administer the programs to their classes over the entire school year. The teachers should be trained to administer the programs, and the books and lesson plans necessary should be provided by the investigator.

3. A study should examine the relative effectiveness of reading literature aloud and sharing and discussion on the reading achievement of middle class, primary grade children, with the stipulation that books used in the literature program contain more varied and complex syntactic structures than the books used in this investigation. A similar study could be done where there would be differential selection of books for each grade level.

4. The effects of a program of reading children's literature aloud, with and without the use of oral language activities following the reading, on the reading achievement of primary grade children should be studied.
5. There is a need for investigation and construction of alternate measures of reading ability which are more sensitive to control over language structure and which do not contain the cognitive biases which standardized tests seem to possess. These tests should be based in psycholinguistic research into the nature of the reading process.

6. The syntactic and semantic acceptability of the reading miscues made by children who exhibit differences in control over language structure, as measured by the Linguistic Structures Repetition Test, would help to clarify the exact influence of control over language structure on reading ability.
APPENDIX A

Zion  Harry the Dirty Dog

I. Questions during reading:
1. What do you think he's going to do with the brush?
2. Why doesn't his family recognize him? What do you think
   he'll do next?
3. What do you think he has dug up? Why is he happy? What's
   he going to do?

II. Questions after reading:
1. Do you think Harry will ever get dirty again? Why? Does
   the story give you any clues?
2. Has Harry really changed? Why do you think so?
3. Why did Harry run away from home? When did he decide to go
   back home? How did he feel when his family didn't know him?
   What did he do about it at first? What made them finally
   recognize him?

   What would be a good name for the book?

   Have children retell story using pictures as a basis.

III. Vocabulary:
   clever (Other words that say this?)
   dig furiously (other ways to describe this)
   slept soundly (other ways to sleep)

Suess  Mulberry Street

1. Questions during reading:
1. (Show first and second picture) How did he change what he
   saw?
2. (Show 1st, 2nd, 3rd, and 4th pictures) What has he changed
   now from what he really saw?
3. He says he'll make just 'one little change' -- an elephant.
   Is it really a little change? What kind of elephant is it?
4. What do you think he will tell his Dad?
II. Questions after reading:
1. What are the animals that he says he saw?
2. How did he happen to change what he first saw? Why did he do it?

III. Vocabulary:
- tame (tame vs. wild animals)
  - horse - zebra
  - cat - lion
  - dog - wolf
  - canary - robin
- look sharply (other ways to look)
- frown sternly (other ways to describe a frown)

Burton The Little House

I. Questions during reading:
1. (p. 4) Could the Little House ever find out? Why do you think so?
2. (p. 10) What might the Little House see in winter?
3. (p. 14) Now that there's a road, will this make a difference in the Little House's ever seeing the city? Why do you think so?

II. Questions after reading:
1. What were some of the things she didn't like about living in the city?

III. Vocabulary:
- brook (other words for a brook)
- daisies (other kinds of flowers)
- glance (other ways to look)

McCloskey Blueberries for Sal

I. Questions during reading:
1. (p. 23) Who does little bear remind you of?
2. (p. 26) Do you think Sal is right? Why?
3. (p. 29) Who do you think it will be?
4. (p. 35) Who do you think little bear will find? Why do you think so?
5. (p. 51) How do you think the bear will find little bear?

II. Questions after reading:
1. Why was Sal's mother "shy of bears" -- even little bear?
2. What was the very best, most exciting time in the story?
3. How does having two stories going on at the same time make it more exciting?
III. Vocabulary:

- **hustle** (other ways of walking)
- **tramped**
- **store up** food (ways of doing this)

Ward  *The Biggest Bear*

1. Questions during reading:
   1. (p. 10) What did Johnny's grandfather mean?
   2. (p. 14) What do you think he'll see? IF THEY SAY BEAR - Will he shoot it?
   3. (p. 22) The story is called The Biggest Bear -- this bear is very small. Why do you think the book is called the biggest bear?
   4. (p. 32) SHOW PIC ON P. 23 & P. 33. What's happening to Johnny's bear? What do you think will happen next? Look at the next picture (p. 35).
   5. (p. 60) Will this idea work?
   6. (p. 64) What was the thing to do? What makes you think so? Will he do it?

II. Questions after reading:
   1. How do you know the bear is getting bigger in these four pictures? (34-36-38-40)
   2. Were you surprised when you saw him in this picture? (42)

III. Vocabulary:

- **humiliated** (other ways you can feel)
- **delighted** (other words to show this feeling)

Thayer  *Blueberry Pie Elf*

1. Questions during reading:
   1. What are some other places he might enjoy?
   2. What do you think he'll do next to get some blueberry pie?
   3. Now do you have any other ideas? If no one could see you or hear you or feel you, how could you let them know you were there?

II. Questions after reading:
   1. What did he try at first to get the family to make him a blueberry pie? (Show pic if necessary - beds, dishes, floor)
   2. Why didn't any of those things work?
   3. Can you think of any other ways he could have used?
   4. What is the elf bigger than? What things are bigger than he is?
   5. What problems would an elf have around a regular house? What could he use for a blanket, a bathtub, dishes, etc.
III. Vocabulary:
- paced (other ways to walk)
- disappointed (other words for this feeling)
- feast (other words for this kind of meal)

Freeman Dandelion

1. Questions to ask while reading (refer to pages marked with blue tape)
   1. What did Jennifer Giraffe mean when she wrote in her invitation, "Come as you are."? Do you think Dandelion will come as he is?
   2. How has Dandelion's appearance changed?
   3. What other animals came to the party? Did they come as they were?
   4. How do you think Dandelion felt when Jennifer told about the silly looking lion who had come to her door?

II. Questions/Activities after reading:
   1. Could this story really happen?
   2. Do people ever act the way Dandelion did?
   3. Have the children retell the story while looking at the illustrations.

III. Vocabulary to be developed:
- flustered and foolish describe ways that people sometimes feel - try to elicit others from the children.

Lionni Frederick

1. Questions to ask while reading (refer to pages marked with blue tape)
   1. Which one of the mice is Frederick? How do you know? Do you think the other mice will make Frederick work the way they do?
   2. How do these pictures show that Frederick is using his supplies?

II. Questions/Activities after reading:
   1. Before winter came, what did the other mice think of Frederick's work?
   2. Why do you think Frederick chose the work he did?
   3. What happened when winter first came?
   4. What made the other mice ask about Frederick's supplies?
   5. What were Frederick's supplies? Did they help the other mice get through the winter?
   6. Did the other mice change their minds about Frederick? Do you think he did his share?
   7. Do all of you help your families and friends in the same way? Why do you choose to help in different ways?
III. Vocabulary to be developed:
  reproachfully - try to elicit words for other ways people can talk to or look at others.
  memory - discuss its relation to words such as remember, memorize

McCloskey  Make Way For Ducklings

I. Questions to ask while reading (refer to pages marked with blue tape)
1. For each of the possible nesting sites ask: What is wrong with this as a place to build a nest and raise ducklings?
2. What kinds of trouble might Mrs. Mallard have getting her ducklings from the river to the Public Gardens.

II. Questions/Activities after reading:
1. How did Mr. and Mrs. Mallard find a place to build their nest?
2. What happened after they build their nest?
3. What problems did Mrs. Mallard have in getting her ducklings to the Public Gardens?
4. Compare the pictures on pages 24-27 of Ducks, Geese and Swans by Wong with some of McCloskey's illustrations and read them the marked passages on pages 24-25 of Wong. Then ask the following questions: Did the man who wrote Make Way for Ducklings do a good job of telling about the lives of ducks and ducklings? What facts about ducks did you learn from his book? What did he add to the story of all ducks? Which story about ducks did you like better? Why?

III. Vocabulary to be developed:
  Clarify the meanings of ducklings, mallard, and molt.

Jucker and Ziegler  Squaps the Moonling

I. Questions to ask while reading (refer to pages marked with blue tape)
1. If you were this astronaut would you think there were living things on the moon?
2. Is the astronaut right in thinking that there are no living things on the moon? Can you see the moonlings in this picture?
3. Why do you think Squaps is called the bravest of the moonlings?
4. How does Squaps look like earth children? How does he look different?
5. If you met a moonling, what would you want to show him about earth and your life?
6. Why do you think Squaps liked water so much?

7. How do you think Squaps felt being the only moonling on earth?

II. Questions/Activities after reading:
1. Could this story really happen? What do you think might happen to a real moonling who came to earth?
2. Which of the things Squaps discovered on earth made him the happiest?
3. Why do you think Squaps took water back to the moon with him?
4. If you were Squaps, would you return to the moon? Why?

III. Vocabulary to be developed:
convinced, confused, venturesome, curious, contented, impressed are all ways people sometimes feel - try to elicit others from the children.

Fatio The Happy Lion

I. Questions to ask while reading (refer to pages marked with blue tape)
1. (title page) What can you tell about the lion from this picture of him sleeping near a bird?
2. Why do you think the lion was so happy?
3. After he finds his door open, what do you think the lion will do?
4. (picture of the lion meditating) How do you think the lion feels about the way the people are behaving?
5. What could the noise be?
6. What do you think will happen after the fire engine comes?
7. What do you think is behind the lion?

II. Questions/Activities after reading:
1. How did the animals in the park react to the loose lion? Why?
2. How did the lion's friends react to meeting him on the street? Why?
3. How did this make the happy lion feel?
4. How was the lion saved from the firemen?
5. What did the lion decide after he returned home?
6. Would you be afraid if you met a lion on the street?

III. Vocabulary to be developed:
polite, foolish, joyous, and sensible are all words to describe how people act - try to elicit others.


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*aAll correlations significant at .01 level: critical value (.01) with 200 df = .181.*
### TABLE 25

**INTERCORRELATIONS OF THE MEASURES OF WORD RECOGNITION, COMPREHENSION, AND TOTAL READING - DECEMBER AND MAY POSTTESTS - AND THE MEASURES OF VOCABULARY AND LANGUAGE MATURITY - FIRST GRADE GROUP**

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\(^a\) \(p < .01\), critical value with 80 df = .283, with 90 df = .267, with 100 df = .254.

\(^b\) \(p < .05\), critical value with 80 df = .217.
## Table 26

Intercorrelations of the measures of word recognition, comprehension, and total reading - December and May posttests - and the measures of vocabulary and language maturity - Second grade group

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<td>Language Maturity</td>
<td>0.42486&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.44962&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.46071&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.51582&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.47340&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.52497&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Word Rec.-Dec.</td>
<td>0.75519&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.96708&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.75010&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.70273&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.77145&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Comprehension-Dec.</td>
<td>0.89711&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.66537&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.76208&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.74693&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.79974&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>0.74693&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.79974&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Word Rec.-May</td>
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<td>0.95059&lt;sup&gt;a&lt;/sup&gt;</td>
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<sup>a</sup> \( p < .01 \), critical value with 125 df = .228.

<sup>b</sup> \( p < .05 \), critical value with 125 df = .174.
APPENDIX C

Teacher Follow-Up Questionnaire

Name ____________________________ School __________________ Grade _________

1. In which experimental program did your class participate:
   ____ sharing/discussion  ____ literature  ____ control

2. (For teachers who participated in the sharing/discussion or literature programs) Have you continued a similar activity on a regular basis since the experiment ended? If so, please describe the activity and indicate how often.

3. How often do you read children's literature to your class?

4. How do you select the books which you read aloud?

5. Please list the titles of 3-5 books which are representative of those you have read to your class.

6. How often do you use related oral language activities (e.g., role playing, discussion, creative dramatics) after reading literature? What sorts of activities do you use?

Please use the back of this sheet to make any additional comments you wish about the experimental program and/or the reaction of your class to it.


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