

THE ACQUISITION OF READING

by

ANNE DORA FORESTER

B.A. University of Western Ontario, 1969

A THESIS SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the Faculty

of

Education

ACCEPTED
FACULTY OF GRADUATE STUDIES

DATE 5 May 1975 DEAN

We accept this thesis as conforming
to the required standard

[Redacted signature area]

© ANNE DORA FORESTER, 1975

UNIVERSITY OF VICTORIA

April 1975

All rights reserved. This thesis may not be reproduced in whole or in part, by mimeograph or other means, without the permission of the author.

Supervisor: Professor David J. Chabassol

ABSTRACT

This study was undertaken to: (1) examine what it is a child does when he learns to read; (2) analyse the observed behavior to gain an insight into the thought and learning processes of the learner, and (3) attempt to see the process of learning to read from the point of view of the learner. It was based on the extension of parallels between oral language acquisition and learning to read which some reading research has stressed in recent years.

Seven assumptions served as the framework for analysis of the data. Assumptions 1 to 5 provide details of the thought processes which characterize oral language learning and postulate that parallels of these processes are likely to exist in reading acquisition. Assumptions 6 and 7 point to the differences between the thought and language of the child compared to that of adults and the need to analyze the child's behavior from his point of view.





The study was modelled after research on the acquisition of oral language which has yielded insights into the learning processes children use when learning to speak. In keeping with its linguistic focus and Piagetian research into the thought processes of the child, this study employed the method of intensive observation of a limited number of subjects. It was undertaken in a first-grade classroom

in Victoria during the first six months of school. Four children - two boys and two girls - were observed closely and, as time permitted, notations were also made on the reading behavior of other children (22 in all) in the classroom.

Classroom activities were recorded with the aid of video-tape, audio-tape and shorthand notes and two visits per week of one-and-a-half hours and one hour respectively provided the raw data for analysis. All recorded behavior was considered but particular stress was placed on differences between the children's oral responses and the written text or the teacher's expectations.

Analysis of the observational data confirms that children learning to read use thought processes and learning strategies similar to those used by infants learning to speak. They restructure the learning material to fit their level of linguistic and cognitive development and induce their own rules to deal with the language-learning tasks of the classroom. Children use meaning and the structure of language to guide their reading despite the fact that the instructional focus rests on sounds and words.

Examiners:



ACKNOWLEDGEMENTS

This study could not have been undertaken without the willing and cheerful cooperation of the children at Fairburn School and their teacher, Mrs. M. Reinhard. My first thanks go to them. Mrs. Reinhard not only allowed her classroom to be invaded by researchers and equipment over months of study, but she also actively contributed to the information obtained during the taping sessions from her own observations of the children. Her interest in the study and willingness to try out new methods added immeasurably to the success of this work. I cannot thank her enough.

The help and encouragement provided by the members of my Committee - Dr. D. J. Chabassol, Dr. P. O. Evanechko, Dr. J. F. Kess, and Dr. R. V. Peavy - is gratefully acknowledged. I very much appreciated being allowed to proceed with a study which differs in design from the majority of research for theses in the Faculty of Education. Special thanks are due Dr. Evanechko whose encouragement to undertake this study and assistance during this and the pilot research was invaluable to me.

The support received from Dr. N. I. Mickelson was very much appreciated. It, too, dates back to the pilot research and was always there when I needed it most.

Finally, I would like to thank Miss C. Harrower for her assistance with video-taping in class and the personal interest she took in the research. It was most valuable to me to have someone to discuss the data collected in class

and the personal interest she took in the research. It was most valuable to me to have someone to discuss the data collected in class who had been there to help me with the observations.

TABLE OF CONTENTS

Chapter	Page
I INTRODUCTION	
Purpose of the study.....	1
Statement.....	1
Assumptions.....	2
Background information and significance..	4
Definition of terms.....	8
Limitations.....	9
II REVIEW OF RELEVANT LITERATURE	
Reading.....	11
Cognitive development.....	18
Studies on language acquisition.....	19
Children who learn without formal instruction.....	30
III METHODS AND PROCEDURES	
Introduction.....	36
Research design.....	45
Research procedures.....	47
The subjects.....	49
IV FINDINGS AND CONCLUSIONS	
Introduction.....	51
Findings examined in light of the assumptions.....	53
What children do.....	54
1. Drawing on the context or setting.....	54
2. Scanning the text.....	55
3. Words suggest concrete referents.....	56

TABLE OF CONTENTS (Continued)

Chapter	Page
IV FINDINGS AND CONCLUSIONS (Continued)	
4. Meaning takes precedence over sound.....	56
5. Meaning takes precedence over words.....	57
6. The rules of phonics follow meaning.....	58
7. From the whole to the parts.....	60
8. Gross processing.....	61
Restructuring the input.....	62
What children do (continued).....	63
9. Children recognize familiar phrases.....	63
10. Children draw upon their oral language pattern to guide them.....	64
11. Slow readers learn "Primerese".....	65
12. Using the context.....	67
The induction of rules.....	68
The thought and language of the child differ from that of adults.....	70
What children do not do.....	71
1. A string of words does not constitute language.....	71
2. Memorized rules are not consistently applied.....	73
3. Lessons in phonics are not necessarily perceived as tools for reading.....	74
4. The sounds of rhyming words do not necessarily aid the recognition of words.....	74
5. The repetition of words is not guaranty that they will be recognized in all contexts.....	76
Learning proceeds from within the child.....	77
Conclusion.....	78
V IMPLICATIONS OF THE FINDINGS	
For learning.....	84
For teaching.....	88

Chapter	
For further research.....	92
BIBLIOGRAPHY.....	94
APPENDIX.....	100
List of texts used by the children during the study.....	100
Markings used to indicate children's reading behavior.....	101
Example of oral reading.....	102
Example of transcript of classroom observations- morning session.....	104
Example of transcript of classroom observations- afternoon session.....	114
Example of responses to flashcards.....	120
Excerpt of table prepared for analysis of raw data- Semantic processing.....	129
Excerpt of table prepared for analysis of raw data- Language patterns.....	130

CHAPTER I

Purpose of the Study

It is the purpose of this study to examine what it is a child does when he learns to read and to analyze the observed behavior of the beginning reader in order to determine what learning or thought processes the child uses to integrate the lessons he hears and the text he reads. It is an attempt to look at the initial learning from the point of view of the learner.

Statement of the Problem

The problem was threefold. First, in order to obtain the necessary data for analysis, recordings had to be taken in a first-grade classroom which chronicle the verbal and non-verbal behavior of a number of children as they interacted with the lessons and text before them. Secondly, the resulting observational data had to be analysed to note behavior patterns. Finally, a suitable framework was required to integrate the patterns of behavior derived from the study in a manner which shed light on the thought processes which produced them.

Reading is a language process and needs to be studied as such if the questions posed deal with the process of learning it. The approach taken here was to model the study after recent research on the acquisition of language which have yielded insights into the learning processes children use when learning to speak. These

studies have been observational, have yielded data on behavior patterns of beginning speakers, and these patterns have been interpreted in light of the child's own thought patterns rather than on the basis of adult grammars. As a result, these studies have yielded new insights into the thought processes children use when learning to speak. The decision to study how children learn to read within the same framework was based on a number of assumptions about reading and language learning.

Assumptions

The design of the study has been based on a number of assumptions which largely deal with the extensions of parallels researchers like K. S. Goodman and Frank Smith have perceived between language development and learning to read:

1. Reading is considered a language-learning task.

Therefore, its acquisition should lend itself to study on the basis of research in language acquisition.

2. At the time the child enters upon reading instruction his oral language development is not yet complete (Cazden, 1972; C. Chomsky, 1969; Ruddell, 1970). He will continue to use his own learning strategies naturally and intuitively for several more years.

It is likely that he will attempt to apply these intuitive strategies to deal with written language as well.

3. Language acquisition is characterized by specific learning strategies such as using the context to guide learning, scanning the flow of language, looking for meaning, relating language to concrete referents, differentiating parts of language from its totality, and movement from gross to fine performance (Ferguson & Slobin, 1973; Lenneberg, 1967).

Reading acquisition may be characterized by similar patterns.

4. A widely accepted finding in language acquisition research is that children structure language their own way (Brown & Bellugi, 1964; Ferguson & Slobin, 1973). They deal with small, simple units at first, but the patterns they abstract and use differ from adult language.

It is likely that the units beginning readers deal with will also differ from those adults present or perceive.

5. The process of learning oral language involves considerable creative powers on the part of the very young child. He not only induces rules of language but also applies these rules, forming new phrases and sentences of his own invention (Brown, Cazden, & Bellugi, 1973; Cazden, 1972).

Given the opportunity to exercise this creative ability, the beginning reader may display the same creativity with respect to abstracting the applying the rules which govern written language.

6. The thought and language of the child at the age of six, when reading instruction begins, differs from that of the adult not only quantitatively but qualitatively (Piaget, 1959; Vygotsky, 1962).

It is, therefore, unlikely that the child would readily and immediately adopt the adult language and thought of classroom instruction. Instead, it is likely that he will apply his own logic to the material presented.

7. Learning proceeds from within the child.

In order to gain an understanding of the process of learning to read, it is necessary to see it as the child himself does.

Background Information and Significance

Universal literacy will be achieved only when we have understood enough about the reading process and its acquisition to stop interfering with learners in the name of helping them. Man has a marvelous natural facility for creating and learning language. Reading is a language process, the direct counterpart of listening. It is no small source of embarrassment to organized education that children are far more uniformly successful in learning to talk and listen than they are in learning to read and write. (K. S. Goodman, 1972, p. 505)

Learning oral language can be characterized as one of the most fundamental initial learning tasks facing the child. Similarly, reading constitutes the major initial task as the child enters school. In the first instance, the child learns on his own in an atmosphere of trust which conveys, "certainly he is going to talk." In the second instance, detailed instruction is provided to aid what is presented to the child as a difficult task and frequently proves to be one. In this case the attitude conveyed is that the child could not possibly learn on his own. Yet, numbers of children do learn to read without the aid of formal instruction (Durkin, 1961; Huey, 1968; Torrey, 1973).

In schools, learning to read is attended by many difficulties for the learner. Books and journal articles on the "problem of reading" abound. Kolers points out that "many authorities estimate that as many as thirty percent of all children now in our schools read so poorly that they require remedial instruction" (Kolers, 1968, p. xxxix).

Studies on reading generally focus on the component skills and their acquisition but as Calfee and Venezky note, "Unfortunately, there is little understanding of the reading process to which reference is frequently made" (Calfee & Venezky, 1968, p. 93). At the time of undertaking her doctoral studies, Y. M. Goodman found "no studies which trace the development of individual children's oral reading" (Y. M. Goodman, 1967, p. 7).

Studies tracing the development of children's oral language have increased in numbers in recent years (Brown & Bellugi, 1964; Brown, Cazden, & Bellugi, 1973; Cazden, 1970; C. Chomsky, 1969; Ferguson & Slobin, 1973; Lenneberg, 1967; etc.). They have provided detailed information on what is is children do when they learn to speak and generally reflect the wonder expressed by Braine "that a structure of such enormous formal complexity as language is so readily learned by organisms whose available intellectual resources appear in other respects quite limited" (Braine, 1973, p. 407). There is no dearth of information on the processes involved in language acquisition and the learning strategies underlying it.

The child learning to speak does so on his own and with seeming ease. Without the aid of formal instruction as to the rules which govern language, he acquires his mother tongue to the point of making himself readily understood within the span of one or two years. He shows considerable

creativity in the process, for he does not simply imitate the language patterns he hears around him; instead, he restructures what he hears into simple patterns of his own and then differentiates more and more parts of speech as he matures (Gerth, 1969; Lenneberg, 1967; Leopold, 1969). The child himself selects those portions of speech which have meaning to him, rearranges them and in effect generates his own primitive rules of syntax. If language is seen as a complex mosaic of a multitude of movable parts standing in mutual interaction, then the child is selecting bits of it to fashion a simple mosaic, rearranges its parts and brings it into ever closer similarity to the adult model. The process continues well into the grade-school years (Cazden, 1970; C. Chomsky, 1969; Ruddell, 1970).

The child learning to read has already traversed a well-defined route of language learning and is continuing to build his language proficiency. He has devised his own strategies to guide him. Learning to read - a language learning task - should be taken in stride and is by some children who learn to read at home. Yet many children experience difficulties and some fail to master reading at all. Children have been found to draw up their own lesson plan so-to-speak for learning to talk, but they experience difficulties when it comes to following lesson plans drawn up by adults. We are faced with the paradox that very young children find it easy to deal with the complexities of oral

language but hard to deal with the simple lessons of first-grade reading. Seen in that light it is possible that the difficulty children experience with the simple rules presented by adults derive from the fact that in dealing with language-learning tasks children use thought-processes which differ from those implicit in the lessons presented by adults.

Goodman points out that, "We have been teaching reading as a set of skills to be mastered. We have been teaching children who are competent users of oral language as if they were beginners in language learning" (Goodman, 1972, p.506). He adds that it is essential for teachers to understand the reading process thoroughly in order to recognize the significance of what it is children do when they read (K. S. Goodman, 1972, p. 508). What is required, then, is a more explicit knowledge of what children do as they learn to read and this knowledge must not be limited to superficial descriptions of skills but has to address itself to the fundamental question of what the behavior means in terms of the child's own understanding.

Speaking of language teaching, Chomsky states

There certainly seems to be a strong case for requiring that teaching grammars be based on an adequate theory of language learning, and that language be taught in a manner consistent with what we can infer about the nature of the native speaker's knowledge of his language. (N. Chomsky, 1971, p. 149)

Along the same lines, Bruner points out, "The curriculum of a subject should be determined by the most fundamental understanding that can be achieved of the underlying principles that give structure to that subject" (Bruner, 1960, p. 31). In order to foster learning, it becomes necessary to reach an understanding of the fundamental processes which guide the learner.

Accordingly, it is the aim of this study to examine what children do as they learn to read - how they process the learning materials provided in the classroom in connection with reading instructions - and to analyze the process in light of studies on language acquisition. It is hoped that the study will contribute to the knowledge of how the child guides the learning process, and that the paradigm of language acquisition may provide a unifying framework to describe reading acquisition as a total process.

Definition of Terms

Language acquisition - The process of learning oral language during infancy and early childhood.

Learning environment- The learning environment includes the instruction provided in the classroom, the written material used, and verbal input provided by both teacher and peers. The term is used to obviate the necessity to point out repeatedly the multifaceted nature of the

language input processed by the beginning reader.

Meta-language - Language about language. In the first-grade classroom it includes such terms as: letter, word, sentence, sound, ending, compound word, and capital letter.

Reading - Deriving meaning from the printed text. As against word-calling.

Reading acquisition - The process of acquiring the ability to derive meaning from printed texts. For purposes of this study, it refers to the very beginnings of learning to read, spanning the first six months of reading instruction in first grade.

Word-calling - Saying the words printed in the text but not perceiving a flow of language. Reading without deriving comprehension.

Limitations

While the study extended over a 6-months period, observations have been confined to one first-grade classroom and only four subjects have been observed intensively with additional notations on relevant behavior of other children in the classroom.

Observing children at work in their regular classroom setting presents special difficulties not encountered in carefully controlled laboratory settings. Video-taped and audio-taped recordings at times were interfered with by the level of classroom noise and, though

aided by personal observations and shorthand notes, it was not always possible to obtain complete records. Spontaneous behavior on the part of the subjects, their teachers and peers, plus the fact that neither the children nor the teacher remain in one location for very long and complicated recording procedures.

Analysis of the data was undertaken without the theoretical framework of oral language acquisition which, however, proceeds under different learning conditions than those obtaining in a first-grade classroom. An experimental study of children learning to read in a setting where oral language learning conditions are simulated may be required to validate the parallels which appear to exist between the learning processes children use in learning to speak and read as described in this study.

Though findings reported here are accurate for the subjects studied and based on sufficiently large amount of data, caution should be exercised before generalizing them to other populations without further research to validate them.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

Reading

A search of the literature suggests that there is at this point no study which examines the thought processes the child brings to bear when first learning to read. Y. M. Goodman's work traced the learning processes of six young readers, but her study did not begin until after the children had had six months of reading instruction (Y. M. Goodman, 1967). Studies concerned with the thought processes involved in reading generally concern themselves with more advanced readers (Kerr, 1965; Kress, 1970; Ruddell, 1970; Stauffer, 1970). There are, however, studies on psycholinguistics and reading and these will be reviewed below.

The process of learning to read as a language-learning task has received increasing attention in studies undertaken by K. S. Goodman and his associates (K. S. Goodman & O. S. Niles, 1970), in the books of Frank Smith (1971, 1973), and in studies by Ruddell (1970) and Shuy (1969). Parallels have been drawn between the child's language development (Cazden, 1972; C. Chomsky, 1969; K. S. Goodman, 1973; Ruddell, 1970; Smith, 1971) and recently there has been the suggestion that reading acquisition should be examined in terms of language acquisition (Shuy, 1974). This study anticipated that suggestion.

At this time there still appears to be a dearth of researchers working in both the areas of language and reading. Jenkins and Liberman (1972) report that while making preparations for a conference they found their selection of participants complicated by the fact that no one's work dealt directly with the kind of comparison between reading and speech perception which was the subject of the conference.

Among researchers in the area of psycholinguistics and reading K. S. Goodman has done the most extensive work. He defines psycholinguistics in these terms:

Understanding the process must depend on understanding how language works and understanding how language is used, that is how language and thought are interrelated. Psycholinguistics is the study of these relationships.
(K. S. Goodman, 1969, p. 4)

Goodman stresses this interaction between thought and language throughout his work and emphasizes that nothing the child does in his attempt to learn to read is accidental or random. Reading behavior is caused by the linguistic and cognitive structures the child brings to bear (K. S. Goodman, 1973). Surveying standard reading curricula based primarily on word recognition and letter-sound correspondences, Goodman points out that viewing reading in terms of psycholinguistics provides a new perspective, one that is process oriented, language centered, and meaning centered. He sees learning to read

and write as "an extension of the natural language learning the child has already accomplished without professional assistance" (K. S. Goodman, 1973, p. 12).

Goodman's work makes specific reference to the research on language acquisition and draws comparisons between his own findings and those of linguists. He found that in reading, as in language acquisition, "the whole is not a combining of parts; the part is differentiated out of the whole" (K. S. Goodman, 1968, p. 31).

In connection with the development of a taxonomy of reading cues and miscues, Goodman established that the same integrative functions brought to bear by the child learning oral language are needed in the acquisition of reading. When examining the strengths and weaknesses of individual readers he found that it was not possible to establish a single cause for given reading phenomena; instead, there appeared to be an interaction of a number of factors (K. S. Goodman, 1969). He grouped the cue system operating in reading under four headings: 1. cues external to language - pictures, concrete objects, skill charts; 2. cues within the reader - language facility, idiolect, experience, conceptual ability, reading attack skills; 3. cues within words - letters, shape, whole known words, recurring spelling patterns; and 4. cues within the flow of language - patterns, inflections, function words, referential meaning of prior or subsequent

language elements (K. S. Goodman, 1965). In Goodman's experience, children were found to draw upon a combination of these cues when learning to read.

Within the context of viewing reading acquisition as a language and communication process rather than a matter of recognizing words and their component parts, Goodman stresses that the proficient reader picks and chooses from all available information. He scans the reading material for just enough cues to provide meaning, skipping those parts of speech which are redundant or not essential. Reading is not a matter of processing individual words and Goodman suggests that the reader who aims for "perfection in his reading will be a rather inefficient reader" (K. S. Goodman, 1969, p. 13). In other words, reading is not a precision process and Goodman calls it a "psycholinguistic guessing game" (K. S. Goodman, 1970).

Efficient reading does not result from precise perception and identification of all elements, but from skill in selecting the fewest, most productive cues necessary to produce guesses which are right the first time.
(K. S. Goodman, 1970, p. 260)

Reading effectively involves the ability to participate and predict what lies ahead; however, in order to have this predictive aspect of reading function properly, the reader has to be dealing with complete language and needs the opportunity to draw upon the multiple cues available

in normal reading materials. The focus on words and the impoverished language of primers used in many schools are not designed to encourage the development of prediction. Y. M. Goodman finds that young readers are generally left to fend for themselves to acquire such skills as using context clues, building concepts, and integrating meaning (Y. M. Goodman, 1973).

Her doctoral work using the taxonomy of cues and miscues included reference to the manner in which the text and its construction effects the reader and his ability to predict and derive meaning. The use of language in a form familiar to the child appears to be an important variable. According to her findings, beginning readers can identify words in certain grammatical positions more easily than in others. Inflections are important cues to children and their omission from beginning primers is seen as a possible hinderance rather than help. Familiar word order is an important signal to children and the use of language patterns as guides becomes apparent when slow beginning readers learn the language patterns of the primer and apply them in their efforts to predict (Y. M. Goodman, 1967, p.276).

Throughout the work, Goodman and his associates stress the importance of language and thought processes versus discrete skills. Research and practice based on the taxonomy of cues and miscues address themselves to the

competence underlying reading behavior. Reading is seen as a language learning skill.

Smith takes a stance very similar to that just described. Speaking of learning to read in terms of language acquisition he writes:

The picture that has been presented shows a child from the very beginning of his life looking for rules that will provide him with the key to the language community in which he finds himself. The child has rules for learning rules, and he tests to see which particular rules apply. We shall see in due course that precisely the same kind of argument may be applied to reading - that basically a child is equipped with every skill that he needs in order to read and to learn to read; all that he needs to discover is the particular rules that apply. When we view the role of the child in this new light, we also see a different role for the adult in the language-learning process. We can perhaps gain some insights into the task of the reading teacher if we understand the function of adults when a child is learning how to speak. (Smith, 1971, p. 55)

Like Goodman, Smith describes the reading process in terms of the interaction between thought and language: using the redundancies of language to predict what lies ahead, integrating the information from all the cues available to the reader, and the interaction between the surface structure of language and its underlying meaning (Smith, 1971). Addressing himself to reading teachers, Smith stresses that demanding accuracy in reading performance is counterproductive. Language processing is not a precision process (Smith, 1973).

In his discussion of the process of reading, Smith makes a distinction between the proficient reader and the learner. The former is seen as going directly to meaning, getting immediate comprehension, the learner is described as using mediated comprehension, having to process words and letters before deriving meaning (Smith, 1971). Kolers has commented on this phenomenon of absorbing meaning directly in conjunction with his experiments using texts in which English and French are intermixed. His bilingual subjects were found to process meaning rather than words (Kolers, 1966). Holmes undertook a study testing the identification of letters, words, and meaning, and reached the conclusion that in normal skilled reading, meaning identification may actually precede word identification (Holmes, 1973).

Among the researchers who made explicit comparisons between language acquisition and learning to read, Ruddell speaks of the need to consider the fact that the process of language acquisition is not yet complete when the child enters school. He cautions teachers not to overestimate the linguistic and cognitive development of the child (Ruddell, 1970). A number of researchers have made that point in recent years (Cazden, 1972; C. Chomsky, 1969; Gerth, 1969; Templin, 1957). C. Chomsky points out that quite common words like ask and tell may be recognized in one structure or context but not in another

(C. Chomsky, 1969). Strickland has made an extensive study comparing the language development of the child and the language structures of primers commonly used, and found discrepancies between the two as far as levels of linguistic competence are concerned (Strickland, 1962).

Cognitive Development

At the cognitive level, the writings of Vygotsky and Piaget are most explicit about the qualitative differences between the thoughts of children and adults. In connection with reading, other writers have pointed to the evolution of the child's thought patterns from concrete to abstract (Kerr, 1970; Kress, 1955; Ruddell, 1970). A survey of Piaget's own writings and discussions about his work by Flavell (1963) and Longstreth (1968) suggested the following items of significance when observing first-grade children in their efforts at learning to read. Based on Piaget's classification of stages of intellectual development, the first-grader is in the intuitive phase of the pre-operational period. His thought is characterized as intuitive because the child is unable to verbalize his reasons for saying or doing what he does. He has developed rules to guide his language development but is unable to explain them.

At this stage in the child's cognitive development, he has not yet assimilated the concept of conservation. He

finds it difficult to center on more than one factor at a time or to consider another person's point of view. His speech is still largely egocentric.

In Piaget's terms, the child's cognitive development is firmly rooted in action or, as Kerr puts it, "Unless the child has thought his way to a particular ability, it is unlikely it will ever be his to use spontaneously" (Kerr, 1970, pp. 142-143). The concept of assimilation, in which the child actively selects and incorporates new concepts is an important one in the child's language development.

Active participation of the child in formulating concepts, intuitive reasoning, thinking in terms of concrete referents, the inability to center on more than one operation at a time, and the absence of the concept of conservation were found to be the most important features of the child's cognitive development insofar as learning to read is concerned.

Studies on Language Acquisition

Research into the acquisition of oral language supplied the basic assumptions underlying this study, the research design, and the theoretical framework for interpreting the findings. Studies reported upon here are limited to those taking a biologic or linguistic view of language learning. The writer examined a number of works describing language learning in terms of S-R connections (Miller & Dollard,

1941; Skinner, 1957; Staats & Staats, 1964) and found them to be of little help in understanding the thought processes underlying language learning. In his discussion of the notion of behaviorists that language is based on imitation and reinforcement, Slobin finds that while these processes have received wide attention, they turn out to be of marginal significance (Slobin, 1973b, p.173).

The ability to create and use language is a uniquely human capacity and Lenneberg (1967) in particular makes a strong case for considering the human propensity to acquire language a biologic given. His fundamental thesis is that behavior is a part of an animal's basic constitution, an integral part of the organic whole and related to its structure and function, one being the expression of the other. Accordingly, in Lenneberg's view, behavior must be investigated in terms of specific species. Deese takes a similar view with regard to learning theories generally. He holds that "The notion of species-specific behavior has permeated modern learning theory" (Deese, 1964, p. 178).

More recently, Slobin has surveyed research from all parts of the world on the acquisition of some forty different languages and reports striking similarities which suggest that there may in fact be a universal course of linguistic development which permits the construction of a language-free acquisition model which focuses

on the process itself rather than the features of a given language (Slobin, 1973a). Speaking particularly of research carried on in the United States, at Harvard (Brown, Bellugi, Cazden, Fraser), Berkeley (Miller & Tripp), and Walter Reed (Braine), Slobin notes that similar conclusions were reached independently. Same word classes and rules of combinations were isolated by these researchers from their analysis of infants' speech samples (Slobin, 1973c).

The classes and rules were based on independent analysis of child speech samples, rather than simply transferred from adult grammar. The 'child as linguist' came into his own and has been growing and changing ever since, with the growth and changes in linguistic theory.
(Slobin, 1973b, p. 171)

This perception of the child as the active shaper of his language learning pervades the literature. The child is seen as having the innate ability to learn language, all the environment provides is material to work with. Lenneberg cautions that

Even though the development of social behavior may require an environmental trigger for proper development and function, the triggering stimulus must not be mistaken for the cause that shapes the behavior.
(Lenneberg, 1967, p. 374)

Placing the focus on inner activities of the child and relegating environmental factors to the position of triggering mechanisms has important implications for the

acquisition of reading. It suggests that materials presented in class may simply activate the child's own language-learning responses rather than being the fundamental cause of learning.

Though the child directs the course of his language learning his home environment provides the context for those first words and phrases. As he comes to know the world around him, the child begins to express that knowledge in simple words. Lenneberg calls them "the acoustic markers of cognitive processes" and "signals of how the individual deals with the task of organizing the input" (Lenneberg, 1967, p. 336). Or, as Slobin puts it,

The first and most obvious point that comes to mind is that language is used to express the child's cognitions of his environment- physical and social - and so a child cannot begin to use a given linguistic form meaningfully until he is able to understand what it means.
(Slobin, 1973a, p. 180)

This inability to use a linguistic form meaningfully until it is fully understood was found to be an important factor in the child's efforts at learning to deal with written language as well. In many cases children will not say a word they do not know, even if they are able to sound it out.

To the young child, thought, language, and the world around him are difficult to separate. Piaget writes of

the close connection between word and action, "Words being so packed with concrete significance that the mere fact of uttering them... could be looked upon as the factor initiating the action" (Piaget, 1959, p. 13). Vygotsky makes the same point stating that the child considers the word as an integral part of the object it denotes. He perceives a gradual transition from meaning to sound developing for the child, who does not yet have a clear conception of the distinction between semantics and phonetics (Vygotsky, 1962).

Describing the "unity of action" of the young child in which gesture, facial expression and action are inseparable from the sounds he makes, Gerth states that for the child, speaking is merely one aspect of activity and not a separate and distinct phenomenon. According to his observation, the child until the age of nine or ten is not able to distance himself from his language to examine it consciously as a thing apart. To the child, speaking is the same spontaneous part of living as breathing, walking, or sleeping. The child and his language are still one (Gerth, 1969). Along the same line, Gerth speaks of the "word realism" of the child, the inability to separate the language from that which is designated. Leopold points out that the child acquiring language does not learn sounds but meaning and words (Leopold, 1969).

These findings about the nature of the child's perception

of words are of great importance to the examination of reading acquisition. The stress placed on word recognition and phonic skills rests on the assumption that children need to learn the sound value of letters and words before they can derive meaning. That assumption is based on adult logic which derives from the adult's ability to make a clear distinction between the word and its referent. If it is correct that the child until the age of nine or ten remains unable to make that distinction then the phonics lessons may be less than crucial to the child's progress in learning to read.

The process of structuring language into meaningful units is of fundamental importance to language learning. Before he can replicate what he hears, the child has to recognize patterns of language. A number of writers have pointed out that the young infant learns to replicate patterns of intonation before he says his first word (Engel, 1973; Lenneberg, 1967; Miller & Ervin, 1964). In this connection, N. Chomsky stresses that "all languages show evidence for the dependence of sound structure on syntactic information" (N. Chomsky, 1971, p. 70). In his terms, a native speaker of a language imposes phrase markers on the flow of language and thereby divides the flow of language into meaningful units. Lenneberg writes with respect to language acquisition, "What is acquired are patterns and structure, not constituent elements" (Lenneberg, 1967, p. 281).

The child hears a flow of language. He focuses his attention only those patterns which have meaning to him, leaving the differentiation of fine points until later on. He moves from gross processing of the language input to fine discriminations. Lenneberg in particular stresses that this is the normal progression of all development of human behavior. Motor skills move from gross to fine, as to perceptual and cognitive skills. The child toddles before he walks or skips. Speaking about language, Lenneberg writes,

We are discovering a basic process that is reflected in language as well as in many other aspects of behavior. It consists of first grasping a whole that is subsequently further differentiated, each of the specifics arriving at different times and being subordinated to the whole by a process of temporal integration.

(Lenneberg, 1967, p. 296)

Leopold makes a similar comparison (Leopold, 1969) and Vygotsky points to the same principle when describing the semantic processing the child does when learning to speak. The child begins from a meaningful complex and separates it into individual parts later on (Vygotsky, 1962).

In connection with both language acquisition and reading instruction, German writers have made reference to gestalt psychology. To paraphrase Gerth, differentiation is a fundamental aspect of language development and as teachers we have to ask ourselves whether this principle offers us

help in seeing more clearly the task involved in language learning. Holistic and gestalt psychology have taught us that development, including language development, does not consist of the addition of new elements which take their place as equals among the building blocks already in place; instead, our total experience evolves from a whole, though diffuse, totality into ever more varied gestalten. Instead of the addition of individual elements we note the differentiation or structuring of an initially diffuse totality (Gerth, 1969, pp. 353-354). He likens the process of language development to the development of a photographic plate: first the broad outlines come into view, then more and more detail comes into focus as development proceeds.

As in the case of the recognition of words, the perception of more evolved grammatical structures depends on semantic and cognitive structures the child brings to bear. He must understand the meaning of a structure before he can produce it himself. In this connection, N. Chomsky makes the distinction between competence: what the speaker knows implicitly, and performance: what he can do (N. Chomsky, 1971). Koziol speaks of receptive versus productive control (Koziol, 1973), and researchers like Miller and Ervin have commented upon the fact that a given syntactic structure will appear quite abruptly and well developed in a child's language patterns. They feel that this shift indicates that the competence for using, say, auxiliary

verbs had been built up internally before being put to actual use (Miller & Ervin, 1964). Understanding or knowing precedes saying.

It is this difference between competence and performance which accounts for the yearly primitive structures of child language. The child is communicating in a telegraphic style. Translating this telegraphic speech into Chomsky's terms Slobin notes that "the child's underlying semantic intentions are richer than the surface structure of his utterances" (Slobin, 1973b, p. 172). He adds that these short statements of the very young child can be interpreted in context and that the child does not feel constrained to express his full meaning.

While these early holophrastic utterances of the child might be taken as nothing more than the selective imitations of adult speech, yet, as noted earlier, the same classes and structures were found to be created by all English-speaking children. The child is developing rules to deal with language.

Evidence for this rule-governed behavior comes also from overgeneralizations children will make when first applying a new rule. Forms like comed and feets indicate that the child is using the regular rules for forming past tense or plurals. These forms often occur after the child acquired the correct usage and a number of researchers have commented upon the seeming temporary regressions

in development children are seen to make in their language acquisition (Brown, Bellugi, & Cazden, 1973; C. Chomsky, 1969; Slobin, 1973a). Apparently the newly acquired knowledge temporarily disrupts the patterns established earlier.

These temporary regressions and inaccurate application of the rules of syntax need to be stressed as important milestones in language learning. They generally signal that the child is entering upon a more advanced stage of learning. Our insistence in the schools upon accuracy and proper observation of all the rules may in fact interfere with the child's own system of self-correction and growth. At a time when we attempt to have him imitate our models accurately, he may be operating at a higher level, that of generating rules to guide his behavior not only in that particular instance but for the future as well.

Another factor of importance to instruction is the differential rate of development researchers have found to exist in the language learning of the child. C. Chomsky in particular stressed that even at school age, the children's language performance is by no means the same for children of the same chronologic age (C. Chomsky, 1969). After a survey of the literature, Hodges concludes that while language is acquired in a fixed order, the rate at which individual children progress may vary considerably (Hodges, 1970). Brown, Cazden, & Bellugi (1973) observed the same differential growth, as have Cazden (1972) and Lenneberg (1967).

The teaching role of the parent is seen as one of providing a model and giving feedback to the child with regard to his own productions. Brown and Bellugi (1964) provide detailed descriptions of the type of feedback parents will give to the child's brief statements. Cazden (1972) points out that parents address themselves to the inner meaning of the child's speech and in a careful search of their research data, Brown, Cazden, and Bellugi (1973) found that parents do not attempt to have their children make corrections in their early speech patterns but accept the child's statements on the basis of meaning rather than form. In early reading instruction the reverse seems to be the rule: form is stressed more than content. Modelling was tentatively put forth as the most important teaching role of the parent and none of the adults were found to provide specific language instruction for their children (Brown, Cazden, & Bellugi, 1973).

The research of Brown and Bellugi (1964) which served as a model for this study was based on observations conducted in the homes of two children over a period of months. Transcribed tape recordings provided the raw data for analysis and the findings summarized three aspects of language development of the infants observed. 1. Imitation with reduction described the child's reduction of the adult's models' sentences into shorter utterances; 2. Imitation with expansion referred to the parents'

feedback to the child which not only confirmed that he had been heard but which expanded the brief utterance of the child into a full sentences; 3. Induction of the latent structures involved the observation that the child induces his own rules of syntax and integrates his language learning into a complex structure which allows him to create sentences of his own.

In summary, the most important aspects of the child's language acquisition are seen to be the self-initiated learning done by the child, his creativity in the induction and application of rules to guide his understanding and speaking, the move from whole structures to a differentiation of parts and the systematic progression from one stage to the next based on the child's cognitive development. Language learning is a highly complex task and the child accomplishes it in his own way.

Children Who Learn to Read Without Formal Instruction

In the course of the research the writer encountered a number of references to children who learn to read without the aid of formal instruction. Since this study is drawing parallels between oral language learning which children accomplish without formal instruction and their efforts at learning to read it was felt that it would be appropriate to look into the factors which characterize these early

readers.

Durkin (1961) reports on a total of 49 subjects drawn from 5103 entering first-graders. The children she tested were reading at grade levels ranging from 1.5 to 4.6 when entering school. While they were quite heterogeneous insofar as I.Q., mental age, and home environment are concerned, the children appeared to share a number of personality factors. They were curious, conscientious, serious-minded, persistent, and self-reliant. They also had exceptionally good memories, plus the ability to concentrate. Durkin did not report specifically how individual children learned to read. Instead, she described the common factors which appeared to have contributed to the children's early reading. Among these are exposure to books and oral reading which not only provided models for young learners but demonstrated what reading was all about. Perhaps the most important variable was the fact that the children had parents or siblings who were willing to answer questions about reading. Intelligence was definitely not the deciding factor; instead, attitude, personality, and exposure to reading material seem to have been the important aspects.

Torrey (1973) provides a more detailed description of a young boy who learned to read on his own. Again, the opportunity to have his questions answered appears to have been important, though the mother was not aware that she

was helping her son particularly. On the basis of her study, Torrey concludes that the key to learning to read is asking the right questions and that "reading is learned, not taught" (Torrey, 1973, p. 157).

Huey not only discusses the ability of learning at home but actually finds that such "natural reading" produces better results than the institutional methods and reading materials provided in schools. He finds that the young reader's attitude towards books is better and adds,

One can pick out the children who learned to read at home. They read naturally. One cannot read naturally when reading for reading's sake.

(Huey, 1968, p. 305)

He then recalls an incident in which a young boy learned to read by having Old Mother Hubbard read to him again and again, until he could "read" the book by himself, keeping his place as he went along (Huey, 1968). Like other writers, Huey stresses that such imitation conveys to the child what reading is all about, but that the child also begins to build a slight vocabulary in this manner. He found that the interest in learning to read comes to all children and saw this "natural learning" as holding valuable suggestions as to the right methods to be used in teaching (Huey, 1968, p. 339). Speaking of children who learn by themselves he writes,

They grow into it as they learned to talk, with no special instruction or

proposed method, and usually such readers are the best and most natural readers of all.
(Huey, 1968, p. 330)

While Huey speaks of "natural readers", Schonell writes, "Many of us know of young children who learned to read by working backwards so to speak" (Schonell, 1961, p. 19). It is an interesting commentary on our conviction about the rightness of our own course of instruction to have learning to read by reading referred to as "working backwards", or - as Schonell does later on - as "indirect reading instruction" (Schonell, 1961, p. 20). Children learn to speak by speaking and no one would think of calling that an indirect way of learning. But when a child opens a book it suddenly seems that the only "right way" to learn is to begin with the ABC. It should be stressed here, that Schonell in no way intends to derogate the child's way of learning to read by his choice of words. In fact, he is advocating the use of familiar materials and repeated oral readings as one way of aiding children to learn to read. He points out that psychologic research confirms that children below the age of seven are unable to deal effectively with phonics instruction and that sounding out may simply become an end in itself which impedes rather than aids understanding and proper eye movement in reading (Schonell, 1961, p. 87).

If the incidence of early reading or learning to read

without the rules seems low and perhaps based on isolated cases, Tucker reported that English-speaking children in Montreal who had received their first year of schooling in a total immersion program of French could not only read French texts as well as their French-speaking counterparts at the end of the year, but were found to read English as well and at a comparable level. The only instruction they had had was provided in French with French texts. But, being native English speakers, they were able to deal with English language texts as well (Tucker, 1974). Once these children had learned what reading is all about, there was no need for sight words or phonics instruction. The fact that the same letters have different sound values in the two languages apparently did not interfere with the children's ability to read.

It would appear that early reading is more widespread than is generally assumed. In the course of this study the writer had the opportunity to observe and tape the oral reading of a four-year old girl who can read with the fluency and expression rarely matched by children who have had three years of schooling. According to the child's mother, her daughter began to read at the age of three. She began by looking at story books (The Wizard of Oz was her first) and listening to the record which accompanied the book. The record signalled when she should turn the page and by listening over and over again she learned

the story by heart while following the words in the book with her finger. From that beginning she learned to recognize words in other settings and by the time she was observed in the classroom it was apparent that she had derived the sound values of letters and used that knowledge to sound out unfamiliar words.

Her oral reading of unfamiliar texts and the obvious pleasure she derived from the reading confirms Huey's remarks about natural readers. It suggests that children who learn to read by reading not only learn the skills we worry about so much but retain their natural creativity and intuitive language learning skills as well. They approach written languages as naturally and easily as oral language and in the process they learn to read for pleasure and meaning.

CHAPTER III
METHODS AND PROCEDURES

Introduction

The research method selected for a study is dictated by the questions asked. Here the questions are, "What does the child do when he learns to read?" and "How does he integrate the material presented to him in class?" It is an inquiry into the thought processes of the child and is not concerned with discrete skills or measurements of levels of achievement. It is an examination of the process of learning to read.

Reading is both a language process and a thinking process and learning to read has to be studied in that light. The research of Piaget and Vygotsky has demonstrated that the thought and language of the child differ markedly from that of adults. But this difference has frequently been left out of the considerations of research design. In his discussion of Piaget's work, Claparade writes,

If the child mind so often appears opaque to adult observation, it is not so much because there are elements added to or wanting in it, not so much because it is full of holes and excrescences as because it belongs to a different kind of thought.
(Claparade, 1959, xiii)

He goes on to say,

In examining the child thought we have applied to it the mould and pattern of the adult mind; we have considered it from the point of view of the logician rather than of the psychologist... M.

Jean Piaget's studies offer us a completely new version of the child's mind.

(Claparede, 1959, p. xxxi)

Speaking of the necessity of fitting learning activities to the child's natural way of thinking, Downing writes,

*
Piaget's research has shown us time and time again the futility of imposing the adult conception of the world on the young child. Their reasoning and thought processes are often very different to the adult's, and it is wastefully inefficient to attempt to teach children in a conceptual framework they do not understand.

(Downing, 1973, p. 9)

It is reasonable to assume that it would be equally inefficient to study the process of learning to read by imposing an adult conceptual framework on the manner in which the child structures and integrates reading instruction. Accordingly, the study described here uses the clinical approach of observing children in their natural learning environment and deriving categories from the material gathered rather than formulating predictive hypotheses and matching the data against the usual categories of component reading skills as perceived by adults.

Among researchers on the development of children's thought and language, Piaget is probably the most widely known and his development of the art and science of clinical observations of small numbers of children has laid much of the ground work for research of this type. In his foreword to Language and Thought of the Child, Claparede writes,

Our author has a special talent for letting the material speak for itself, or rather for hearing it speak for itself. What strikes me in this first book of his is the natural way in which the general ideas have been suggested by the facts; the latter have not been forced to fit ready-made hypotheses.
(Claparede, 1959, xv)

This philosophy of "hearing the material speak for itself" has yielded a great deal of insight into the processes of language acquisition and the manner in which infants structure the oral language of their home environment. McNeill points out,

There have been great changes in the study of child language. Formerly it was assumed that the researcher knew the child's grammar in advance, that it was 'adult grammar filtered through a great deal of cognitive noise and impoverished of vocabulary'... The change from this point of view has been simple but fundamental and mainly methodological.

Most of the recent studies have been observational and longitudinal. Typically, a small sample of children is visited, roughly at monthly intervals during the period of rapid linguistic growth. Usually everything is tape recorded in order to obtain a complete record of all speech to and from the child.

(McNeill, 1966, p. 16)

McNeill's statement that researchers used to assume in advance that they knew the child's grammar is of specific importance to the research discussed here. The study was undertaken without a preconceived idea about the child's "grammar of reading" - about the component parts of reading seen as important by the child. The discussion of much of

the research on learning to read is focused on the components of teaching reading rather than on those of learning. One represents the adult view, the other that of the child.

Among the researchers whose work McNeill is referring to are Braine (1963), Miller & Ervin (1964) whose study on the development of grammar examined the speech of five children intensively against background testing of twenty-five children, and the Harvard researchers, Brown, Fraser, and Bellugi (1964). In their study on the techniques by which the child induces rules from adult language, Brown and Fraser used material from a record of four hours of speech from one child and in a more extensive section on language acquisition, they used records of thirteen children (Brown & Fraser, 1964).

Brown and Bellugi's study on the child's acquisition of syntax (1964) served as a model for the pilot project which preceded this study. It involved tape recording the verbal exchanges between two subjects - a boy and a girl - and their mothers over the course of several months. Discussing this type of research and its efficacy, Deese writes,

The data presented there do provide the kinds of raw material for inferences about the process of acquisition of learning of the kinds of structures apparent in the emitted verbal behavior of the child.
(Deese, 1964, p. 178)

There is, then, in addition to Piagetian research, a considerable body of research in the area of linguistics which effectively used clinical observations and in-depth studies of very few subjects to derive an understanding of the processes the child employs in learning language. It is the emphasis on process and the attempt to gain insights into the child's manner of dealing with language which prompted the adoption of this research technique to the study of reading acquisition. It was felt that the data collected in the classroom would likewise provide raw material for inference about the acquisition process.

In educational research there has been strong emphasis on the testing and measurement of the performance and skills of large numbers of subjects under carefully controlled conditions and statistical analyses of such data. It would appear, however, that in the area of defining the process of reading there is room for a new approach to research. On this matter Kolers writes,

- * It is appalling to note the mounds of literature .. that have accumulated on the subject of reading and how little solid knowledge there is about the process....

By data here is not meant the mounds of correlational statistics and the millions of reading comprehension and reading achievement scores that have been tabulated. Such data tell one very little. What is needed are data that illuminate the processes that characterize reading and that raise questions rather than prove theories
(Kolers, 1968, pp. 8-9)

With respect to tests, Goodman notes,

We let ourselves confuse published reading tests with the competence in reading they try to assess. The subskill tests, skill check lists, and word lists do not test the ability to understand written language. They test, in large part, ability to perform with the abstract bits and pieces of language.
(K. S. Goodman, 1973, p. 14)

To gain insights into the reading process itself, K. S. Goodman, in association with Y. M. Goodman and C. Burke, undertook research "for the express purpose of providing knowledge of the reading process and how it is used and acquired" (K. S. Goodman, 1973, p. 3). The outgrowth of this research has been the development of the taxonomy of reading cues and miscues (K. S. Goodman, 1969) and a Reading Miscue Inventory (Y. M. Goodman & C. Burke, 1972). The latter is based on the taxonomy and intended as an instrument for determining strengths and weaknesses of individual readers. Discussing the application of the taxonomy, Goodman writes,

Studies using the taxonomy are depth studies and the number of subjects in any single study must necessarily be quite small. It is a technique most suitable for seeking to thoroughly understand how a few readers use the reading process. It stands in sharp contrast to statistical studies of many subjects on a few key, isolated variables.
(K. S. Goodman, 1969, p. 28)

Y. M. Goodman used the taxonomy as her principal

research instrument in her doctoral studies examining the reading development of six subjects over a period of twelve months. In this instance, as in the case of the studies undertaken by linguists, careful study of few subjects yielded insights of significance into the learning process. Some aspects of the miscue analysis were used in this study and a sample of the marking sheet used is provided in the Appendix.

It is in concert with their recognition of learning as a highly individual task that Goodman and his associates - who are oriented toward the practical application of reading research - are melding research and diagnosis. In order to improve learning it becomes necessary to understand how learning proceeds. Goodman notes,

When we try to understand how reading works, we must look beyond the superficial behavior of readers. We must try to see what is happening that is causing that behavior. When we teach reading we are trying to build the competence which underlies the superficial behavior; we are not trying simply to change the behavior.

(K. S. Goodman, 1973, pp. 4-5)

Taking a similar stance on the need for diagnostic skills - which of necessity have to be individually applied - Kress writes,

In the writer's opinion there is no place in the education of children for the existence of a dichotomous relationship between diagnosis and therapy or remediation. The psychiatrist, the psychotherapist, and the classroom teacher are all oriented to-

-45-

ward the improvement of learning
of socially approved skills, techniques
and models of adjustment in children
and adults.

(Kress, 1955, p. 114)

Understanding the individual learner is at the heart of this diagnostic approach and speaking about student-centered teaching, Combs writes, "It is not the external facts which are important in understanding behavior, but the meaning of the facts to the behavior" (Combs, 1965, p. 13). It is on this point where the difficulty arises in doing research on the language learning of young children and why the language acquisition studies were selected as a model for gaining insights into the reading process. It is very difficult to obtain valid answers from young children about the meaning of their responses. Even at the age of six they usually respond with a repetition of what they have just said when asked to explain themselves. Children do not talk about talking. Researchers working with infants overcame this difficulty by careful observations of the infants they studied, including in their notes not only the verbal exchanges between the children and their adult models but information on the setting and on non-verbal behavior as well. In the study discussed here, the same approach has been followed.

To the therapist aiding his client in social learning, facial expressions, body movements or the silences of a client speak as loudly as his words. Observations of children

in the class draw upon these cues as well as their reading or other oral and written responses. Children's puzzled expressions, looks of embarrassment, eagerness to respond, willingness to volunteer or hazard a guess all provide information about their learning process. One child was observed to place his hand over his face as though adjusting his hair when the teacher asked for volunteers at the blackboard. Others will busy themselves with the text at such times. Such actions clearly signal: "Don't call on me."

In order to obtain as accurate a record as possible of the learning process it becomes necessary to observe carefully what is is the children say and do during language instruction and to consider that evidence in the manner of a therapist, not evaluating the behavior as good, bad, or incorrect, but to attempt to arrive at an understanding of the deeper significance of the behavior from the point of view of the subject. Flavell writes of Piaget's research method:

Piaget refers to his experimental technique as the clinical method and rightly calls attention to its similarity to psychiatric procedures. The approach does have much in common with diagnostic and therapeutic interviews, with projective testing, and with the kind of informal exploration often used in pilot research throughout the behavioral sciences.
(Flavell, 1963, p. 28)

The observations described here are presented as pilot

research applying a new perspective to the old question of how the ability to read is acquired. All behavior was noted and considered as material for analysis, and individual occurrences of significance have been considered along with recurring behavior patterns. Speaking of the statistical method of evaluating human phenomena, Jung writes,

While reflecting an indisputable aspect of reality it can falsify the actual truth in a most misleading way. This is particularly true of theories which are based on statistics. The distinctive thing about real facts, however, is their individuality.
(Jung, 1957, p.9)

In summary, this study employs the method of intensive observation of limited numbers of individuals in an attempt to let hypotheses emerge as the data is permitted to speak for itself. This method of research is in keeping with the work of Piaget and the study of language acquisition. It was felt to be well suited to the study of thought and language of the child as he learns how to read.

Research Design

The research design is based on the methodology of language acquisition studies which have shed light on the learning processes of the beginning speaker. A pilot study-undertaken to determine if classroom observations of the type Brown and Bellugi (1964) made in the homes would yield similar data for analysis - has guided the work (Forester, 1974).

In their study, Brown and Bellugi (1964) went into the homes of two infants and obtained tape recordings of the verbal interactions between the subjects and the subjects' mothers. Everything said by or to the child was audio-taped and in addition written records were kept describing the physical setting and such other pertinent information as activities of the subjects and their mothers. Transcripts of these observations constituted the primary data of the study. Analysis and classification of the raw data revealed the structuring and integration the child does himself with the language input.

Basically, the research design is characterized by producing a careful record of what children do as they learn to speak, by noting how the language of the child differs from the language he hears, and by drawing inferences about the learning process which produced these differences. The same basic design has been followed in this study.

Since the classroom includes a greater variety and complexity of learning materials than the nursery, recording of the raw data included video taping, audio taping, written records, xeroxing copies of pages from the reading texts and at times of the written work produced by the children. However, the principal feature of the research design are: producing a careful record of what the children do as they learn how to read, noting particularly how their oral and written language differs from the language of the

teacher or the text, and drawing inferences about the learning processes which produced these differences.

Research Procedures

The study was undertaken in a first-grade classroom of Fairburn Elementary School in Victoria, B.C., which comprises twenty-two children - 10 boys, 12 girls - who come principally from middle-class homes. The atmosphere in the classroom is friendly and the children seem eager to respond to the questions of the teacher. They are accustomed to outside visitors and generally paid little attention to the presence of observers and video-tape equipment. The program of instruction is one of integrated language arts, combining phonics, sight-word instruction, reading in several texts, and writing. Textual materials used in the classroom during the period of observation are listed in the Appendix.

Observations were undertaken between September 19, 1974 and February 20, 1975. As a rule, the classroom was visited every Monday morning during one-and-a-half hours of language arts instruction and every Thursday afternoon during an hour of activity time when children selected activities in various centres. Observations at that time were made in the "language arts centre". The observation schedule was interrupted only if special events at school (plays, field trips, holidays, etc.) changed the classroom

routine.

On Monday mornings, an assistant accompanied the principal observer to assist with video-taping of the classroom activities. On Thursdays, the principal observer usually attended class by herself using a tape recorder. On both days, shorthand notes on important interactions augmented the mechanical recordings. All activities connected with language arts instruction were recorded: reading sessions, oral and written exercises on phonic skills, blackboard work connected with reading or writing instruction, and activities or games used in the "language arts centre".

Transcripts of recordings and notes were prepared for analysis. To the extent possible, exact wordings of interactions in class were recorded and transcribed; however, since the observations were carried on during regular class sessions, it was not always possible to capture every detail. The sheer volume of activity and the general classroom noise made it impossible to record all of the data. Samples of verbatim transcripts are included in the Appendix.

For purposes of analysis, the raw material examined included responses by the children to printed material, oral instructions of the teacher, and peer interaction; some aspects of the teacher's oral language, particularly the meta-language of instruction; and textual material, both printed and blackboard work. While all of the responses of the subjects were considered in the analysis, particular

emphasis was placed on deviations from the expected. In some instances such unexpected responses could be classified as reading errors - Goodman terms them miscues - but they also included spontaneous responses or explanations on the part of the children which provided an insight into the manner in which they perceived the material: remarks indicating that to them the language of the text is foreign, or demonstrations that it is meaning or concrete referents rather than the sound of language which is attended to. The behavior patterns which emerged were compared to those which have been found to characterize language acquisition.

The Subjects

Four children were singled out for intensive study, but as time permitted, the responses of the remaining children in the classroom were noted as well. Since it was the intent to gain an insight into the learning process and time was limited, the teacher was asked to select four children who, in her opinion, were likely to progress at a fairly good rate. The four children selected have been in the top reading group and all have gained good fluency and comprehension in reading during the course of the study. However, they were not tested specifically by the writer.

Two of the children were newcomers to the classroom, two attended kindergarten with the same teacher during the previous year and were observed at that time by the

writer. They had had some instruction in sight-word recognition and putting together short sentences. There were two boys and two girls in the group studied closely. One of the boys entered school at the age of five. He is of oriental parents and speaks English with an accent. The other three subjects are native English-speakers and of the usual school age for first grade.

CHAPTER IV
FINDINGS AND CONCLUSIONS

Introduction

This study was undertaken to determine what it is children do when they learn to read, what thought processes or strategies they use to process the lessons and texts presented to them. Direct observations in the classroom during the first six months of reading instruction provided the raw data for this study. Four children were observed closely, but as time permitted, reading behavior of other children in the class was noted as well. During the sessions visited, the teacher continued her usual teaching but made it a point to ask questions of the four children observed. The normal classroom routine afforded ample opportunity to observe other children as well which helped to divert attention from the fact that four children were being observed closely. Though they are used to visitors, the realization that they were singled out for special study might have made the four children nervous or self-conscious.

The classroom provided the opportunity to observe both the teacher under two quite different sets of circumstances. The morning sessions generally involved traditional instructional methods: lessons in phonics, reading circles, written exercises, work sheets provided with the primer, exercises requiring the children to add endings - ed, s, ing, 's - to lists of words or phrases, and the like. During the

afternoon, children worked independently in the "centres" established within the classroom and observations focused on the activities in the language arts centre where children listened to taped readings, played phonics games, worked on letter or word puzzles or looked at flashcards showing pictures and words.

Transcription of the data collected during these diverse teaching approaches revealed considerable differences. During the formal morning sessions it is the teacher who is doing most of the talking, a high proportion of it in the form of questions. Analysis of segments from four morning sessions yielded a count of 120 questions on the part of the teacher. During the same segments, the children asked none. In fact, the individual child does little talking or oral reading in the course of a morning session. The group work makes it necessary for a child to wait while other children take their turns or while the teacher is presenting material to the class at large.

During the afternoon, it is the child who is asking the questions and directing the activities. He becomes absorbed in a game or task and his concentration and attention span appear to be better than during the morning when the teacher frequently has to admonish children to return to their task while she is working with one reading group in a separate corner of the classroom. Transcripts of the children's reading and questions during afternoon sessions

fill pages upon pages. During that period, the role of the teacher is that of facilitator. Instead of posing questions, she is answering them.

To bring the wealth of recorded data down to manageable proportions for presentation here, characteristic behaviors noted in class are listed in point form below and in each instance interpretive comments are added to the examples provided. The framework of linguistic and cognitive theory outlined in the review of literature guided the selection of material included here. To the degree possible, the examples are presented in a sequence paralleling their occurrence in the course of observations, i.e. early behaviors are described first. Where it seemed significant, dates have been included to identify specific events.

The descriptions of what children do when they learn to read are set against the basic assumptions stated in the Introduction. The focus is on the learning activities of the children.

Findings Examined in Light of the Assumptions

The literature surveyed suggests that language learning is an innate human ability which flows easily and naturally from within the learner. Building on that premise, a number of assumptions have formed the basis for this study. First, since reading is considered a language-learning task, its acquisition should lend itself to study on the basis of

research in language acquisition.

Analysis of the transcribed data collected in the classroom confirms that linguistic research methods did in fact help to reveal some of the thought processes which underlie the children's observed reading behavior. The patterns noted have close parallels in those described by researchers studying oral language acquisition and thus confirm the second assumption: That the child is likely to continue using his language learning strategies in the classroom as well as in his home. To the degree possible in the classroom setting, which after all varies from the learning environment of the home, children draw upon their own language learning strategies naturally and intuitively as they try to learn to read.

The specific features of language learning cited in the third assumption include: using the context or setting to learn language, scanning the flow of language to find meaningful units, using concrete referents as guides to meaning, guiding oral language production on the basis of meaning, differentiating the parts of language from the whole and moving from gross processing to fine. Analysis of what it is children do when they learn to read reveals parallel features in the children's approach to reading acquisition.

What Children Do

1. Drawing upon the context or setting

During the first few weeks of instruction, children rely heavily on cues other than letters or words. They listen to the teacher, the other children, draw on pictures to aid their memory, and they observe how the teacher cups her lips when enunciating words precisely, or how she reacts to their responses.

Letters and their sounds, rhymes, and words in isolation have little meaning to the child approaching the task of learning to read. To him, language is an oral medium and accordingly, the child at first relies on oral cues more readily than printed ones. Continuing his strategies or oral language learning, he draws on the whole learning environment to deal with the task before him. He is looking for models and patterns he can relate to. He reads the teacher as much as the text.

2. Scanning the text

Once the children have learned to recognize a number of words on sight, they will scan printed text (in their books or at the blackboard) to find words they recognize. Watching their fingers or the movement of the pointer at the blackboard, showed their active search for something familiar. Usually they would stop at a familiar noun.

As with oral language, children select those parts of printed language which have meaning to them to begin dealing with the whole. When in doubt, they refer back to the pictures accompanying the text. Though they are instructed to read from the left to the right and from the top to the bottom of the page, children scan the entire

page to find units meaningful to them, much as infants scan the flow of oral language to pick out familiar units.

3. Words suggest concrete referents

On two separate occasions, when asked to circle the initial consonants of words supplied orally by the teacher, children searched for an R (for rabbit) when the word supplied was bunny.

A boy, asked to circle the beginning letter of sister, circled J, his sister's name being Julie.

Asked if she knew what cake looked like (meaning the word cake) a child replied, 'Sure, it's round and has icing on it.'

Children think in terms of concrete referents. Words are not separate entities to be looked at or dismembered. Instead, they are closely tied to reality. A bunny is a fuzzy animal; a sister is not a type of relative but that living person, Julie. It appears that children have a different relationship to language and words than that conceived of by adults who have learned to manipulate and classify written language and its components. The same phenomenon was noted by the writers describing oral language acquisition who stress that the child sees an object and its name as one. The examples cited here seemed particularly well suited to illustrate that the child does not attend to the printed word per se but thinks in terms of meaning and concrete referents.

4. Meaning takes precedence over sound

No matter what the cue - written, spoken,

pictorial - children attend to meaning more than to sound:

Little was read successively as 'teeny' and 'small'.

When asked orally, 'What rhymes with good and animals live in it?' The responses were 'zoo' and 'cave'. The expected response was wood.

The picture of a hen was identified by the children as a 'rooster' and then a 'chicken', though that word occurred on a word wheel (complete with pictures) showing the words men, pen, ten, and they had already correctly read those words.

Examples of this type are frequent in the transcripts of the observations. Children recognize the meaning implied in the material before them and express that meaning in their own terms. It is likely that they would know what a hen is if that word occurred in the context of mother hen with chicks. In the absence of such context, the more familiar words, chicken and rooster, come to mind. Similarly, the word little occurred next to the picture of a small bird. To the child, the word teeny seemed to fit the context. He was expressing the meaning, not the particular word. One boy read mitt as "glove" several times. To him, the picture accompanying the text signalled what the word meant. He said said the word which to him conveys that meaning, though the sound pattern of the sentence "This is Tim's Mitt," suggested that he should use "mitt".

5. Meaning takes precedence over words

When asked to write sentences of their own, children produced shortened versions of language similar to some of the primitive structures of infants. However, these shortened versions of speech would be read as complete sentences:

I wear scarf wear socks wear mittens. is read as:
'I weared a scarf. I weared socks. I weared mittens.'

It have a hat. is read as:
'The snowman has a hat.'

When writing about his Christmas presents, one boy began his sentence with Building set. He put it in the middle of the line saying, 'I better start over here in case I forget something.' Later he added I got a to fill in the blank space he had left at the beginning of the line.

As noted in No. 2 above, children focus on the parts of language which have meaning to them. Their writing externalizes this focus on the major components of language. In oral language they have progressed past the stage of telegraphic speech and when reading these shortened sentences, the children interpolate the parts they have omitted during writing. The telegraphic writing of the children carries more meaning than the surface structure shows and is understood and read that way by them. They are not processing words but language and meaning. Reading is not a precision process where every letter or word is closely attended to.

6. The rules of phonics follow meaning

Children learned the names and sound values of consonants and began to use them

occasionally to aid their recognition of words. In exercises adding new beginning consonants children improved their ability to recognize words, but it was noted that this proficiency was not spontaneously transferred to oral reading.

Once short vowels and their sounds were introduced in January, children began to practice sounding out more fully. During exercises on the sound of the short E three children experienced difficulties with the words met, bet, and beg. They alternately tried 'mat', 'mit', 'bat', 'bit', and 'bag', 'big' but were unable to arrive at the correct answers. When the observer supplied them, the children gave blank looks. They then tried to say 'met', 'beg' and 'bet' but failed to arrive at the proper pronunciation despite three or four tries. The same children have no difficulty at saying 'net' or 'Meg'.

This incident seems to confirm that learning to read is not a question of learning sounds to build up words to derive meaning, but that the progression is in the opposite direction. Faced with a simple word but one which they did not recognize out of context, the children were not only unable to sound it out, but - more strikingly - found themselves unable to say the unfamiliar word. It is highly probable that the children would experience no difficulty with these words if they heard them in the normal flow of language. Encountering them in isolation stopped their ability to recognize or say them.

For the children it is not a matter of building words out of letters to make sense, but learning to take sentences and words apart to get to know what they are

made of. If they know a word they come to know its letters as well. The lessons in phonics take their effect after the children have ²learned to read for meaning. The parts are differentiated out of the whole.

7. From the whole to the parts

Despite the fact that consonants and their sounds were introduced from the beginning of September, children continue to confuse b with d and p. As late as the end of February, the best reader in the class asked the writer, 'Is that a b or a d?' when trying to make new words by fitting vowels between two consonants.

A child who would read big or dig without difficulty when those words appeared in the context of a story nevertheless found it difficult to recognize those consonants in isolation. They had been practiced for six months on an almost daily basis, their sounds were known, yet as individual building blocks of language they still presented difficulty. This was particularly evident in the children's writing. Letters were frequently misprinted but read to fit the word or context.

All four children observed were reading with good comprehension and fair fluency by the beginning of the New Year. They had learned to read without having had lessons about all the sounds they presumably need. By the end of this study, neither long vowels nor consonant blends had been introduced. Yet children could read. One boy in particular took pride in being able to recognize new words,

saying, "I know all the sounds." The picture of reading had developed in the children's minds and its detail was coming into focus.

8. Gross processing

Children do not make fine discriminations between individual letters and words when they read. In mid-October children were not yet using initial consonants with any consistency to aid their word recognition. The following pairs of words list the printed stimulus and then the child's response(s): good - down; mouse - mop; bug - hug, slug; down - up; dump - up, down (down appeared right above it and had just been read as 'up'); boat - tree; rake - make; tar - at; took - make.

If see occurred several times on a page, but look fit the language pattern of the child more closely, the latter was used - in some cases after having read the word see correctly just seconds earlier.

Drip drop, drip drop was read by a child alternately as 'drop drop' or 'drip drip' on successive readings. The fact that the two words with different vowels stood side by side in large print did not seem to matter.

The examples provided here and in No.'s 5 and 7 above indicate that the children scan the printed text for meaningful units of language rather than looking at the fine details of print. Words are not analyzed on the basis of their precise configuration. Children appear to scan words as they scan the overall text. When something familiar stands out, they use it as a guide. This familiar unit might be a vowel, a consonant or a grouping of these. The teacher pointed out that

help and play are regularly confused by children. A number of incidents of this confusion was recorded during classroom observations. Seeing the words side by side suggests that children may use the end of a word as much as the beginning to get clues.

Though adult logic suggests that close attention to letters and sounds is the necessary first step toward reading, on further consideration it becomes clear that processing individual words on the basis of the sounds of their letters would be quite impossible. Reading could not proceed if the child had to consider every letter of print as he moves along the lines of text. Like adults, children have recourse to sounding out or close attention to individual words only when they are in doubt about an item of print. In normal reading, even at the very beginning stages, children use gross processing of language instead of making individual discriminations of letters. They do not make a mental check on their knowledge of letter-sound correspondences before saying a word but go directly to meaning. The acquisition of reading following the usual pattern of development - from gross to fine.

Restructuring the input

The learning patterns of beginning readers described so far resemble the learning patterns of oral language

acquisition. One highly important aspect of language learning is the perception and use of structures of language. To deal with the complexities of adult syntax, infants restructure language their own way. The assumption about reading acquisition was that beginning readers, too, would probably use their own ways to restructure the learning materials in order to be able to assimilate them.

Examples which demonstrated that children were using patterns of language to guide their responses to the reading material are among the most consistent and frequently noted. Even though children did not fully recognize what it means to read until three or four months after the onset of instruction, the use of patterns of language came into play early. It took many different forms which will be described below.

What Children Do (Continued)

9. Children recognize familiar phrases

In many instances, the children recognized phrases in the text or in written exercises as constituting familiar units. From an early point, units like come and, big fish, red ball, play house were read with better fluency, as though they belonged together, even though the rest of the text was still read with long pauses between words. Once said Janet, said Mother, became frequent units of text, this combination was virtually always read with good fluency.

On several occasions, children were interrupted while reading a line aloud and, on the second try, produced much better intonation. One boy read, 'Here / we / go.' Just as the teacher

was admonishing another child to keep busy. He looked at those three words, suddenly flashed a big smile of recognition, and turned to his neighbour saying, 'Here we go!' He then repeated the reading for the teacher with the same natural intonation.

For the children, familiar phrases stood out among the strings of seemingly unconnected words in the primer. In the last example, the child had the opportunity to take a mental look at the totality of that brief sentence and suddenly the pieces came together, to allow him to recognize them as a familiar pattern of language. As long as each word was said separately, the fit of the pieces was not obvious. *

10. Children draw upon their oral language patterns to guide them

As early as the second week of observations, examples of errors in intonation indicated that the children were using their own patterns of language to aid them. See Lucky. and Run, Anne. were read as if they were not complete sentences. The children's intonation indicated that they felt something was missing.

When asked to re-read a line with a more natural intonation, one boy converted Oh, Janet look. to 'Oh look, Janet.' On another occasion, the same boy remarked, 'I don't even say that.' when asked by the teacher how he would say a line in the text.

See what I can make. was read as 'Look what I can make.'

In January one girl demonstrated that to her, little is not a word with which to end a sentence. The sentence was, I can read a little. It occupied one line and the next sentence - beginning on the line below-

-started But... The child read, 'I can read a / / little part... little bit.'

The short sentences of the primer violate the normal pattern or rhythm of language as perceived by the children. At times their omissions or insertions of words during oral reading gave a line of print a more natural rhythm. The conversions of text into a more natural word order and the substitution of words also evidence the children's reference to patterns of their own.

11. Slow readers learn "Primerese"

Children who rarely used their oral language patterns to aid them in dealing with the text appeared to internalize the recurring language patterns of the primer. Come to.. or Come in... would be read as 'Come and...' Similar substitutions replicating familiar phrases from the text for those actually printed were noted.

When asked to write sentences of their own, these children would write sentences like, Stop Lucky stop. or John and Janet have a Christmas tree. Others would add, said Janet to their own We have a Christmas tree.

During oral reading, one girl was observed to stop once she realized she was reading instead of talking. She continued on with the passage shifting to the word-for-word intonation customary during oral reading.

When asked to turn a one-word answer to a question about the text into a complete sentence, a child responded, 'Janet / found / a / book.' Saying each word separately and distinctly and leaving pauses between words.

Based on the fact that the children were actually using the language of the primer in their oral and written answers about the text, it appears that they decided that the printed words must be some kind of language which does make sense and has a rhythm of its own. They had learned "Primerese" and were using its patterns to help them progress from saying words to reading. They had come to realize that reading involves both both looking for meaning and using patterns of language.

The effects of this insight about the nature of reading were particularly striking with a boy of Scandinavian parents (who may not speak English at home at all times). He had been quite slow in absorbing some of the materials presented in class and was observed having great difficulties with blackboard exercises requiring him to make substitutions or finding endings for words. His facial expression and general demeanor showed plainly that he looked upon these exercises as pure guessing games. Better than any words, his overall look and expression conveyed, "Let's see now, which one should I try on her to get this one?" By December, his written work began to show sentences gleaned from the primer. It was at that point that his reading performance improved markedly. His overall behavior became more assured, and the "guessing look" all but disappeared. He had learned "Primerese" and was using it as a predictive

tool in reading.

12. Using the context

Children were observed to hesitate on an unfamiliar word, then move their finger ahead to scan the next few words, only to return to the word at which they first stopped and reading it without difficulty.

Regressions to the beginning of a sentence were frequently recorded and in many instances these were cases in which children recognized that the word or words just read did not fit the context. For example:

find
c Please help Anne and me

The child read and as find and then regressed to the beginning of the sentence to correct herself once she realized that find did not fit the context.

As noted above, children do not simply focus upon the printed words on the page. Once they recognized that reading is meant to make sense, they began to draw upon the context more readily. The flow of language served as a guide to prediction and reading. In addition to the examples just cited, children continued to use pictures, auditory memory and the structure of their own language (as described in previous sections) to aid their reading. They brought far more to bear than the recognition of letters and words. Self-correction occurred on the basis of whole language and meaning rather than the recognition of individual letters or words.

The induction of rules

Children learning to speak do not simply imitate what they hear. Instead, they induce rules and use these rules to deal with the complexities of language. They impose their own patterns on the vast language input and generate sentences of their own to fit their level of linguistic and cognitive development. The assumption for this study was that children dealing with written language might display the same creativity in designing rules of their own.

Based on the observations described so far, it can be said that the children appear to approach reading on the basis of two rules:

1. In order to read you have to look for meaning.
2. To abstract meaning from the printed text, you work with the patterns of language.

Throughout the observations, meaning and structure or patterns of language were the components children referred to most when trying to read. This, in spite of the fact that the focus of instruction centered on words and their sounds with little explicit mention of meaning or making sense. Virtually nothing was said about patterns of language. The children themselves induced these two fundamental rules about the nature of reading. They focused on what it means to read, the structured lessons of the morning sessions focused on the component skills of reading.

Both of these rules flow naturally from the child's language learning. To him, language consists of meaning and patterns. He does not examine language as an abstraction to be talked about on the basis of sounds.

In language acquisition, the rules generated by the child are of a simpler order than adult rules. In reading acquisition, the rules generated and applied by the child appear to be of a higher order than those implicit in instruction. The explanation for this difference lies in the level of the child's linguistic development which he brings to bear on the task. In Vygotsky's view a language learner will not regress to an earlier level of linguistic development when faced with a new language-learning task (Vygotsky, 1962) and the children observed seemed to confirm that view with regard to reading acquisition. They induced rules of reading in accordance with their level of linguistic development.

Adults designing reading curricula have apparently overlooked the proficiency the child has attained in language-learning and have attempted to make the learning task easier by dividing written language into manageable units for the child. What they failed to take into account was that the thought processes of the child differ from those of adults. What seems logical and easy to an adult is not necessarily perceived that way by the child. Reducing language into component elements is a case in point.

Children have their own ways of dealing with language learning.

The thought and language of the child differ from that of adults

Based on that fact that neither the child's cognitive nor linguistic development are fully mature at the time he enters first grade, it was assumed that the beginning reader would not simply adopt the lessons presented in class but would be found to apply his own logic to the task at hand. The observations described here would seem to bear that out.

The children continue to use their own language-learning strategies. While their approach represents greater linguistic sophistication than the child is credited with having, one can readily conclude that (the child is credited with having, one can readily conclude that) the two rules generated by the children are well designed to make learning to read simpler. The complexities of the rules of phonics and morphology made explicit in instruction are very hard to deal with them as any student of foreign languages forced to deal with them knows only too well.

Rules of language made explicit and examples based on them represent a high level of abstraction. An expert linguist has had to derive them and then design examples to fit. The simplicity of the rules of phonics presented

in class is deceptive because they represent the end ^{AK} point of a chain of reasoning (to say nothing of the many exceptions not covered). As researchers in the development of children's thought and language have pointed out, in order to make a concept of his own, a child has to traverse all the intervening steps needed to develop it if he is ever going to apply it spontaneously. In this light it becomes as important to note what children do not do and to examine these observations within the context of the child's cognitive development.

What children do not do

1. A string of words does not constitute language

During the early weeks of observation, the intonation of the children gave the impression that they did not perceive the written text as meaningful language. They were saying all the words but failed to see the connection between those words. This impression was confirmed by a boy who put together the sentence Go home Lucky while working with a word puzzle, but read it 'Go house Lucky.' When asked by the writer if it made sense to him, he pointed to home and said, 'That word says house.' He appeared puzzled about the question and did not understand the point of the conversation which, to the writer's mind, was designed to lead him to an understanding of misreading and the fact that a sentence should make sense. (The incident occurred in early November.)

Ten days later, the same boy wrote Please him you when the teacher asked the children to write a sentence of

their own. He read it, 'Please me you.' He had copied those words from the blackboard where they appeared as the last line of an exercise, and were provided as choices for filling in blanks left in three sentences above. He was quite puzzled to find that these words did not constitute a sentence.

The teacher focuses her lessons on words and letters or sounds. Nothing is said explicitly about "making sense". There was little modelling of fluent reading in class. Basically, all the children were exposed to during the first two to three months of school were exercises with words and listening to the oral reading of their peers. Children are used to oral language and its rapid flow and intonation patterns. Passages like Oh, look, John! Run to Janet. Run and help. (p. 21) or Oh, oh, oh! See Anne. (p. 22) distort the normal flow of language and invite word-for-word reading. This makes it difficult for children to recognize their own language patterns and intonation in the written text. Reading can be described as recognizing language. From the child's point of view, those early lessons and text have little similarity with the oral language he knows.

It it seems difficult to accept that the children fail to recognize reading as "language written down" until some three or four months after the beginning of instruction, one need only recall incidents of listening to a foreigner and the difficulties encountered with

understanding his distorted English. A mere change in accent or intonation can make his speech quite incomprehensible to many a listener and leave the impression that he is not speaking English at all. The lack of content in the selections of the primer and the poor intonation of beginning readers were not designed to give children the impression that they were dealing with the language they normally hear and speak.

2. Memorized rules are not consistently applied

Children memorized the rule that 'A sentence begins with a capital and ends with a period.;

While they could readily state that rule when asked about it, they did not apply it in their own writing. Instead of capitalizing the beginning of a sentence, they capitalize words important to them: Doll, Big Brother, Building set. Their own sentences did not necessarily end in a period.

"Knowing" that rule did not aid the children to gain a clear perception of what a sentence is. To them, it is a line of print, some words strung together, some unit of language. Children need practice to arrive at their own understanding of the concept sentence before they are ready to deal meaningfully with the teacher's rule. Their intonation during oral reading indicates that at the intuitive level they have an understanding of the unit of language which constitutes a sentence. However, they do not perceive the connection

between their own language and the teacher's rule.

The same difficulties obtain with the other parts of the meta-language used in conjunction with teaching.

Abstract concepts like word, ending, or sound are difficult to deal with at a conscious level.

3. Lessons in phonics are not necessarily perceived as tools for reading

Asked to convert and into sand, up into cup the children produced snd and cp. Normally the teacher would provide words like hand and pup and ask the children to change them into new words.

Based on the children's perception, the exercise of making a new word consisted of "taking one letter off and sticking another one in front." Non-words like mook and wan and further examples of the type listed here were also produced during these phonics exercises. The children appeared to enjoy making these conversions on their tabletop blackboards, and gained proficiency in making the right responses. But there was no indication that they consciously transferred these skills to reading. They are focused on one task at a time. In Piaget's terms, they do not decenter from it.

4. The sounds of rhyming words do not necessarily aid the recognition of words

Working with word wheels which show endings like en, ug, at, and which have windows that bring a series of initial consonants into view as the

child twists the lower disk of the two-part cardboard wheel, produced many examples of the type described earlier. After reading 'ten' and 'pen' correctly, several children said 'people' after looking at the picture of three men. After reading (or at least saying) 'hat', 'bat', 'cat', children would say, 'mouse' or even 'R for mouse' instead of rat. On that same wheel the picture of a welcome mat looks like a bar of soap to the children and several said 'soap' after saying a number of the at words.

Similarly, children working with cards showing endings like and, ill, ook, and flipping initial consonants into place to produce hand, land, sand, would continue to ask "What's that one say?" referring to the ending. Even though they had already said it several times, the sound did not seem to be remembered. One child asked for the same ending three times for four words.

The puzzling aspect of having children say and hear the same sound without using it as a guide to the next word in the sequence and having the same ending unchanged in front of their eyes yet saying something quite unlike that ending may find its explanation in the absence of the concept of conservation from the child's cognitive functions. Flipping a new consonant into place can be likened to putting that ending into a new container. The child is not focusing on the intervening process but the end result. The new word is a different entity than the one before.

Further, if the child is centered on meaning rather

than sound, it is not inconsistent for him to say a word that sounds quite unlike the rest. If he is using mental images for each new word - possibly mentally replacing the word read with a more familiar one - say, cat with pussy or Blackie - he may not be very conscious of having just said cat.

He does not decenter from the central aspect of language - meaning - hence the sound and appearance of these words receive little attention. The list of rhyming words is an adult construct. It is not usable to the child until he himself has traversed the steps that produce it.

5. The repetition of words is no guaranty that they will be recognized in all contexts

During oral readings it was noted that children would ask for the same word several times. If the teacher had discussed a new word, put it on the board and talked about how it might be used in a sentence, children would nevertheless hesitate when coming to that word in the printed text right after that introduction.

On a number of occasions, children would read a word like want twice on the same page (of four or five lines) and then ask to have it supplied when it occurred a third time.

The word make was introduced at the very beginning of the school year and used many times in exercises directing children to Make 6 big red apples. Within the context of those repeated instructions, children read make from the blackboard without hesitation.

When encountering make in the printed text, it was asked for as though it was unfamiliar.

Some of these examples might be nothing more than a case of poor memory, but saying a word twice within a matter of seconds and then asking for it needs a better explanation. It is possible that this is another instance of lack of conservation in face of a new configuration. Words are seen in a container of context - sentences, syntactic structures, or exercises. If the container changes, the word looks new and different. Children process the flow of language and use familiar structures of language to guide them. As pointed out in the preceding sections, they are using patterns of language and context as cues to meaning. They are not word processors.

Learning proceeds from within the child

The final assumption that in order to gain an insight into the process of learning to read, it must be studied from the point of view of the child, has guided the writer throughout this study. The language acquisition research provided the model for studying the child's thought processes on the basis of close observations of his learning behavior and the classification of that behavior into categories outside of the usual adult grammar. The writer's own education in counseling contributed training in listening and the interpretation

of verbal and non-verbal responses from the speaker's point of view. And, finally, a background in learning and teaching languages contributed an awareness of the difficulties inherent in dealing with a new linguistic task and the ways in which those difficulties can be dealt with.

Throughout this study, the focus has been on the child and his life space. The responses observed have been interpreted within the context of the setting and task and the writer has attempted to perceive the learning environment as the children did. Based on the findings, it appears that this assumption, too, has been borne out. The use of a combination of linguistic research, cognitive and counseling psychology made it possible to examine the learning process from the child's point of view and helped to reveal some of the subtleties of the child's thought processes as he learns to read.

Conclusion

The above description of what is is children do when they learn to read has confirmed the basic assumptions about the parallels between language learning and learning to read which formed the foundation for this study. The methodology of language acquisition research proved to be effective in revealing the learning strategies of the beginning reader and reading acquisition was found to have close parallels in language acquisition. The broad

assumptions about similarities between the two language learning activities yielded more striking results than had been anticipated.

Toward the end of the observations and as analysis of the data proceeded, the writer became increasingly aware how very closely some of the observed behavior in the classroom fit the learning behaviors described in oral language acquisition. Limitations of time do not permit full discussion here and considerable further research will be needed to confirm some of the more fleeting impressions gained of the learning process. However, the descriptions provided above clearly reveal the learning patterns described in the review of the literature on language acquisition and fit the findings of psycholinguistics research on reading acquisition closely.

To recapitulate the learning strategies of the beginning readers observed: children draw upon a broad range of cues to guide initial learning. They scan the flow of language, think in terms of concrete referents and use illustrations or other aids provided by the learning environment to assist them. They focus on meaning rather than sound or words and begin with whole patterns of language to derive an understanding of component parts. Gross processing, rather than close attention to details marks their performance and patterns rather than isolated

letters or words guide understanding. All of these strategies represent the child's own intuitive and inductive approach to learning.

The observations reveal that the level of rules presented in class appear to present difficulties to the child which at times prove to be insurmountable and certainly hamper progress toward fluency. Initially, the explicit rules deal with letter-sound correspondences, rhymes, endings and the like. All of them, though seemingly simple, are abstractions and essentially devoid of significance to the child who thinks in terms of meaning and concrete referents. Those children who perceived that printed texts are in fact "language written down" began to apply their own rules to deal with the task before them. They matched the rules of syntax they had already evolved intuitively in their oral language acquisition against the patterns of the text and induced the two most fundamental rules which guide the proficient reader:

1. in order to read, you have to look for meaning.

and

2. To abstract meaning from printed text, you work with the patterns of language.

This in face of the fact that instruction in the classroom stressed component skills and provided no specific guidance about looking for meaning or the structures of language.

The seeming paradox of having children generate the most fundamental rules of reading yet finding simple tasks difficult is resolved when principles of language acquisition and cognitive development are used as guides to examine both the tasks involved and the children's reactions to them. Linguistically, the children are functioning at a high level of sophistication; cognitively, they are still in the intuitive phase and unable to deal with abstract logic or the conscious application of linguistic rules. Reading instruction reverses the levels of competence demanded of children. Linguistically, lessons are structured as though the child had little or no knowledge of language, as though he was operating on a low level of a foreigner being introduced to the morphology and sounds of an unknown language; at the cognitive level, lessons derive from highly abstract adult logic, which assumes that the child operates at the same level as an adult. Seen from the child's point of view, linguistically he is not given credit where credit is due, cognitively he is credited with functioning at a level well past his reach.

Given the opportunity, the beginning reader structures written language to fit his own linguistic and cognitive development, just as he structures oral language. If the style of the text does not fit his own, he converts it, if the names for concrete referents differ from those

he commonly uses, he supplies his own. The young reader is searching for meaning his own way and is not concerned with the precise configuration of letters, words, or sentences.

In the writer's view, the most striking discovery of this study is that a child intuitively adopts the strategies which mark the proficient reader: looking for meaning, drawing upon the structures of language to guide him, and using a flexible approach to reading. It does appear, therefore, that given the opportunity, children have the capacity to become natural readers much like they become natural speakers. The strategies required and used by the children are very similar for both learning processes.

Seen in light of the findings reported here, the universal model of language acquisition proposed by Slobin fits reading acquisition very well. It is presented here, in slightly modified form as a tentative model of reading acquisition:

The first component is the development of semantic intentions, stemming from general cognitive development. The child, equipped with an inherent definition of the general structures and functions of language, goes about finding means for the expression of those intentions by actively attempting to understand the printed text. He has preliminary internal structures for the assimilation of both linguistic and non-linguistic input to aid him. He scans linguistic input to discover

meaning guided by certain ideas about language, by general cognitive perceptual strategies, and by processing limitations imposed by the constraints of operative memory. As in all of cognitive development, this acquisition process involves the assimilation of information to existing structures, and the accommodation of those structures to new input. The perception of reading strategies engender the formation of rules for proficiency in reading.

(Slobin, 1973a, p. 208 - modified for reading)

In summary, the study has confirmed that children learning to read apply their own language-learning strategies. They initiate learning and restructure the materials presented in class. Though much research will be needed to confirm and expand these findings, the implications for reading instruction are profound. It is the hope of the writer that application of some of the findings reported here to classroom instruction will produce happier results for learner and teacher alike. Instead of seeing reading as a problem it might become a solid foundation for aiding the child to retain his own creative and intuitive learning strategies while slowly building the logical structures of adult thinking. Since reading acquisition appears to flow naturally from the child's own learning strategies it seems ideally suited to encourage children to continue their self-initiated learning. As teachers we have the responsibility of providing solid and challenging materials, the child can structure the learning himself.

CHAPTER V

IMPLICATIONS OF THE FINDINGS

For Learning

If it is the aim of reading instruction to assist children to derive meaning from the printed text -as against teaching them rules of phonics and morphology -the implications of the findings reported here are profound. Considerable revision of the standard reading curriculum based on word attack skills will be required. But more importantly, a new focus on learning as against teaching is indicated. Instead of making it necessary for children to restructure the lessons, the learner himself should be trusted to draw up his own lesson plan much as he has in oral language learning. For the teacher, the descriptions of what it is children do when they learn to read may serve as a guide to create a learning environment which allows the children to initiate learning which builds on their own strategies and linguistic skills and which provides her the opportunity to assist children on an individual basis.

The first steps toward learning to read are realizing that written language makes sense and building a sight vocabulary. Since children were found to use meaning and structure to guide them and a technique of scanning for familiar units, it seems that the use of well-known stories, nursery rhymes, or similar materials which are

easy to recognize and remember would be ideally suited as initial reading matter. Children would recognize such texts as real language and the familiarity they have with them would allow them to center on one task at a time, that of learning to find words and patterns of language in the text. It would aid their awareness that unknown words can be derived from context and build on their normal language-learning strategy of differentiating the parts from the whole.

The inability of children to focus on sounds, letters, or words in isolation suggests that lessons in phonics, morphology and sight word drills should be eliminated or at least postponed. The aim of these lessons, providing the children with tools for recognizing words in print, is achieved more effectively by the child's own approach, that of drawing upon the context and using the structure and rhythm of language. It is the intuitive way of unlocking the meaning of language - written or oral - used by adult and child alike and though it is a more advanced method than that implicit in phonics lessons, the child is well prepared for it based on his linguistic competence. In this case, too, the use of familiar stories would aid the child in making the transition from using his language learning strategies for the written material as well as for oral language development.

The use of structures or patterns to guide reading was

among the most frequently observed phenomena during this study. The teacher would do well to encourage that tendency by working with phrases and sentences instead of letters or words. The provision of texts with more natural language would probably further enhance the child's own use of language patterns to guide reading.

The reader's focus on meaning and concrete referents militate against the stress on accurate word-for-word renditions of written texts. Content rather than precise form is the heart of proficient reading and the child is aiming toward extracting the content of written language. The requirement to closely examine individual letters and words may well convey to the child that what counts is form, not meaning. The progression from gross to fine processing which was found to characterize reading as well as language acquisition further supports that it is probably counterproductive to require precision during early oral reading.

The suggestion that the child's gross processing be accepted does not mean an abandonment of efforts to improve his knowledge and use of proper English. The fact that some children used the patterns of the primer to aid them in their reading confirms that children are sensitive to elements of style and will use them to aid their prediction in reading. While the monosyllables and unnatural language of the primer used in class can only be seen as retarding

the child's language development, reading material modelling good language no doubt would encourage the children to learn its patterns in order to use them as predictive tools in reading.

Similarly, the abandonment of teaching explicit rules of phonics or morphology does not have to result in the inability of children to use rules to guide their reading. They were found to induce the two most fundamental rules of reading and their ability to read without having first been introduced to all the rules of phonics may mean that they have also begun to develop a competence in using letter-sound correspondences to guide them when all other cues to word recognition fail. The competence the children demonstrated in deriving and applying rules was not accompanied by concomitant performance in verbalizing those rules or applying rules memorized on the basis of the teacher's lessons. Again, it becomes a question of the aim of instruction. If it is competence in reading, the children are able to develop it; if it is performance with rules on an explicit level, they are not yet ready and insistence upon the application of explicit rules may only retard the achievement of the main goal.

Finally, if these suggestions sound like an invitation to abandon or lower standards of instruction or discipline, it should be stressed that the observations during afternoon sessions indicate the opposite results for an open

approach to learning. The attention span, concentration and amount of work done was better during these sessions than in the mornings when the teacher frequently had to admonish children to get back to work. Discipline in the afternoon flowed from the active involvement of the child in his learning activities.

Academically, the linguistic achievement of the children could be materially increased by adoption of an approach which draws upon their level of language proficiency. The current approach is marked by the use of highly impoverished language and instructional techniques which are operating at cross purposes with the child's way of learning language. Based on the observations in class and the general findings, it is the opinion of the writer that a curriculum based on the child's own learning strategies would result in better achievement for beginning readers, less discipline problems, and greater satisfaction for the teacher.

For Teaching

While the above suggestions, based on the specific findings in the classroom offer some guidelines for teaching, a broader look at the relevant literature on language acquisition is indicated. If the child in fact continues to use his own language-learning strategies when he comes to school, then it becomes pertinent to examine the types of aids provided for language learners in the home, both

from the standpoint of attitude toward the learner and the learning materials or instruction - if any.

In the home, the child is trusted to learn. No one worries whether Johnny is going to talk. There is no felt need to supply him with rules about language usage and the amount of language the child hears from the start is vast. It is the context of his daily life that guides language development, not sounds in isolation. Modelling of natural language and feedback of complete units of meaning are the principal instructional aids supplied by the parents.

The child listens to a flow of language and his own efforts - though initially ungrammatical by adult standards - are accepted without correction. Content rather than form are attended to. Parents assume that the child is saying more than appears at the surface in his simple statements and confirm the child's meaning on the basis of the context or setting through feedback which expands the child's words into a complete sentence.

A number of the suggestions made in the preceding section address themselves to approximating the home learning environment, particularly the invitation to trust the learner and to foster his use of contextual cues to guide his learning. Here, the role of the teacher will be discussed more specifically in terms of language instruction.

Modelling was found to be the most important language

instruction provided in the home. It would seem that modelling of fluent reading while the children follow along in their books would be a more helpful of teaching reading than the provision of rules of phonics. There is now little modelling of reading in the classroom and unless a child is read to at home he is left to his own devices to formulate an idea about fluent reading. It seems that reading is made unduly difficult when there has been no opportunity to observe a good model.

Feedback is the second aid provided by parents. It is a way of confirming to the child that his meaning is correct while at the same time modelling more fluent expression in a positive, non-critical way. Toward the end of the study the writer suggested to the teacher that feedback of the type provided language learners in the home might be a good teaching method for beginning readers. The teacher has since reported trying that approach with good success. Instead of correcting children during oral reading or asking them to refer to rules of phonics, she modelled fluent reading of a line or page in the primer. Instead of indicating to a child that a word had been omitted or misread, she would simply read the passage correctly after he had finished. Their intonation and fluency improved and the teacher even noted that their span of fixation increased. Instead of looking at one word at a time, they were taking in units of meaning in a single

fixation. During classroom observations it had been noted that no amount of admonishing on the part of the teacher "to read as though talking" or "not to jerk" improved the intonation or fluency of the beginning readers, her occasional modelling of a passage did, and more consistent and deliberate modelling and feedback proved equally successful.

The writer also suggested that it might be profitable to coach some of the slower readers in the use of contextual cues - looking ahead to guess the meaning of an unfamiliar word. After trying this approach, the teacher reported good results in this area too. Children who until then had been quite word-bound and unable to read with good fluency began to draw upon contextual cues and gained in both fluency and comprehension.

Finally, the matter of form versus content was considered. The writer noticed that the teacher's efforts at eliciting complete sentences in response to questions resulted in confusion on the part of the children about "what it is the teacher wants." Since the teacher was rejecting their correct on-word answers, they reached the conclusion that it is form rather than content that counts. Since this is surely counterproductive toward the principal goal of reading, the writer suggested that rewording the questions might produce spontaneous "complete" answers. Subsequently, the teacher avoided questions like,

"What did Lucky do?" which invites a one-word answer, "play". Instead, she said, "Tell me what happened." She reported that this use of open-ended questions not only caused children to answer naturally in complete sentences but instead of a single answer elicited two or three.

These examples, encouraging though they are, cannot be considered more than preliminary trials of instructional approaches suggested by the findings reported here. However, the successes obtained indicate that further research is warranted to test other facets of language learning strategies in the classroom setting and to validate the minor successes reported here.

For Further Research

The observations reported here are based on a small sample and only one setting. However, the findings parallel much of psycholinguistic research on reading and hence suggest that this is a profitable line of enquiry for gaining further insights into the thought processes underlying reading acquisition. Experimental studies designed to test specific findings about the children's language-learning strategies as applied to reading should now be undertaken. Clinical observations in setting where no specific reading instruction is provided would be required to test to what degree children are able to derive all the necessary rules of reading for themselves.

Based on the minor successes achieved in the classroom, it seems that careful study of the conditions surrounding language-learning in the home should guide further experiments in revisions of the reading curriculum and approach to instruction.

A careful comparison between Piaget's model of cognitive and linguistic development and the cognitive and linguistic requirements set by reading instruction should be undertaken to gain further insights into the strengths children bring to bear and the unnecessary obstacles set up for them by adult logic.

The child's focus on meaning and ability to expand his own incomplete writings into complete sentences during oral reading suggests that studies in pragmatic linguistics could have much to offer in the area of reading acquisition.

It is the writer's sincere hope that such research will demonstrate that children are well equipped to handle the task of learning to read as easily and naturally as they learn oral language as long as they are trusted to learn and given the opportunity to proceed their own way.

BIBLIOGRAPHY

- Braine, M. D. S. The ontogeny of English phrase structure. In C. A. Ferguson and D. I. Slobin (Eds.), Studies of child language development. New York: Holt, Rinehart & Winston, 1973.
- Brown, R., & Bellugi, U. Three processes in the child's acquisition of syntax. Harvard Educational Review, 1964, 34, 133-151.
- Brown, R., Cazden, C., & Bellugi, U. The child's grammar from I to III. In C. A. Ferguson & D. I. Slobin (Eds.), Studies of child language development. New York: Holt, Rinehart & Winston, 1973.
- Brown, R., Fraser, C. The acquisition of syntax. In U. Bellugi & R. Brown (Eds.), The acquisition of language. Cambridge, Mass.: Society for Research in Child Development, 1964, 29.
- Brown, R., Fraser, C., & Bellugi, U. Explorations in grammar evaluation. In U. Bellugi & R. Brown (Eds.), The acquisition of language. Cambridge, Mass.: Society for Research in Child Development, 1964, 29.
- Bruner, J. S. The process of education. Cambridge, Mass.: Harvard University Press, 1960.
- Calfee, R. C., & Venezky, R. L. Component skills in beginning reading. In K. S. Goodman & J. T. Fleming (Eds.), Psycholinguistics and the teaching of reading. Newark, Del.: International Reading Association, 1968.
- Cazden, C. B. Child language and education. New York: Holt, Rinehart & Winston, 1972.
- Chomsky, C. The acquisition of syntax in children from 5 to 10. Cambridge, Mass.: M.I.T. Press, 1969.
- Chomsky, N. Selected readings. J. P. B. Allen & P. Van Buren (Eds.). London: Oxford University Press, 1971.
- Claparede, E. Preface to J. Piaget. Language and thought of the child. London: Routledge, 1959.
- Combs, A. W. The professional education of teachers. Boston: Allyn & Bacon, 1965.
- Deese, J. E. Principles of psychology. Boston: Allyn & Bacon, 1964

- Downing, J. Language arts in the open school. Paper presented at the annual convention of the National Council of Teachers of English, Philadelphia, November 22-24, 1973
- Durkin, Dolores. Children who learn to read before grade one. Reading Teacher, 1961, 14, 163-166.
- Engel, W. von R. An example of linguistic consciousness in the child. In C. A. Ferguson & D. I. Slobin (Eds.), Studies of child language development. New York: Holt, Rinehart & Winston, 1973.
- Ferguson, C. A., & Slobin, D. A. (Eds.). Studies of child language development. New York: Holt, Rinehart & Winston, 1973.
- Flavell, J. H. The developmental psychology of Jean Piaget. Princeton, N. J.: Van Nostrand, 1963.
- Forester, A. D. Learning the language of reading. Alberta Journal of Educational Research, 1975, 21, 56-62.
- Gerth, K. Aufgliederung - ein Prinzip in der Sprachentwicklung des Kindes. In H. Helmers (Ed.), Zur Sprache des Kindes. Darmstadt: Wissenschaftliche Buchgesellschaft, 1969.
- Goodman, K. S. The psycholinguistic nature of the reading process. Detroit: Wayne State University Press, 1968.
- Goodman, K. S. Analysis of oral reading miscues: applied psycholinguistics. Reading Research Quarterly. Fall, 1969, 5, 9-30.
- Goodman, K. S. A linguistic study of cues and miscues in reading. Elementary English, 1965, 42, 639-643.
- Goodman, K. S. Reading: a psycholinguistic guessing game. In H. Singer & R. B. Ruddell (Eds.), Theoretical models and processes of reading. Newark, Del.: International Reading Association, 1970.
- Goodman, K. S. Reading: the key is in children's language. The Reading Teacher, 1972, 25, 505-508.
- Goodman, K. S. (Ed.). Miscue analysis. Urbana, Ill.: National Council of Teachers of English, 1973.

- Goodman, K. S., & Fleming, J. (Eds.). Psycholinguistics and the teaching of reading. Newark, Del.: International Reading Association, 1969.
- Goodman, K. S., & Niles, O. S. (Eds.). Reading process and program. Urbana, Ill.: National Council of Teachers of English, 1970.
- Goodman, Y. M. A psycholinguistic description of observed oral reading phenomena in selected beginning readers. Unpublished doctoral dissertation, Wayne State University, 1967.
- Goodman, Y. M. Miscue analysis for in-service teachers. In K. S. Goodman (Ed.), Miscue analysis. Urbana, Ill.: National Council of Teachers of English, 1973.
- Goodman, Y. M., & Burke, C. L. Reading miscue inventory: procedure for diagnosis and evaluation. Newark, Del.: International Reading Association, 1972.
- Hodges, R. E. Reactions to language acquisition and the reading process. In H. Singer & R. B. Ruddell (Eds.), Theoretical models and processes of reading. Newark, Del.: International Reading Association, 1970.
- Holmes, D. L. The independence of letter, word, and meaning identification in reading. In F. Smith (Ed.), Psycholinguistics and reading. New York: Holt, Rinehart & Winston, 1973.
- Huey, E. B. The psychology and pedagogy of reading. Cambridge, Mass.: M.I.T. Press, 1968. (Originally published, 1908).
- Jenkins, J. J., & Liberman, A. M. Background to the conference. In J. F. Kavanagh & I. G. Mattingly (Eds.), Language by ear and eye. Cambridge, Mass.: M.I.T. Press, 1972.
- Jung, C. G. The undiscovered self. Boston: Atlantic-Little Brown Books, 1957.
- Kerr, R. A. Reactions to reading as a cognitive function. In H. Singer & R. B. Ruddell (Eds.), Theoretical models and processes of reading. Newark, Del.: International Reading Association, 1970, 142-146.
- Kolers, P. A. Reading and talking bilingually. American Journal of Psychology, 1966, 79, 357-376.

- Kolers, P. A. Introduction to E. B. Huey. The psychology and pedagogy of reading. Cambridge, Mass.: M.I.T. Press, 1968.
- Koziol, S. M. The development of noun plural rules during the primary grades. Research in the Teaching of English, 1973, 7, 30-50.
- Kress, R. A. An investigation of the relationship between concept formation and achievement in reading. Unpublished doctoral dissertation, Temple University, 1955.
- Lenneberg, E. H. Biological foundations of language. New York: John Wiley & Sons, 1967.
- Leopold, W. F. Das Sprechenlernen der Kinder. In H. Helmers (Ed.), Zur Sprache des Kindes. Darmstadt: Wissenschaftliche Buchgesellschaft, 1969.
- Leopold, W. F. Patterning in children's language learning. Language Learning, 1955, 5, 1-14.
- Longstreth, L. E. Psychological development of the child. New York: Ronald Press, 1968.
- McNeill, D. Developmental psycholinguistics. In F. Smith & G. A. Miller (Eds.), The genesis of language: a psycholinguistic approach. Cambridge, Mass.: M.I.T. Press, 1966.
- Miller, N. E., & Dollard, J. C. Social learning and imitation. New Haven: Yale University Press, 1941.
- Miller, W., & Ervin, S. The development of grammar in child language. In U. Bellugi & R. Brown (Eds.), The acquisition of language. Cambridge, Mass.: Research in Child Development, 1964, 29.
- Piaget, J. The language and thought of the child (3rd ed.). New York: The Humanities Press, Inc., 1959.
- Ruddell, R. B. Language acquisition and the reading process. In H. Singer & R. B. Ruddell (Eds.), Theoretical models and processes of reading. Newark, Del.: International Reading Association, 1970.
- Schonell, F. J. The psychology and teaching of reading (4th ed.). New York: Philosophical Library, 1961.
- Shuy, R. W. Pragmatics and reading: still another

contribution from linguistics. Address presented at the Sixth Western Symposium on Learning. Western State College, Bellingham, November 1, 1974.

- Shuy, R. W. Some language and cultural differences in a theory of reading. In K. S. Goodman & J. Fleming (Eds.), Psycholinguistics and the teaching of Reading. Newark, Del.: International Reading Association, 1969.
- Skinner, B. F. Verbal behavior. New York: Appleton-Century-Crofts, 1957.
- Slobin, D. I. Cognitive prerequisites for the development of grammar. In C. A. Ferguson & D. I. Slobin (Eds.), Studies of child language development. New York: Holt, Rinehart & Winston, 1973a.
- Slobin, D. I. Grammar. In C. A. Ferguson & D. I. Slobin (Eds.), Studies of Child language development. New York: Holt, Rinehart & Winston, 1973b.
- Slobin, D. I. Syntax. In C. A. Ferguson & D. I. Slobin (Eds.), Studies of child language development. New York: Holt, Rinehart & Winston, 1973c.
- Smith, F. Understanding reading. New York: Holt, Rinehart & Winston, 1973.
- Smith, F..(Ed.). Psycholinguistics and reading. New York Holt, Rinehart & Winston, 1964.
- Staats, A. W., & Staats, C. K. Complex human behavior. New York: Holt, Rinehart & Winston, 1964.
- Stauffer, R. G. Reading as cognitive functioning. In H. Singer & R. B. Ruddell (Eds.), Theoretical models and processes of reading. Newark, Del.: International Reading Association, 1970.
- Strickland, R. G. The language of elementary school children. Bulletin of the School of Education, Indiana University, 38, July, 1962.
- Templin M. C. Certain language skills in children: their development and interrelationships. Monograph No. 26, Minneapolis: University of Minnesota Press, 1957.
- Torrey, J. W. Learning to read without a teacher. In F. Smith (Ed.), Psycholinguistics and Reading. New York: Holt, Rinehart & Winston, 1973.

Tucker, G. R. The development of reading skills within a bilingual education program. Address presented at the Sixth Western Symposium on Learning, Western Washington State College, Bellingham, November 1, 1974.

Vygotsky, L. S. Thought and language. Cambridge, Mass.: M.I.T. Press, 1962.

APPENDIX

List of texts used by the children
during the study

Bruce, M., Donaldson, D., Ellis, J., Linn, J., Saunders, A., & Trischuk, J. Listening Letters. Toronto: Holt, Rinehart & Winston of Canada Ltd., 1967.

Clymer, T. A duck is a duck. Boston: Ginn & Company, 1969.

Clymer, T. Helicopters and gingerbread. Boston: Ginn & Company, 1969.

McIntosh, J. R. (Ed.). Come along with me. Vancouver: The Copp Clark Publishing Co., Ltd., 1960.

McIntosh, J. R. (Ed.). Off to school. Vancouver: The Copp Clark Publishing Company, Ltd., 1960.

NOTE: The last book listed was the principal primer used during the first four months of observation. After that, a combination of books was used for oral reading. However, the Copp Clark series is the principal reading material for the first grade at Fairburn School.

Markings used to indicate children's
reading behavior

(Adapted from Goodman's system of reading miscue analysis)

<u>Substitution</u>	He called his ^{mom} mother.
<u>Omission</u>	We <u>(always)</u> went swimming.
<u>Insertion</u>	He hit ^{at} the ball.
<u>Reversal</u>	"Come here," <u>Mother</u> said.
<u>Reader makes long pause</u>	John came / from school.
<u>Word supplied during oral reading</u>	We want to wash Lucky. <i>man</i>
<u>Repetitions</u>	A line is drawn from right to left to the point at which the reader began to repeat. At this point a mark at letter is placed within a circle to indicate the reason for the repetition.
Correction	Ⓒ <u>We played ball</u> in the park.
	Ⓒ Here <u>(it)</u> is.
Anticipating difficulty	Ⓐ <u>Now this is</u> ridiculous.

Example of oral reading, October 28, 1974

Distributed roles

Tracy: Anne
Cathy: Janet
Gordon: John



Tracy: "Oh, Mother," said Anne.
"Stop Lucky."
Cathy: "Look, Mother," said Janet.
C "Help stop Lucky."
A "We have to wash him."
Gordon: "Stop, Lucky, stop!" said John.
"We have to wash you."

68

Teacher: O.K. Who talks first?
Tracy: Oh, Mother, said Anne. (Looks up at teacher who shakes her head)
Teacher: Do you say, "Said Tracy" when you talk?/her head
(Tracy shakes her head)
Teacher: You're Anne now, remember.
Tracy: Oh, Mother, s...
Teacher: No, don't say that.
Tracy: Oh, Mother, Anne.
Teacher: No, you don't say that either.
Tracy: Oh, Mother, said Tracy.
Teacher: You're Anne now, so now you're not going to say, "said Anne." You just say the actual things that they say. This is the first time that we've done this...
Tracy: Oh, Mother...
Teacher: No, don't say it. Look. This is you talking and this is "said Anne" (pointing to words on the page), and you don't say that. Because you don't say, "said Tracy" after you've said something, do you? You only say it.
(Cathy is laughing, as are some of the other children)
Teacher: Well, let's see how you are doing when it's your turn: (Speaking to Cathy) - (Reading for Tracy): "Oh, Mother. Stop Lucky." - That's all Anne said, isn't it? So when you're reading Anne, when you are taking Anne's part, you won't say that there. Read it again now.
Tracy: Oh, Mother, Stop Lucky. (Good fluency)
Teacher: Now let's see who giggled over here, how you're going to do.
Cathy: Look, Mother. Help / said ... (Gordon shakes his head)
Teacher: See, you were laughing at Tracy. You know that word.
Cathy: Help ... Lucky (other child supplies "stop")
Gordon: We...
Teacher: No, no. Janet is still talking. We...
Cathy: We...
Teacher: Oh, Catherine. (other child supplies "have")
Cathy: We have to... (several children raise their hands)
Teacher: What? Look at the picture. What are they going to do to him?
Gordon: Wash.
Cathy: ... wash him.

(Continued on next page)

Example of oral reading, October 28, 1974 (Continued)

Gordon: Stop, Lucky Stop. We / have / to / wash / you.

Teacher: But how would John really say that? Would he say, "We / have / to ...". How would he say that?

Gordon: We have to wash you. (Fair fluency)

Teacher: Right. And John keeps talking on the next page.

Teacher: One...

Gordon: One can wash / and / one...

Teacher: Two.

Gordon: ... two can help... (Intonation trails off as if something were missing)

Teacher: Someone else is talking.

Cathy: Good, said (quietly, as if under her breath)

Teacher: No. You are Janet. "Good!"

Cathy: Good (looks up at teacher)

Teacher: Next line.

Cathy: I can help you. (Looks up at teacher)

Teacher: Go on. Janet is still talking.

Cathy: Anne can help me.

Tracy: We can help Lucky ... you, John.

Teacher: Next line.

Tracy: We can help you wash Lucky. (Good intonation)



Gordon: "One can wash," said John.
"And ^{one} two can help."

Cathy: "Good," said Janet.
"I can help you.
Anne can help me."

Tracy: "We can help ^{Lucky} you, John," said Anne.
"We can help you wash Lucky."

Example of
Transcript of Classroom Observations

Morning Session

January 27, 1975

Blackboard work selecting words from among those teacher puts on the board. Children have small table blackboards.

Teacher: Now I'm going to give you some clues and you are to write down the word that answers my question. I'll show you.

Board hen hem

Teacher: Write down the one that lays eggs. Do it quickly.

(Children observed perform correctly)

Teacher: Keep it covered. All right. What's the other word? (one child supplies "hem")
What does it mean?

Cathy: I don't know.

Teacher: You don't know what a hem is? I thought you would. Tracy?

Tracy: It's what you have to fix around your skirt.

Teacher: All right. It's the bottom of your skirt, isn't it? Or the bottom of your trousers, the part that's turned up.

Board pet peg pen

Teacher: Write down the one that you can hang your coat on. (Children are puzzled, look at each other's boards.)

Where are you copying that from? (Speaking to child in other part of the room)
What are you writing down?

Child: Hanger.

Teacher: You're writing down "hanger" are you?

But you have a choice of three words. Do you see the word that answers my question there? (Pointing to board - pet, peg, pen) That doesn't look like the cues I've written on the board. What have you got, Georgina?

Georgina: Hanger

Teacher: Spell hanger for me.

Georgina: P E T (Has han on her board, so has Nick)

Teacher: How does "hanger" start? Georgina

Georgina: P E T

Teacher: No. Say the word "hanger". What does the word start with? Say, "hanger" and "horse" (aspirating the words strongly)

Georgina: H

Teacher: H. Could one of these words be hanger? No? Well, try again. (Writes hanger on the board.) Now, you do put your coat on a hanger. But I don't... I didn't write down "hanger". Nelson, what do you hang your coat on? (pause) Well, tell me those three words. Nelson. What's the first one?

Nelson: Pet

Teacher: Hmm. Next? (pause)

Nelson: Peg?

Teacher: Hmm. Next one?

Nelson: Pen (with assurance)

Teacher: All right. Have you decided what you hang your coat on? May be none of you hang your coats on one of these? What do you hang your coat on?

Debbie: Pin.

Teacher: Come and point to "pin". (Debbie points at pen, hesitates, sticks her finger in her mouth and looks at the teacher) What's this word? (Writes in on the board)

(Transcript of morning session (continued))

- Debbie: In
- Teacher: (Adds p to in - pin) What's this word?
- Debbie: Pin
- Teacher: Hmhm. So what would that one be? (Points at pen. The word hen is still right above it from previous exercise. Debbie shrugs her shoulders)
(Inaudible)... So that's a pen then, something you write in your book with. (enunciates clearly) "pin" "pen"
(Is pointing to words as she is saying the words)
No. You didn't get it. Who else have we got? Nancy?
- Nancy: Pen
- Teacher: How could you hang your coat on a pen? Do you know what a pen is (pause) You don't know what a pen is? Sure you do. The teacher has a pen in her desk.
Darryl, what would you hang your coat on?
What would you hang your coat on, Aaron?
- Aaron: Pig or pet. (He was the only child in the class to use the process of elimination as a way of answering. Since he misread peg and said "pig" instead, his use of logic remained unnoticed.)
- Teacher: Pardon?
- Aaron: Pat
- Teacher: Come point to pat. (Aaron goes to the board and points at pet. What's this word?
(Writes at on the board)
- Aaron: (with some hesitation) at.
- Teacher: (Puts p in front of at - pat) What's that one?
- Aaron: Pat
- Teacher: Pat. So what must that one be? (Pointing to pet)
- Aaron: Pet

(Transcript of morning session (continued))

Teacher: Do you hang your coat on a pet?

Children: (In chorus) No!

Teacher: Do you know what a peg is? Sometimes it's a nail, sometimes it's a...

Child: ...animal

Teacher: I wouldn't want to hang my coat on one of these animals, I tell you. (Writes pig on the board. -General laughter) Maybe you don't know what a peg is. Do you know? What's a peg? It's a thing you hang your coat on. The teacher has one in her closet. Maybe it looks like this (draws on the board)

O. K. How about this one?

Board leg led let

Teacher: write down the one that's part of your body.

(Children perform correctly)

Teacher: What did you put down, Eivind?

Eivind: Leg

Teacher: How did you spell "leg"?

Eivind: L E G

Teacher: Right. And that is part of your body, isn't it? What are some of the other words? Cathy?
(No response) Gordie?

Gordon: Led, let.

Teacher: Led and let. O.K.
You are really sleepy today, Cathy. You better not sleep at anybody's house if you're that sleepy on school days. (Cathy told the teacher about spending the night at a friend's house.)

Board Jam Jan

Teacher: O.K. This is something you put on your toast. Come on, Lisa. Hurry up Aaron. Write down as fast as you can. (Aaron puts down toaster)

Transcript of morning session (continued)

Are you done, Georgina? All right. Everyone together.

Children: (good chorus) Jam.

Teacher: What did you write down, Aaron?

Aaron: Toaster

Teacher: But why did you put down toaster?
Aaron, do you know how to play this game?
You pick one of these words. Wake up! What is the other word, children?

Children: (in chorus) Jan. (One says "jump")

Teacher: Pardon?

Children: Jan

Teacher: What does "Jan" tell you?

Children: It's a girl's name. That's why it has a ...?

Child: ...capital

Teacher: ...capital. Right.

Board gas gag gap

Teacher: This would be something you put in your car to make it go.

(Children perform quickly and accurately)

Teacher: What have you got, Debbie?

Debbie: gas

Teacher: Gas. Right. And what are the two other words?

Cathy: gag

Teacher: Gag. Right. And?

Cathy: gap

Teacher: Right. What's a gag?

Tracy: (Motions with her hands as though tying something around her face)

Transcript of morning session (continued)

Teacher: Right. It's something you put in your mouth so you can't talk.

Teacher: What's a gap?

Debbie: (Motions with her hands) It's something in between.

Teacher: Right. Now I'm going to choose something that everyone should have today.

Board nag nap Nan

Teacher: I think everyone should have one of these today.

Toni: (Writes down Nen)

Teacher: What have you got, Georgina?

Georgina: nap

Teacher: Right. What have you got, Lisa?

Lisa: nap

Teacher: What's this word? Anybody?

Child: nag

Teacher: Nag. What does nag mean? Hm? Debbie? aron? Tracy? (While teacher is talking, Eivind is playing with words on his blackboard: nat nap)

Tracy: When someone talks.

Teacher: When someone is doing a lot of talkin g. Right. Nag, nag, nag. The last one is? Darryl?

Darryl: Nan

Teacher: Nan. What's Nan?

Darryl: It's a girl's name.

Board: met men

Teacher: All right. This is what the boys are growing up to be. (Several children put down man. Cathy has man.) O.K.?

Child: men

Transcript of morning session (continued)

Teacher: Men. Right. And the other one, Eivind?

Eivind: man

Teacher: Pardon?

Eivind: man

Teacher: Come point to it.

(Eivind goes to the board and points at men)

Teacher: Come point to it.

(Eivind goes to the board and points at men)

Teacher: Well, is that... Look at this one. (Writes man on the board) Can you help him, Nelson? What's yours again?

Nelson: men

Teacher: Men - man (pointing at words) One man, two men. I asked what the boys grow up to be, not what the boy grows up to be. Now, the other word is? Eiving? (pointing at met)

Eivind: mat

Teacher: What's this? (writes mat on the board)

Eivind: mat (after some hesitation and saying it in a very low voice)

Teacher: Pardon?

Eivind: mat

Teacher: So that can't be mat too, can it? You work on it for a while on your own board and tell me if you got it.

Board mad map mat man

Teacher: All right. This is... If you were going on a long trip in your car you might need one of these. Or we did one when we were learning about Mexico, to show you where Mexico was, and we do them in the sandbox.

Tracy: map

Transcript of morning session (continued)

Teacher: Say that again, please.

Tracy: map

Teacher: Map. How do you spell map?

Tracy: M A P

Teacher: Right. And who can tell me another word that's on the board? Come to the board and point to a word and tell me what it is. Lindsey, Debbie another, Toni.

Debbie: man

Teacher: Hmhm

Toni: mat

Teacher: Hmhm

(Lindsey is having problems with mad. Teacher points to it emphasizing the d at the end. In the background, other children are saying "mad")

Teacher: Ma... (then points to d)

Lindsey: mat (Teacher points to mat then to d in mad)
mad

Teacher: Mad. That's how you feel when you're cross, mad.

Board Ted ten

Teacher: All right. For this one I want you to write down the number. Hurry up, Donna. Have you got it yet Eivind? (Meaning met) You are still working on it? Come on, Nick, have you got it written down? O.K. Mike. What are you going to write down? Just tell me what you are going to write down. Tell me the word, Michael. Go point to it. You're all slowpokes today. (Michael goes to the board, points at ten, but looks quite puzzled.)
All right. What number is that? (Michael points at the t)

Michael: two

Teacher: What did we say this one was a minute ago?

Transcript of morning session (continued)

(writes pen on the board. - No response) How about this one? (Points at men) You work on that one for a while. What's the other word? Michael, you work on your word. Tracy?

Tracy: Ted

Teacher: Ted. Right. Ted is the boy in our story. Have you got it, Michael? You tell me when you're ready. (Michael is still pointing at the t in ten then he runs his finger under the rest of the word.)

Board lag lap lad

Teacher: O.K. This one is a young boy and also the name of a dog in our story. All right, Catherine?

Cathy: Lad

Teacher: Lad. Who wants to tell us the other words on the board. Lisa?

Nancy: lap

Teacher: Go and point to it (Nancy points at lap) Lisa?

Lisa: leg

Teacher: Go and point to it. (Lisa points at lag) Remember, leg is part of your body? (writes leg on the board) That has a short A and so it is...?

Lisa: lag

Teacher: Right. Lag. If you lag behind. Michael, have you got it now?

Michael: ten (he has been rehearsing silently for some time, cupping his lips to form the N at the end of the word)

Teacher: Good. And this one is? (Pointing at pen)

Michael: pen

Teacher: Right.

Board beg bet Ben

Teacher: Write down the one that is a boy's name.

Transcript of morning session (continued)

(Gordon, Tracy & Cathy put down Ban, so does Georgina)
Georgina, we just finished with this word, do you remember what it was?
(pointing to men)

Georgina: man

Teacher: men. And this one was? (pointing to pen)

Georgina: pen

Teacher: And this one was? (pointing at ten)

Georgina: ten

Teacher: And this one?

Georgina: Ben

Teacher: Ben. A boy's name. Come to the board and point to another word. Gordie and Tracy.

Gordon: bat (Points at bet)

Teacher: Gordie, what's this one? (writes down bat)

Gordon: bat

Teacher: Can that be bat too? (Gordon shakes his head)

Tracy: big (points at beg)

Teacher: What's this one, Tracy? (Writes down big)

Tracy: big

Teacher: What's this one, Tracy? (Writes down big)

Tracy: big

Teacher: So can that one be big too? (Tracy hesitates, then shakes her head)

(The two remain at the board for a considerable time consulting with one another and pointing to the words. Tracy points at big then at met and Ben. Gordon is looking around.)

Observer talks to them trying to explain what the words are. Tracy insists that bet must be bit. Gordon thinks it's

Transcript of morning session (continued)

bat.

He has difficulty saying bet and rehearses several times in order to give the word orally to the teacher. He looks uncomprehending when the observer provides examples of "I bet this..." or "You bet."

Tracy feels her word must be something like bag since it's not big. She has the same difficulty enunciating beg as Gordon shows with met. Out of context, these words seem difficult to grasp either phonetically or semantically. The explanation that it has to do with begging falls on deaf ears.

Eivind has the same problem with met. As the observer explains to him that if he had seen her downtown the day before he could say, "I met her...." he picks up the word met and practices it, but shows the same incomprehension as the other two.)

Example of
Transcript of Classroom Observations
Audio-tape - no Video
Afternoon Session
January 13, 1975

Children are working on written assignments, answering questions from board or completing worksheets.

- Questions on board:
1. Why did John have to get up?
 2. What did John have to do?
 3. Who cannot find her book?

Tracy: Is that right? How do you spell reading?

Observer: Hmhm.

Tracy: I didn't look. (Meaning she remembered the spelling)

Obs.: That's a really good job.

Cathy: Is that right?

Obs.: Yes. January

Cathy: What did you say?

Obs.: January 13. You got it all the way.

(Pause)

Obs.: Hi, Dianne. Are you having a problem?

Nick: Me too.

Obs.: You too? O.K. Let's take one at a time. What about you, Dianne. What's your problem?

Dianne: That one.

Obs.: This sheet? O.K. (Worksheet of January 13)
(Reading work Dianne has completed)
Where are the three boats? Here is Lucky's house. Buttons is up the tree. (Text she copied reads ... in a tree)

Transcript of Afternoon Session (Continued)

(Dianne is completing a worksheet asking her to supply proper endings to verbs, if they require them. She has completed three and is unsure of the next ones. Observer is reading her answers.)

Obs.: Anne can play. John plays. Janet is playing. Anne... help... How would you think ... Anne help mother. (Observer has become habituated to the patterns in the primer which rely heavily on imperatives in order to avoid inflections. In light of the usual language patterns used during reading, she is suggesting this incorrect answer to the child. A similar incident was recorded on another occasion.)

He is... How would you say... He is help...?

Dianne: He helped

Obs.: Yea. He helps, or he is helping.

Dianne: I don't know how to spell that.

Obs.: It's right down there. He is helping...

Dianne: ...mother

Obs.: ...father. O.K.? Anne help mother. And then it goes how?

Dianne: Here?

Obs.: He...

Dianne: He is helping father.

Obs.: Right. And there is how you spell it. So, if you want, you could change that.

O.K. what was your problem, Nick?

Nick: I can't figure this out.

Obs.: What's that?

Nick: I can't figure...

Obs.: ...You can't figure the last one out. O.K. When somebody is telling somebody else what to do, what do they say? Anne.. Do you know these words?

Transcript of Afternoon Session (Continued)

Nick: Help?

Obs.: Hmhm. And what's the last one?

Nick: Mother.

Obs.: Mother. How does that sound? Anne help mother. (See comment on previous page about habituation to text.)
Would you say that? (Nick interprets that question as a request to repeat what has just been said.)

Nick: Anne help mother. (says modder)

Obs.: Is that possible? ...I guess it's O.K. Isn't it.? (Nick is not sure) Maybe we'll try that one in there. That one sounds O.K. Don't you think so?
If your dad calls to you and says, "Nick, help mother." would that sound O.K.?

Nick: Hmhm.

Obs.: Yea. So it's "Anne help mother."

Dianne: Where did my paper go?

Obs.: I don't know. I guess... Did you stick it under the desk? No? Gee, I don't know. Did I pick it up? No? There it is, on the floor.

(Pause)

Obs.: You can't find what, Janice?

Janice: I can't find that word up there. (Meaning she can't find it in the primer where she thinks she is supposed to find the answer with the exact wording.)

Obs.: Which one?

Janice: D I D. Is it did?

Obs.: Did. Do you know the first one? (Meaning the first word in the question.)

Janice: May

Transcript of Afternoon Session (Continued)

- Obs.: Why. Why did...
- Janice: Why did John...
- Child: (Whispering in the background) ... get up.
Why did John have to get up?
- Janice: ...have ... have? (She is looking for a declarative version of the question in the primer.)
- Obs.: Hmhm.
- Janice: ... to get up?
- Obs.: Yea. Why did he?
- (pause)
- Obs.: What is it, Tracy?
- Tracy: If you're looking for somebody to read, I'm supposed to be next. (Meaning taped reading)
- Obs.: Oh, O.K. We'll do that afterwards if we find time. O.K.? How are you doing Janice?
- Janice: He had to get up to go to school.
- Tracy: No. You can't have had. Cause that's not what I said. (Meaning, when she provided the answer to that question orally during an earlier session, she worded it differently.) You have to put, "Who did you... What's the first word again?"
- Obs.: Why.
- Tracy: Why did John have to get up.
- Obs.: Hmhm.
- Tracy: John had to go to school. Had, yes. She (the teacher) won't spell it, cause you're supposed to have had, right?
- Obs.: Right. She .. Mrs. Reinhard put it on the board there.
See it under those numbers?
- Cathy: Yea.

Transcript of Afternoon Session (Continued)

Obs.: He had to get up to go to school.

Cathy: He... He ...

Tracy: D I D

Cathy: He... How do you spell had?

Obs.: Had? Right there on the board. Mrs. Reinhard put it up there under those numbers... Over there on the side. Way over there. See it?

Tracy: H A D

Obs.: H A D

Tracy: That's what I said, and she... and she said no.

Obs.: Well, I guess she was mistaken.

Cathy: How d'you sp...

Tracy: H A D

Obs.: That's it. On that side. (In response to Cathy's question as to which side to put the "stick" on the d) That's it.

Tracy: Even I spelled it out.

Obs.: You sure did.

Cathy: How do you spell get?

Obs.: He had to get to school to go to school? Which one did you want?

Cathy: How do you spell get?

Obs.: He had to get to school or go to school? Which one did you want?

Cathy: Go (writes it down)

Obs.: G O. Right you are.

Cathy: He had to go... (tapping each word with her pencil as she reads)

Tracy: ... to school.

Transcript of Afternoon Session (Continued)

- Obs.: That is right.
- Cathy: What's that word? (Whispering) He had to go to school.
How do you spell school?
- Obs.: Well, do you have your book handy there?
- Tracy: Why did John have / to // get up?
- Gordon: S C H O O L
- Tracy: How do you spell had again? H A D?
- Obs.: H A D
- Tracy: John had to... to ... How do you spell go? G O?
- Cathy: G O
- Obs.: G O. Right.
- Cathy: He had to go to ...
- Tracy: He had to go to ...
- Cathy: That's the wrong G (Pointing to the capital G in Tracy's copybook)
- Tracy: No s'not the wrong G, is it?
- Obs.: Well, usually in the middle of a line you have it little.
- Tracy: Yea, but that's what I had before and the teacher said no.
- Obs.: Well, let's see it up here. "To go to school."
(Reading from text and pointing to spelling)
- Tracy: If I get in trouble it's not my fault.
- Obs.: No, it sure isn't. You are right.
- Cathy: That's the wrong way. The hook has to go on the other side. (speaking of Tracy's inverted g)
- Tracy: Where d'you put my eraser? (rummages in her desk) Want some chocolate bar?
- Cathy: Tracy? Tracy. We come to your house today.

Transcript of Afternoon Session (Continued)

- Gordon: She doesn't have a fingerspace there
(speaking of Cathy's work and pointing to two
words which are printed rather closely together.)
- Obs.: Well, I guess that's almost big enough. I
guess that's O.K.
- Gordon: No.
- Obs.: No?
- Gordon: We have to have a complete fingerspace.
- Cathy: We have to have a swimming lesson.
- Tracy: You can have some of my chocolate bar.
- Cathy: Is that right? Is that right? (Referring to
her spelling)
- Obs.: Right. hat's right.
- Cathy: He had to go to ... How do you spell School?
- Obs.: Right up thre (pointing to the textbook) See?
- Tracy: Oh, I know. S C H O O ... O O L (Taking a
look at the book to confirm her spelling)
- Obs.: Correct. O.K. Cathy, now how about you doing
the second one.
- Cathy: What did John have to do? (reading from board)
- Obs.: Right.
- Cathy: Wash (Starts to write down wash)
- Obs.: Right.
- Tracy: Yea, and I got it.
- Cathy: Wash his hands?
- Obs.: Yes.
- Tracy: No. No.
- Obs.: I guess the teacher wants you to start with
John, hm?

Transcript of Afternoon Session (Continued)

- Tracy: It was Dianne did that one...
- Obs.: John had to wash his hands...
- Cathy: How do you spell wash?
- Tracy: W A D
- Obs.: No. W A S H
- Cathy: Is it supposed to be "He washes...?"
- Tracy: Know what?
- Obs.: What?
- Tracy: I had an eraser and Stacy took it out of the desk and threw it away.
- Obs.: That wasn't very nice, was it?
- Tracy: And that was my second one.
- Obs.: Oh, you're having trouble with erasers. I can see that was yours. It had your name on it.
- Cathy: He washes...
- Obs.: He had to wash his hands, I guess.
- Cathy: He had.. What comes after that?
- Obs.: H
- athy: There. He had to...
- Obs.: Good. And a period. Good.
- Tracy: He had to .. wash?
- Cathy: (Whispering in the background) He had to...
- Tracy: What comes after the A?
- Obs.: S H
- Tracy: Did you put 2? (Asking Cathy if she numbered her second response)
- Cathy: Hmhm

Transcript of Afternoon Transcript (Continued)

Tracy: Where?

Cathy: He had to wash his... How do you spell his?

Obs.: H I S

Tracy: He had to go to school

Cathy: He...

Tracy: Where's your 2?

Obs.: (To Cathy) I S. That's it.

Tracy: Where's your 2?

Cathy: Right here (pointing at to) He had to wash his hands. How do you spell hands?

Obs.: H...

Tracy: No. 2, over there, 1, 2.

Obs.: ... A N D S. I guess you need a new line, eh?

Gordon: Where's your 2, Catherine?

Cathy: Stop it! You're buggin me.

Tracy: What's the second row, Cath?

Cathy: He had to wash his hands. (Tapping each word with her pencil as she reads)

Tracy: Did the teacher say we could put he?

Cathy: No, He had to...

Tracy: Did the teacher say we could use he?

Obs.: Do you have the question there?

Cathy: Who cannot find her book? Janet.

Tracy: John, too. John

Cathy: No. Janet

Tracy: Yea. Cause I know how to spell John And my dad, my dad is real good to me, and he'll give you anything.

Transcript of Afternoon Session (Continued)

- Cathy: I know how to spell Janet. J A N E T
- Obs.: Very good
- Tracy: I know how to spell John. And my dad's name
in John and your dad's name is John. J O H N.
- Obs.: Very good. You're both good spellers, aren't you.
- Cathy: Both of our dad's name is John.
- Obs.: Well, that's a good way to remember it,
isn't it?
- Tracy: And my dad has a moustache. Mine's just about
like yours, actually.
- Cathy: My dad has a moustache. Mine's just about like
yours, actually.
- Cathy: My dad has a moustache.
- Tracy: And my... No. And I wanted to go camping
two times, and he let me. But not this time
and I wanted to stay with him all night when
I go with him and he let me. He's real nice.
- Cathy: I have a loose tooth.
- Tracy: This tooth is loose too.
- Obs.: Yea. It's wiggling, isn't it.
- Cathy: Mine is
- Obs.: Yea, yea I can see it.
- Tracy: Let's get on with our book.
- Obs.: O.K.
- Tracy: What's number 2?
- Cathy: He had to wash his hands.
- Tracy: How do you spell he? H E
- Gordon: How do you spell hand?
- Obs.: H A N ...

Transcript of Afternoon Session (Continued)

Tracy: How do you spell had?

Obs.: H A D

Cathy: (Whispering) Jannet cannot....

Tracy: What comes after A N?

Obs.: D S

Cathy: How do you spell not?

Tracy: How do you spell wash?

Obs.: N O T - W A S H

Tracy: W...

Cathy: She cannot...

Obs.: (to Gordon) his hands. That's it.

Tracy: How do you spell wash again? (Starts to write it on her own)

Obs.: That's correct.

Cathy: Janet cannot find...

Obs.: W A S H. Right.

Tracy: He had to wash...

Cathy: ... find...

Tracy: ... How do you spell his?

Obs.: H I S

Tracy: He had to wash his hands. Big? (meaning capital H)

Obs.: No. Small H. A, yea. That's right. Make the stick.
N D S. Good.

Tracy: I had a dream I had four teeth out.

Cathy: All of my teeth out.

Obs.: All of them? Sounds like a nightmare to me.

Transcript of Afternoon Session (Continued)

- Cathy: And then...
- Tracy: I had one out. That one, right there. And I had a dream about a choir. And my dad plays the piano. He can play the ... buz muz?
- Obs.: O.K. He had to...
- Cathy: ...hands
- Obs.: ...wash his hands. N D S. Yes, Gordon
- Gordon: He can't find his...
- Obs.: H I S
- Tracy: Hey, will you stay with me?
- Obs.: Yea, I'll stay with you. Last one is an S, Gordon. H I S What did you need, Tracy?
- Tracy: What's the name... What's the third one?
- Obs.: Can you read out the question? (Tracy was searching her memory for the answer provided earlier)
- Tracy: Who cannot find / her book.
- Obs.: Hmhm.
- Tracy: John
- Obs.: Well, would you call John, her?
- Tracy: His book.
- Obs.: So it's not John, but?
- Cathy: Janet.
- Tracy: We can put John, too. See, we both said John and Janet. (Meaning during earlier oral responses to the question)
- Obs.: Hmhm
- Cathy: She wants us to change this. (Teacher asked her to change He to John)
- Obs.: Oh, she wants John instead of he. Oh, dear.

Transcript of Afternoon Session (Continued)

Maybe you could squeeze John in there. (Meaning at the beginning of the line)

Cathy: No.

Obs.: No? Maybe you could start it over again?

Cathy: It doesn't matter.

Tracy: I could just fit it in.

Obs.: Oh yes. That was lucky, wasn't it. You could just erase it and put John in there. That's nice.

Teacher: Who's he?

Gordon: Oh oh

Tracy: Sit down again (to observer who stood up) How do you spell had?

Obs.: H A D

Tracy: H A D. John ... John cannot find his book. I need the eraser. Oh darn, I put cac. C A N

Teacher: (to Cathy) John had to get up. Just rub it out and fit it in.

Tracy: Find. How do you spell find?

Obs.: F I N D

Tracy: Find his?

Obs.: Hmhm. H I S

Tracy: Find his book?

Obs.: Hmhm

Tracy: B O O K. Is that a b or a d? (Meaning she is unsure what letter she has just put down)

Obs.: That's a b.

Teacher: (In the background) why did JOHN have to get up? So what would you tell me? What's the answer?

Transcript of Afternoon Session (Continued)

Cathy: John had to wash his hands. (Tapping each word with her pencil)

Obs.: Right.

Tracy: There, finished.

Obs.: Very good.

Example of Responses to Flashcards

Afternoon Session - November 7, 1974

<u>Card</u>	<u>Child's response</u>	<u>card</u>	<u>Child's response</u>
book	bump, bumpy	ride	-
boat	tree	rake	ake
bake	coat, at	rat	-
bat	at, pat, b	ran	in
bump	-	ring	camper
bay	bake		
bun	-		
boat	tree	rake	make
bake	make	rat	at
bat	two	ran	in
ball	ball	ring	ring
bump	-	ride	ride
bay	toy	rake	make
		ring	ring
tin	in	ride	ride
took	make	rake	make
tall	ball	rat	m
take	make	ran	m
tar	at		
tan	at		
town	town		
tide	ride		



Excerpt of Table Prepared for Analysis of Raw Data

Semantic Processing

<u>Date</u>	<u>Child</u>	<u>Example</u>	<u>Comment</u>
9-26	C	Rug (read as "mat") on word wheel "ug" Family	Picture cuing. Several other children gave same response.
10-10	T	Unable to recognize the word <u>date</u> Observer: What does Mrs. Reinhard ask you to put on your calendar each day? T: Cloudy, nine... no, ten.	Observer is thinking in terms of category and word. Child is working on immediate meaning, <u>today</u> .
10-21	G.	Teacher: Can you read that without jerking? Can you read it smoothly just as you did last time? Remember, you're talking to your dog. G: Come... (Looking aside, acting puzzled) Come... I don't understand a dog talking. We don't have a dog.	When discussing previous page, "who said what" was discussed in conjunction with "Come on"
11-7	T	<u>Arm</u> (Picture shows an arm flexed with the muscle bulging) T. puts M down as initial letter. Asked what the picture is, she says: Muscle.	The exercise dealt with capital or lower case <u>A</u> . Child is focusing on meaning of picture to her.
1-9	T	hold You hang on to Anne (twice)	Substituting more familiar word with same meaning.
1-20	C	Asked to make a compound word, selects <u>star</u> and <u>one</u> (in that order) says: "one star" (Desired answer was starlight)	Child is scanning for meaningful units. Not focused on request for "compound word" or requirement to read from left to right.
1-6	O	We went up the mountain - read "...up the hill."	Child was reading his own writing about Christmas holidays. Substituting word with same meaning.

Excerpt of Table Prepared for Analysis of Raw Data

Language Patterns

<u>Date</u>	<u>Child</u>	<u>Example</u>	<u>Comment</u>
9-23	C	See Lucky ^o	Intonation indicates child does not perceive this as a complete sentence.
9-23	O	Come and Play house (both several times)	Phrase patterns. Children read with better fluency than rest of text.
9-23	O	Make 4 big orange  2. small 1. teeny Make 6 little brown 	Pattern - In this exercise children know the sequence: <u>Make</u> , number, size, color, object. Substitution is based on pattern and semantic processing.
9-26	G	Oh, Janet, <u>look.</u>	Conversion to oral pattern.
10-21	N	Here come ^s ^ John and Father.	Inserts 3rd person <u>S</u> to fit oral pattern. Other children make same insertion.
12-9	O	my Give me the green book.	Children are talking about their books. <u>My</u> represents more natural oral pattern and fits rhythm of preceding line.
12-9	C	^{me} ⓐ Give the book to John.	Oral pattern and use of context.
12-19	G	See the boat ?	No question intonation. Habituation to text
1-20	O	Janet / found / a / book.	Oral response to teacher's, "Can you give that to me in a sentence?" Child is using "Primerese when speaking about the text.
1-13	O	^{said} ⓐ <u>You and Lad can't come.</u>	When <u>and</u> appears before a name it is frequently misread as "said" which is a more regular pattern. Habituation to text.

VITA

Surname: FORESTER Given Names: ANNE DORA HERMINE

Place of Birth: ROSTOCK, GERMANY Date of Birth: August 28, 1928

Educational Institutions Attended with Dates of Entering and Leaving
UNIVERSITY OF WESTERN ONTARIO, LONDON, ONT. 1966 to 1969

_____ to _____

Degrees, Diplomas, Etc., Awarded, with Dates and Names of Institutions:

B.A. 1969 University of Western Ontario, London

Honors and Awards:

Dean's Honours List, University of Western Ontario, 1967, 1968, 1969

Board of Governors' Award, University of Western Ontario, 1968

University of Victoria Graduate Scholarship, 1974/1975

Publications:

Kelley, -G. W. Sort-Guide to the perennial garden flowers.

A. D. Forester (Ed.). Boulder, Colo: The Sort-Card Company, 1964

West, G. C. Sort-Guide to the eastern land birds. A. D. Forester
(Ed.). Boulder, Colo.: The Sort-Card Company, 1964

Forester, A.D. Beyond Behavioral objectives. The New Caledonian.
Spring, 1972.

Forester, A. D. Professional development - beyond behavioral
objectives. College Faculties Federations News. Spring, 1972

Forester, A. D. Learning the language of reading. Alberta Journal
of Educational Research. 1975, 21, 56-62.

Accepted for publication:

Forester, J. E. & Forester, A. D. Silver Fox Odyssey: An economic
history of the Canadian silver fox industry. 1975

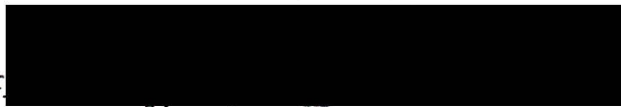
PARTIAL COPYRIGHT LICENSE

I hereby grant the right to lend my thesis or dissertation (the title of which is shown below) to users of the University of Victoria Library, and to make single copies only for such users or in response to a request from the library of any other university, or similar institution, on its behalf or for one of its users. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by me or a member of the University designated by me. It is understood that copying of this thesis for financial gain shall not be allowed without my written permission.

Title of Thesis/Dissertation

The Acquisition of Reading

Author



Signature

Anne Dora Hermine Forester

Name

April 24, 1975

Date